

REPUBLIC OF MAURITIUS

Roadmap and Action Plan for a Circular Economy in the Republic of Mauritius

Final Report



July 2023

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LIST OF ABBREVIATIONS/ACCRONYMS

AMM	Association of Mauritian Manufacturers
BACECA	Building and Civil Engineering Contractors Association
BCAC	Building Control Advisory Council
BFSS	Bio-Farming Support Scheme
BIM	Building Information Modelling
BM	Business Mauritius
CAC	Civic Amenity Centre
CBM	Circular Business Model
CDW	Construction and Demolition Wastes
CE	Circular Economy
CIA	Construction Industry Authority
CIDB	Construction Industry Development Board
COOL	Country of Origin Labeling
CPD	Continuous Professional Development
DMC	Domestic Material Consumption
ELV	End-of-Life Vehicles
EoW	End-of-Waste
EPA	Environmental Protection Act
EPR	Extended Producer Responsibility
EU	European Union
FAREI	Food and Agricultural Research and Extension Institute
FFV	Fresh Fruits and Vegetables
GDP	Gross Domestic Product
GHG	Greenhouse Gas
HEC	Higher Education Commission
HEI	Higher Education Institution
HHW	Household Hazardous Waste
HRDC	Human Resources Development Council
INM	Integrated Nutrient Management
ISO	International Standard Organization
IWPF	Integrated Waste Processing Facility
LA	Local Authority
LPFS	Locally Produced Fertiliser Subsidy Scheme
LT	Long Term
MaaS	Mobility as a Service
MARENA	Mauritius Renewable Energy Agency
MCCI	Mauritius Chamber of Commerce and Industry
MCIA	Mauritius Cane Sugar Industry Authority
M&E	Monitoring and Evaluation
MFA	Material Flow Accounting
MOESWMCC	Ministry of Environment, Solid Wastes and Climate Change
MRIC	Mauritius Research and Innovation Council
MSB	Mauritius Standards Bureau
MSW	Municipal Solid Waste
MT	Medium Term
NDC	Nationally Determined Contribution
NISP	National Industrial Symbiosis Programme
NLTA	National Land Transport Authority
OECD	Organisation for Economic Co-Operation and Development
PPO	Policy Procurement Office

PRO	Producer Responsibility Organisation
RDA	Road Development Authority
RGSC	Rajiv Gandhi Science Centre
SCP	Sustainable Consumption and Production
SDG	Sustainable Development Goal
SFWF	Small Farmers Welfare Fund
SIC	State Investment Corporation
SIDS	Small Island Developing States
SLO	State Law Office
SME	Small and Medium Enterprises
ST	Short Term
STEM	Science, Technology, Engineering and Mathematics
SWMD	Solid Waste Management Division
TVET	Technical and Vocational Education and Training
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNEA	United Nations Environment Assembly
VA	Voluntary Agreement
WEEE	Waste Electrical and Electronic Equipment

EXECUTIVE SUMMARY

At the 2022 United Nations Environment Assembly (UNEA 5.2), the resolution on “Enhancing circular economy” was adopted, underscoring the urgency to accelerate a structural transformation of the way we manage our natural resources, consume and produce. Transitioning to a circular economy model was viewed as a contribution to achieving sustainable consumption and production. Furthermore, **the concept of Circular Economy has been integrated in the new Global Strategy on Sustainable Consumption and Production 2022-2030** to contribute to the achievement of several international commitments such as the 2030 Agenda for the Sustainable Development Goals (SDGs) and the Paris Agreement.

As highlighted in the Circularity Gap Report of 2023¹, “Rising material extraction has shrunk global circularity: from 9.1% in 2018, to 8.6% 2020, and now 7.2% in 2023. This leaves a huge Circularity Gap: the globe almost exclusively relies on new (virgin) materials”. **The traditional model of a linear economy of ‘take-make-dispose’ is no longer viable in a world of finite material resources.** It must be replaced with a circular economy model aiming at closing the loop of resources and reducing the environmental impact of the product life cycle at all stages of the process. **A circular economy (CE) requires a complete rethinking of the economy with the goal of retaining the value of products and materials for as long as possible.** It is a holistic approach to socio-economic growth that maximises resources efficiency through sustainable consumption and production practices and operates at various levels, namely at micro, meso and macro level with the aim of achieving sustainable development. A broad set of interventions across all economic sectors and activities focussed on the 9 R’s is required, namely Refuse, Rethink, Reduce, Reuse, Repair, Refurbish, Remanufacture, Repurpose, Recycle and Recover.

Historically circular by its agricultural and organic nature, Mauritius’s economy has become during the past decades a linear and dependent economy that extracts, imports and rejects significant flows of materials. The Mauritian society has transitioned from a frugal agricultural society, dependent on island resources and the cycles of nature, to a society whose lifestyles and the satisfaction of needs are oriented towards the mass consumption of manufactured products and dependent on fossil fuels and on imports. While Mauritius has achieved remarkable economic and social progress, **the current linear economic model results in deepening dependencies and vulnerabilities.** The management of solid waste is also one of the major environmental challenges facing the island, in part due to unsustainable production and consumption patterns, and to the traditional linear business model of ‘take-make-dispose’. Another major source of vulnerability stems from the global ecological crisis that will lead in the years to come to a reduction in the production and global circulation of natural resources, exacerbated by strong growth in the world population. The country is also missing economic opportunities from greater material productivity. In response to these challenges, the transition to a Circular Economy paradigm provides an opportunity to review the production and consumption model and close the material loop whereby the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste is minimized. It also has the potential of creating business avenues, creating green jobs and generating wealth.

¹ <https://www.circularity-gap.world/2023>

Current initiatives on CE in Mauritius are taking place in isolation and lacking a holistic framework and a strategy that could unlock synergies to harness the transformational capacity of the CE. In this context, the Ministry of Environment, Solid Waste Management and Climate Change (MOESWMCC), with the support of UNEP, initiated in October 2022 the process that led to the development of this comprehensive Roadmap and Action Plan on CE for Mauritius for the period 2023 to 2033. The objective of this roadmap and action plan is to support the transition from a linear economy, generating dependencies and vulnerabilities, to a circular and resilient economy. **It is a tool for change and presents a vision, defines objectives and targets, has a clear strategic plan and includes concrete actions in focus areas that can accelerate the transition.** The roadmap and action plan mainstreams circular economy principles into policy making and inform all stakeholders about short, medium and long-term actions and the parts they have to play.

The process of designing the roadmap was participatory with broad stakeholder engagement. Data collection tools included desk research, questionnaires, interviews, and focused group discussions that generated enough data for the development of the roadmap. A situational analysis and scoping study² were initially carried out to deepen the understanding about the current state of the circular economy and its economic sectors, their opportunities, and gaps. **In addition to Waste Management, which is commonly seen as the entry point to adopting CE principles, the following economic sectors were identified in the scoping study as having high potential for circularity in Mauritius: Agri-food; Construction and Real Estate; Consumer Goods; and Mobility and Logistics.** Once a vision and goals for the roadmap were defined, the work proceeded to forming and planning tangible actions in each focus area through a focus group. Between November 2022 and March 2023, fifteen focus group meetings and about twenty interviews were carried out to ensure a participative approach. More than 100 people participated in the consultations.

The vision of the roadmap is that, by 2050, the circular economy has been embedded in the culture of the country, generating sustainable production and consumption patterns in all levels of society, driving the regeneration of nature, positively impacting the lives of people and the environment and promoting the creation of green jobs and opportunities for people and organizations. Mauritius is a role model for the circular economy in the region and among Small Island Developing States (SIDS).

Achieving this vision demands a future where:

- The circular economy has been **embedded in the culture of society**, creating a mindset for generating sustainable consumption and production patterns.
- Circular practices have driven the **regeneration of nature**.
- The **innovation potential of the circular economy has been taken advantage of**, unleashing the creativity of people for design and implementation of sustainable consumption and production actions and improving the competitiveness of businesses.
- The circular economy has become a **source of opportunities**, creating green and decent jobs and enabling a fair transition.
- The systemic changes brought about by the transition have been the result of **partnerships and collaboration** between all stakeholders.

² Circular Economy in Mauritius: Situational Analysis and Scoping Study to identify focus areas and potential actions. November 2022. Ministry of Environment, Solid Waste Management and Climate Change. Government of Mauritius.

To guide and evaluate progress in the transition, a set of **eight long term goals** has been established for 2033.

Indicator	Baseline	2033 Goal
Resource productivity (<i>GDP per kg of Domestic Material Consumption</i>)	2.34 US\$/kg in 2019	Increase of 25%
Generation of municipal solid waste per capita (<i>MSW generated per capita per year</i>)	430 kg in 2019	Decrease of 10%
Total waste generation per GDP (<i>Waste generated per GDP output</i>)	37.2 tonnes per million US\$ of GDP in 2019	Decrease of 10%
Reduction of food waste (<i>% reduction of per capita food waste</i>)	132 kg/capita/year in 2019 (estimated)	Decreased by 50%
Recycling of plastic packaging (<i>% of plastic packaging recycled</i>)	3% (estimated)	Increased to 50%
Waste diverted from landfill (<i>% of MSW diverted from landfilling</i>)	537,147 tonnes landfilled in 2019	70% diverted
National Recycling rate (<i>% of total waste generated recycled</i>)	4% (estimated)	Increased to 50%
Gross Value Added ³ (GVA) contribution to GDP and Green Jobs generated. (<i>Value added at factor cost and jobs generated in circular economy sectors</i>)	-	1.5% of GDP and 10 000 new jobs

The following **five strategic pillars** are key to achieving these goals:

- 1. Circular economy through product design and sustainable production**
- 2. Circular economy through sustainable consumption**
- 3. Circular economy through better waste management**
- 4. Circular Economy through circular business models and innovation**
- 5. Circular Economy through a circular culture**

These strategic pillars are closely linked. Better product design and sustainable production (1) are essential to enable products and materials to circulate to a higher degree than they currently do, but there is also a need to change to a higher degree functions or services instead of products. Following from this, the consumption of private and public actors needs to be sustainable (2), which happens when they can easily demand sustainable products and services and prolong lifetime of products. Waste then needs to be properly managed and recycled (3). The transition depends on business and other actors being drivers to make the transition to circularity through circular business models and innovation (4). All these areas depend on cultural changes and a change of mindset that need to take place (5).

³ In economics, gross value added is the measure of the value of goods and services produced in an area, industry or sector of an economy.

Based on stakeholder consultations and the focus group discussions, **80 actions in the priority focus areas (agri-food, construction and real estate, consumer goods, mobility and logistics and waste management) and in cross-cutting areas (governance, education and awareness raising, research and development, business support, public procurement, and greening of fiscal policies and financing)** have been identified to support the transition to a circular economy in Mauritius. **The 80 actions** (listed at the end of this summary), which fall under the five strategic pillars, **will help to put in place a CE enabling framework in the next 10 years** and consists mainly of consultancy and feasibility studies to devise policy and legislative frameworks; investments in education, capacity building, awareness raising, physical and digital infrastructures and in research and innovation; and administrative and governance requirements for implementation. About Rs 1.2 billion (or about 26 million USD) must be mobilized during the next 10 years to create this CE enabling framework. Most of the actions have been scheduled for the short- and medium-term. **To ensure the effective start of the transition, it is strongly recommended to prioritize the implementation of actions for the creation of an open governance that promotes active involvement of stakeholders, of actions for education and awareness raising on circular economy and of actions for devising a fiscal framework to de-risks circular economy investments.**

The analysis of circular economy projects requires specific performance indicators and parameters that need to be incorporated into the financial structures and models used in financial analysis of projects. This requires **financial institutions to acquire the necessary knowledge and introduce adequate capacity in their credit processes.** To increase investments in CE-related assets and circular business models, several initiatives are recommended to increase access to financing for the private sector.

The CE strategies identified in the focus areas will help in delivering climate change mitigation and adaptation efforts and CE can thus potentially contribute to the implementation of the Nationally Determined Contributions (NDC). NDC targets and CE strategies are complementary. **Incorporating CE strategies outlined in this roadmap in the NDC will increase the level of ambition of national climate action** by looking beyond the classical mitigation sectors and will help to mobilize finance for the transition to a CE.

The recently enacted Waste Management and Resource Recovery Act currently provides for a legislative framework for the CE. In the medium term, a new comprehensive legislation on CE can be envisaged after a policy impact assessment and feasibility study.

For a transition to a circular economy, it is fundamental to create an open governance that promotes active involvement of stakeholders, the coordination of agendas and the evaluation of progress made. For a successful and sustainable implementation of the action plan, the governance structure will comprise:

- (i) an Inter-Ministerial committee on circular economy under the chair of Minister of Environment, Solid Waste Management and Climate Change
- (ii) a Steering Committee or Monitoring and Evaluation committee co-chaired by Department of Environment and Business Mauritius
- (iii) Circular Economy Platforms in focus areas led by the relevant public body but which can also be co-chaired with the private sector for sharing of resources and building of partnerships.

- (iv) a Committee on Cross-Cutting areas under the chair of the Ministry of Environment, Solid Waste Management and Climate Change

Two sets of indicators have been developed to support the M&E of the Roadmap and Action Plan:

- Macro indicators to measure the impact of actions and the long-term goals. **15 circular economy indicators are recommended** based on data availability, relevance, acceptance, credibility, ease of use and robustness.
- Micro indicators that evaluate the implementation of the different policy interventions.

The implementation for the CE Roadmap and Action Plan spans a 10-year period from 2023. Within this time span, the CE Strategy and Action Plan will be reviewed initially after one year, identifying any initial challenges and adjustments, then subsequently every 3 years to evaluate progress and implement corrections as required to ensure the Roadmap and Action Plan remains on track.

The vision of the current Executive Council of the Rodrigues Regional Assembly is to work towards the objective of making Rodrigues the first ecological destination within the Republic of Mauritius – or even in the Indian Ocean. The RRA has officially started the consultations and targeted actions regarding the certification of Rodrigues as a “Green Destination” by the Global Sustainable Tourism Council. To be successful in this endeavor, relevant strategies has already started in the tourism and environmental sector and much more to undertake to ensure the alignment of any on-going and future development in Rodrigues to this vision. The actions proposed in this report aim to give a clear direction to the RRA on how the transition towards a more circular economy can be approached and contribute to the vision. **In addition to Waste Management, which is commonly seen as the entry point to adopting CE principles, the Agri-food and Tourism sectors have been identified as having high potential for circularity in Rodrigues.** Based on the sector assessment and on stakeholder consultations, 30 actions (listed at the end of this summary) have been identified towards embedding a CE enabling framework in Rodrigues in the next 10 years. About Rs 150 million (or about 3.5 million USD) must be mobilized to implement these actions.

The transition to a circular economy for the Republic of Mauritius is not a choice, but a necessity. The circular economy is a major change of an economic and social system that has been built over time and which now largely influences our ways of thinking and decision making. The transition will result from a multitude of initiatives, small steps, pilots and decisions which together will place the country on an alternative development path. **A circular transition is a societal project** and cannot be achieved singlehandedly by any one group of stakeholders. Instead, it calls for collaboration and involvement by all segments of society. It is created together: policy makers, the business sector, the public sector, academia, private individuals and civil society. Importantly, **this roadmap and action plan provides all key stakeholders a sense of direction and inspires them to become involved in the transition.** Only in a collaborative way can the actions be implemented successfully in the next 10 years, ensuring sustainable development.

A summary of the 80 actions for Mauritius is given below.

Focus Area	Actions	Estimated Costs (Rs million)	Time Horizon until 2033		
			Short-term (1-3 years)	Medium-term (4- 6 years)	Long-term (7-10 years)
Agri-Food	P1: Create a platform on Circular Economy in the Agri-Food sector	1.2			
	P2: Mandatory registration of farmers and creation of an electronic farmer registry	1.0			
	P3: Develop a National Strategy and Action Plan on (1) food loss and (2) on food waste	12.2			
	P4: Develop an Integrated Nutrient Management strategy and action plan	2.6			
	P5: Implementation of bio-wastes management	2.4			
	P6: Expand land access to farmers using sustainable/regenerative agriculture practices	1.0			
	P7: Review criteria of import permits for responsible sustainable sourcing of imported food	-			
	P8: Devise a policy on abandoned agricultural lands to contribute to CE objectives	-			
	KP9: Implement a Voluntary Agreement on Food Waste reduction	1.0			
	KP10: Develop national guidelines for farmers that provide guidance on how to set up a crop and/or animal farm in the most sustainable and circular way	0.8			
	KP11: Circular Public Procurement of products from sustainable agriculture in hospitals and government canteens	0.8			
	KP12: Develop a Country-of-Origin Food Labelling Information Standard	1.3			
	KP13: Enhance equipment, labour, infrastructure and resource sharing platforms to support farmers across the supply chain.	1.7			
	KP14: Feasibility studies on thermal sludge processing and on co-digestion of organic wastes	10			
Construction and Real Estate	P15: Create a platform on Circular Economy in the Built Environment.	1.2			
	P16: Develop a strategy, action plan and regulatory framework on Construction and Demolition Wastes (CDW)	5.6			
	P17: Develop national building codes incorporating green and circularity principles	6.5			

	P18: Develop minimum environmental criteria for circular procurement in public buildings and infrastructure	0.8			
	P19: Create a digital platform for increased sharing of government buildings and spaces	1.9			
	P20: Elaborate technical standards to facilitate the use of recycled construction materials	2.3			
	P21: Create a Materials Passport and a related database to register materials used in construction projects	1.6			
	KP22: Education and Awareness raising on Circular Built Environment	15			
	KP23: Develop a strategy and action plan for adoption of Building Information Modelling (BIM) in the construction value chain.	2.1			
	KP24: Develop national guidelines on how to characterize and valorize CDW.	0.7			
	KP25: Enhance an online marketplace through a CDW online platform for materials recovery and secondary material exchange.	1.5			
	KP26: Remove CDW from illegal dumping sites and sites rehabilitation	100			
Consumer Goods	P27: Create a platform on Circular Economy for Consumer Goods	1.2			
	P28: Develop a legal framework for social enterprises	1.7			
	P29: Revise the consumer law to ensure consumers receive trustworthy and relevant information on reparability of products at the point of sale and to set minimum warranty periods for household electrical and electronic appliances	1.7			
	P30: Mandatory display on electrical and electronic equipment of simple information on reparability.	1.8			
	P31: Include the mapping of repair and reuse services into the specifications of Producer Responsibility Organisations (PROs) and introduce eco modulation of EPR fees	2.0			
	P32: Create a policy and regulatory framework to support the transition to packaging reuse and refill	2.0			
	P33: Feasibility study of a policy and legislative framework for prohibiting the destruction of unsold goods.	1.4			
	KP34: Develop circular supplies for businesses	0.3			

	KP35: Develop and scale initiatives that enable people to repair/reuse consumer goods or donate unwanted items	12			
	KP 36: Promote the development and implementation of circular economy strategies or action plans in specific sectors	Led by Private sector			
Mobility and Logistics	P37: Create a platform on Circular Economy in Mobility and Logistics	1.2			
	P38: Develop policy instruments and incentives to accelerate a change towards a more service-based transport system	4.7			
	P39: Feasibility study to optimise forward logistics	3.4			
	P40: Devise efficient waste management schemes for end-of-life vehicle, waste batteries and waste tyres	2.2			
	KP41: Leverage existing and under-used logistics network capacities to enable collection and transport of sorted waste in shopping malls and supermarkets to recycling companies	1.4			
Waste Management	P42: Create a platform on Circular Waste Management	1.2			
	P43: Expand the range of products subject to EPR and carry out a feasibility study of a mandatory EPR on packaging in the short term	3.2			
	P44: Institutional strengthening of the Department of Solid Waste and of Local Authorities for integrated waste management	180			
	P45: Development of a waste reporting mechanism for shopping malls, large hotels and convention and exhibition centres	0.3			
	P46: Set up a strategic watch on the recycling industry	1.7			
	P47: Ensure that there is clear and accessible information about contents of packaging and how they can be recycled or taken care of	1.2			
	P48: Define End of Waste criteria for specific secondary raw materials.	2.2			
	P49: Develop technical standards for secondary raw materials and recycled content measures	1.7			
	P50: Support the development of markets for secondary materials through circular public procurement, mandatory recycled content, interactive platforms and market development workshops.	2.0			
	KP51: Introduce simple waste sorting processes and develop communication	57			

	campaigns about importance and value of waste sorting and recycling in collaboration with NGOs				
	KP52: Provide a network of fixed and mobile Civic Amenity Centres	100			
	KP53: Feasibility study on separate collection of households hazardous waste	1.6			
	KP54: Implement a National Waste Management Information System.	1.7			
	KP55: Implement a National Industrial Symbiosis Programme (NISP)	6.1			
Cross-Cutting Actions					
Governance	P56: Create an open governance that promotes active involvement of stakeholders	3.0			
	P57: Coordinate and assess public policies for circularity	-			
	P58: Monitor progress towards a circular economy	-			
	P59: Mainstream the principles of Circular Economy in all EIAs and PERs	0.7			
	P60: Feasibility of a comprehensive legislation on Circular Economy	2.1			
	P61: Enhance regional and international cooperation on the circular economy	10			
Education and Awareness Raising	P62: Identify circular economy initiatives and disseminate widely through a government information platform successful local case of circular economy	1.7			
	P63: Mandatory circular economy education in schools	5			
	P64: Enhance Circular Economy in the School Community	55			
	KP65: Mandatory circular economy education in TVET courses	2.5			
	KP66: Develop knowledge related to the circular economy through curricula and research strategies of Higher Education Institutions (HEIs)	125			
	KP67: Education and Awareness raising on Circular Economy in Public and Private sector	10			
	KP68: Dissemination of circular habits and practices	150			
Research and Development	P69: Promote the development of a line of R&D+i projects on circular economy	100			
	KP70: Launch a circular economy accelerator and incubator programme	37.5			
	KP71: Develop national databases of life cycle inventory	2.8			

Business Support	KP72: Create a Business Support Institution that will act as a Circular Economy Hub	25			
	KP73: Set up a working group on transforming business models	0.3			
	KP74: Promote the development and use of tools for the diagnosis and measurement of circularity at the organizational level	0.6			
	KP75: Promote the development of a community of practice around the theme of eco-design in product development	2.4			
Public Procurement	P76: Create a national policy on circular public procurement, build internal capacity, develop circular criteria, pilot circular tender processes and mainstream circular procurement	3.0			
	P77: Review financial Instructions for Disposal of Public Assets in accordance with circular economy principles	-			
Greening of fiscal policies and Financing	P78: Adapt taxation for a circular economy	1.5			
	P79: Introduce economic incentives for increasing circularity in economic sectors	-			
	P80: Expand access to financing of Circular Business Models	32			
	Total	1148			

A summary of the 30 actions for Rodrigues is given below.

Focus Area	Actions	Estimated Costs (Rs million)	Time Horizon until 2033		
			Short-term (1-3 years)	Medium Term (4-6 years)	Long-term (7-10 years)
Cross-Cutting Actions	1. Create an open governance that promotes active involvement of stakeholders around the major challenges of the transition to a circular economy in Rodrigues and the evaluation of policy results.	1.0			
	2. Include a requirement for a Circular Economy statement in all new projects intended to cover the whole life cycle of development to help consultants/architects/designers embed circular economy principles.	0.2			
	3. Identify all ongoing circular economy initiatives in Rodrigues and disseminate widely through an on-line information platform successful local case of circular economy.	0.80			

	4. Disseminate circular habits and practices.	50			
	5. Enhance Circular Economy in the School Community.	9.3			
	6. Circular economy vocational training courses for closing material loops.	0.20			
	7. Education and Awareness raising on Circular Economy in Public and Private sector.	2.0			
	8. Promote the creation of lines of research, development, and applied innovation (R&D+i) with potential to accelerate the transition to the circular economy in Rodrigues.	20			
	9. Launch a circular economy accelerator and incubator programme that enables individuals and startups to prototype and develop innovative solutions contributing to accelerate the transition towards Circular Economy in Rodrigues.	15			
	10. Create a policy and strategy on circular public procurement and review financial instructions for disposal of public assets in accordance with circular economy principles.	0.1			
Agri-Food sector	11. Mandatory registration of farmers and creation of an electronic farmer registry.	0.6			
	12. Develop a Strategy and Action Plan on Food Loss and on Food Waste.	2.5			
	13. Organize training on regenerative agricultural practices such as agroecology or agroforestry.	2.0			
	14. Develop a strategy and action plan to create a market for organic recycled nutrients.	0.9			
	15. Develop guidelines for farmers that provide guidance on how to set up a crop and/or animal farm in the most sustainable and circular way.	0.2			
	16. Enhance equipment, labour, infrastructure and resource sharing platforms to support farmers across the supply chain.	0.6			
Circular Waste Management	17. Carry out a new waste characterization exercise to devise waste management policies.	0.5			
	18. Feasibility study for a composting plant for the treatment of green and food wastes and support the demand for compost through subsidies, regulations and sustainable procurement.	1.2			
	19. Introduce the necessary regulations for the separate collection of waste from the 2 bins given to each household for the	0.2			

	implementation of waste segregation at source.				
	20. Distribute Home Composter Bins to household with guidelines on how to use them and ambassadors to provide advice.	20			
	21. Upgrade the existing dumping ground at Roche Bon Dieu and plan for a sanitary landfill in the medium term at Grenade	8.5			
	22. Implement a Hazardous waste Management Plan	0.4			
	23. Institutional strengthening of the Commission for Environment.	10			
	24. Create a policy and regulatory framework to support the transition to packaging reuse and refill.	0.2			
	25. Develop and scale initiatives that enable people to repair/reuse consumer goods or donate unwanted items.	4			
Circular Tourism	26. Promote circular procurement in the tourism sector	1.5			
	27. Implement a Voluntary Agreement on Food Waste reduction.	0.3			
	28. Set up a working group on transforming business models in the tourism industry to circular business models.	0.3			
	29. Develop an online marketplace through online platforms	0.8			
	30. Education and awareness raising on Circular Built Environment in the tourism industry	3.0			
	Total	156.3			

1. INTRODUCTION

A linear economy refers to the traditional industrial model that follows a “take, make, waste” process in which raw materials are extracted, turned into products, and after being used or consumed, the products are typically thrown away as non-recyclable waste (or at most, they are recycled or downcycled). This is the mainstream economic model today with more than 90% of the resources which are extracted for the global economy being used only once, and then disposed of. As highlighted in the Circularity Gap Report of 2023, “Rising material extraction has shrunk global circularity: from 9.1% in 2018, to 8.6% 2020, and now 7.2% in 2023. This leaves a huge Circularity Gap: the globe almost exclusively relies on new (virgin) materials”⁴. At the 2022 United Nations Environment Assembly (UNEA 5.2), the resolution on "Enhancing Circular Economy" was adopted underscoring the urgency to accelerate a structural transformation of the way we manage our natural resources, consume and produce. The alternative Circular Economy (CE) model proposes a vision for an **economy where the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste minimized**. A CE is not just additional recycling. It requires a complete rethinking of the economy with the goal of removing inefficiencies in value chains and retaining the value of products and materials for as long as possible. **The CE is an economic model that addresses the root causes of biodiversity loss, the climate crisis and the depletion of natural resources.**

Each country has its own specificity and CE needs to be contextualized considering economic, social and environmental considerations. Mauritius is a Small Island Developing State (SIDS) and as such is ecologically fragile and economically vulnerable. It has limited natural resources, a small area with a high population density and high pressure on sensitive ecosystems, small domestic market, do not benefit from the economies of scale, a heavy dependence on imports especially for food and energy, a heavy reliance on tourism, and the cost of provision of energy, infrastructure, transport and communication are high. The combination of small size and remoteness leads to high production and trade costs and exposure to commodity price volatility. The island is also particularly vulnerable to climate change and natural disasters. Despite these inherent disadvantages as a SIDS, Mauritius has since its independence achieved good socio-economic progress and is now a diversified upper middle-income country albeit with **a linear economic model that deepens dependencies and vulnerabilities**.

To promote the paradigm-shift to a CE model and to raise awareness on the potential of integrating circularity principles in key sectors, a three-days National Conference on Circular Economy was organised by the Ministry of Environment, Solid Waste Management and Climate Change (MOESWMCC) from 25 to 27 May 2022. At the National Conference, there was a high consensus on the need to re-think the key economic sectors from a CE and Sustainable Consumption and Production (SCP) point of view. It was also emphasized that creating a path to a CE is particularly topical in light of the post-Covid-19 recovery as the CE helps to build more resilience to help avoid future disruptions. **However current initiatives on CE in Mauritius are taking place in isolation and lacking a holistic framework and a strategy that could unlock synergies to harness the transformational capacity of the CE.** In this context of global and local effervescence around the circular economy, and noting its enormous long-term transformational potential, the MOESWMCC, with the support of UNEP, initiated in October 2022 the process that led to the development of this comprehensive Roadmap and Action Plan on CE for Mauritius for the period 2023 to 2033, in line with the new Global Strategy on Sustainable Consumption and Production (SCP) and the UNEA 5.2 Resolution on Enhancing CE.

⁴ <https://www.circularity-gap.world/2023>

The situational analysis and scoping report have shown that **Mauritius is at an early adoption stage of the circular economy which entails a fragmented approach anchored on integrated waste management** and limited understanding of the circular economy and its socio-economic benefits. Different economic actors (both public and private) are working in siloes and only adopt circular economy practices based on their individual interests. Within government, there is limited awareness of what different government institutions are doing to advance a circular economy, which may lead to the inefficient allocation of already limited government resources and duplication of effort. The private sector has taken a number of initiatives that need to be intensified further. Businesses face challenges in converting the identified sector-wide circular economy opportunities into attractive investment opportunities, which slows down private sector participation in advancing circularity. It is anticipated that there will be some moderate transitioning to a CE in the short term through a few planned policies on single use plastics, waste sorting and Extended Producer Responsibility (EPR) on electrical and electronic goods and beverage containers. The country will however need to move to an advanced integration stage when it will completely understand that a systems transformation across the entire national economy is required to derive the full benefits of a circular economy. This advanced integration stage is evidenced by well-established laws and policies, clearly identified sector-specific circular economy opportunities, an increased interest in circular business models from commercial financiers and multiple stakeholders working together to advance a circular economy⁵.

The transition to a circular economy is not a choice, but a necessity. The transition will result from a multitude of initiatives, small steps, pilots and decisions which together will place the country on an alternative development path. The objective of this roadmap and action plan, which was developed through an open process with broad stakeholder engagement, is to support the transition from a linear economy, generating dependencies and vulnerabilities, to a circular and resilient economy. **It is a tool for change and presents a vision, defines objectives and targets, has a clear strategic plan and includes concrete actions that can accelerate the transition.** It also helps to ensure that actions towards CE are well coordinated and are synergized.

The circular economy is a major change of an economic and social system that has been built over time and which now largely influences our ways of thinking and decision making. **A circular transition is a societal project and cannot be achieved singlehandedly by any one group of stakeholders.** Instead, it calls for collaboration and involvement by all segments of society. It is created together: policy makers, the business sector, the public sector, academia, private individuals and civil society. Importantly, **the roadmap and action plan provide all key stakeholders a sense of direction and inspires them to become involved in the transition.** Only in a collaborative way can the actions be implemented successfully in the next 10 years, ensuring sustainable development.

⁵ UNEP (2023). Guidelines for accelerating the Circular Economy Transition in Africa. In Press.

2. WHY AND WHAT IS A CIRCULAR ECONOMY FOR MAURITIUS?

2.1 Why a Circular Economy for Mauritius?

a. Because the linear economy model deepens dependencies and vulnerabilities

Historically circular by its agricultural and organic nature, Mauritius's economy has become in 50 years a linear and dependent economy that extracts, imports and rejects significant flows of materials. The society has transitioned from a frugal agricultural society, dependent on island resources and the cycles of nature, to a society whose lifestyles and the satisfaction of needs are oriented towards the mass consumption of manufactured products and dependent on fossil fuels and on imports. **While Mauritius has achieved remarkable economic and social progress the current development model result in deepening dependencies and vulnerabilities.**

The Domestic Material Consumption (DMC)⁶ and Material Footprint⁷ were about 12 million tons (9.42 tons per capita) and 27 million tons (20.8 tons per capita) respectively in 2019. The DMC is a standard material flow accounting⁸ (MFA) indicator and reports the apparent consumption of materials in a national economy. It refers to the actual amount of materials (in terms of weight) used in an economy, i.e. materials extracted or harvested in the country, plus materials and products imported, minus material and products exported. The DMC is a proxy for potential environmental pressures on the domestic environment. Following the example of carbon footprint, the Material Footprint (MF) refers to the total amount of raw materials extracted to meet final consumption demands. It is an indicator that allows us to take into account the full amount of raw materials used to satisfy a given country's level of domestic consumption. The results provide a better representation of the true impact of resource use, including both materials extracted within the country and those mobilized indirectly outside the country in order to produce and transport imported products. The per capita DMC in 2019 was 35% higher than the Sub-Saharan average, but 30% lower than the average consumption levels in Europe. The MFA per capita of 20.8 tons per capita is to be compared to a world average of 12.2 tons per capita, an average of 16.92 tons per capita for upper middle-income countries and an average of 26.2 tons per capita for high income countries. The MF is greater than the DMC indicating that consumption relies on materials from other countries through international supply chains. In a globalized world, Mauritius is relying on resource extraction in almost all countries of the world, which is fed into the global supply chain.

The increase of imports highlights its marked dependence on energy flows and materials produced in other countries. Since independence Mauritius has witnessed a rapid increase in electricity generation (See Figure 2.1). Fossil fuels account for about 80% of the electricity generated.

⁶ DMC measures the total amount of materials directly used by an economy and is defined as the annual quantity of raw materials extracted from the domestic territory, plus all physical imports minus all physical exports.

⁷ Material footprint" refers to the total amount of raw materials extracted to meet final consumption demands.

⁸ Economy-wide material flow accounting (MFA) is a framework that provides consistent compilations of the material inputs to national economies, changes in material stocks within the economic system, and material outputs to other economies and the environment

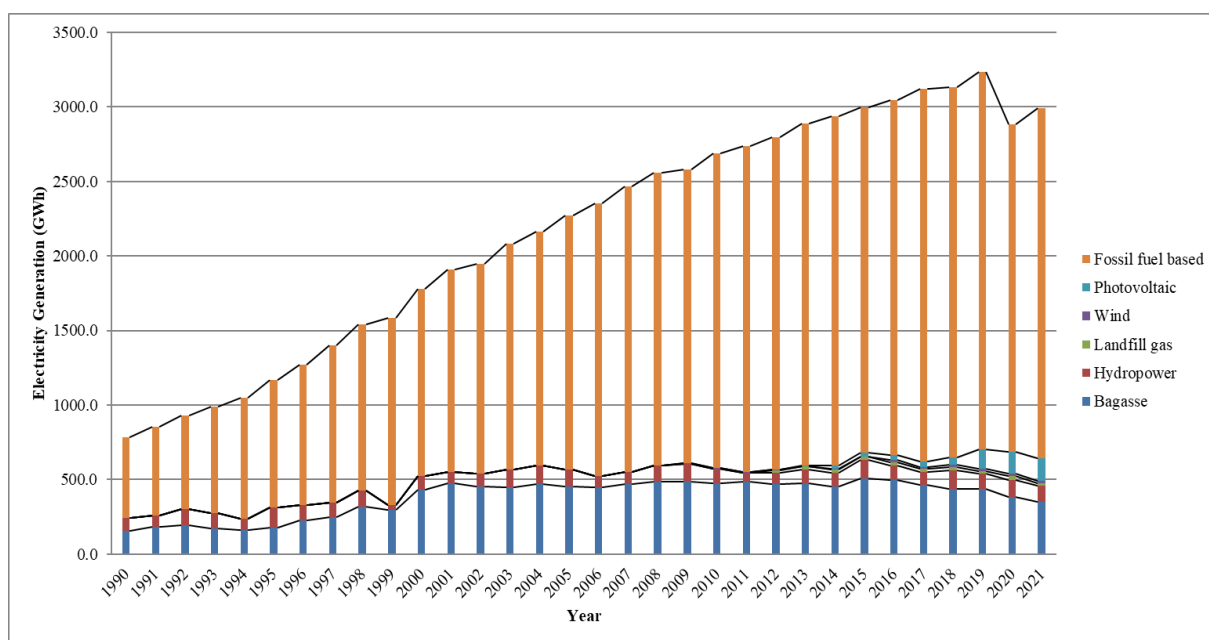


Figure 2.1: Electricity Generation and Evolution of the Electricity Mix

Mauritius faces a deepening energy dependence. Imports of petroleum products which represented about 533 000 tonnes of oil equivalent in 1990 increased to 1.8 million tonnes of oil equivalent in 2019 (see Figure 2.2). Imported fuels comprising petroleum products (56.0%) and coal (30.7%) made up 86.7% (1,157 ktoe) of the total primary energy requirement in 2020. The import bill of petroleum products and coal accounts for around 15% of the total imports.

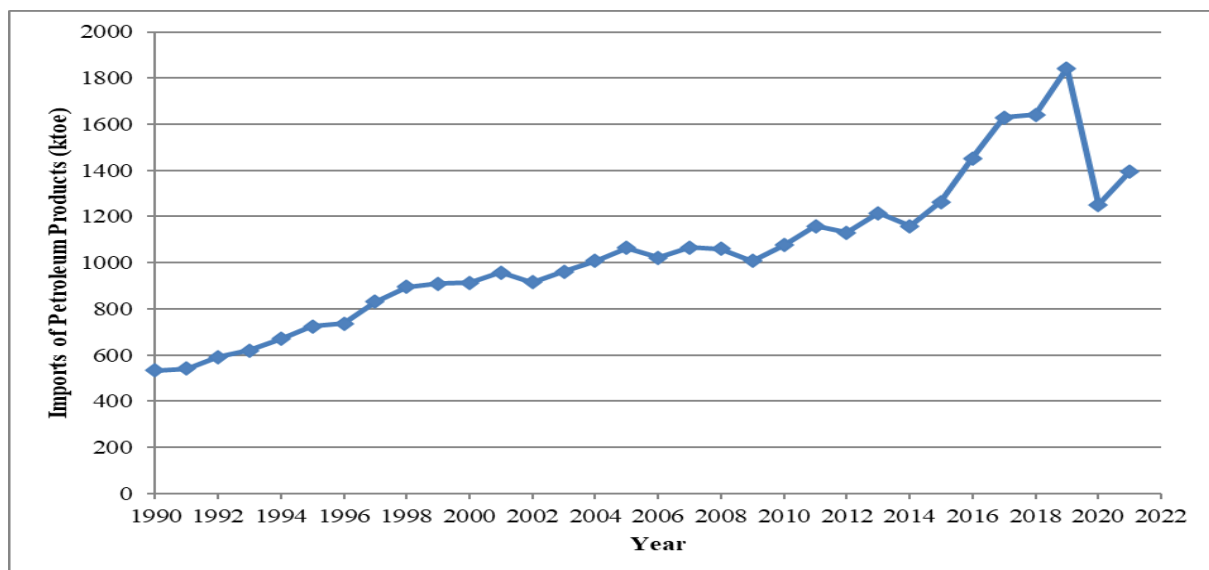


Figure 2.2: Evolution of imports of petroleum products

The widening of dependencies also concerns food resources. Mauritius is considered to be a Net-Food Importing Developing Country where it imports almost about 77% of its food requirements exposing the country to international pressures, such as fluctuating freight prices, exchange rate fluctuations and sourcing concerns. The widening of energy and material dependencies places Mauritius in a situation of great vulnerability, because the sustainability of the metabolism depends on flows that allow us to consume well beyond local capacities and over which we have no control. The final consumption expenditure of households and of government represents more than 90% of the GDP. All types combined, the amount of imports increased from 0.6 million tonnes in 1990 to 2.7 million tons in 2019 as depicted in Figure 2.3.

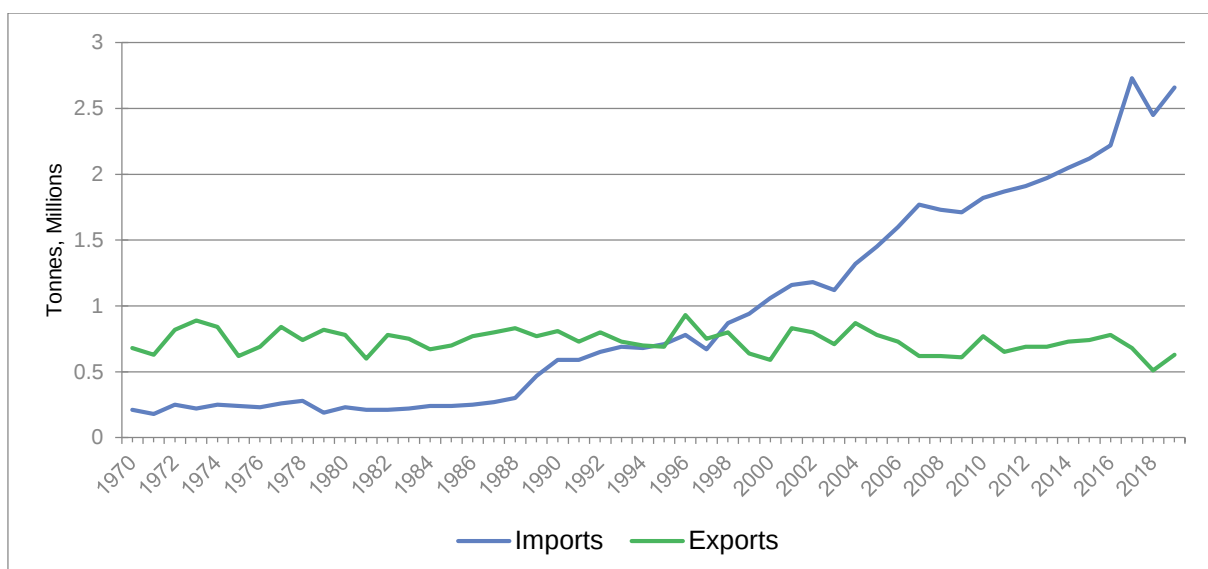


Figure 2.3: Trends of physical imports and exports in Mauritius (1970-2019)

b. Because the country faces urgencies with respect to waste management

The management of solid waste is one of the major environmental challenges facing Mauritius, in part due to unsustainable production and consumption patterns, and to the traditional linear business model of ‘take-make-waste’. Heavy reliance on imported goods and tourism without much control on upstream processes generally tend to make solid waste generation rates higher in SIDS. The increase in imports translates downstream into marked growth in the production of residues and discharges. The average amount of solid waste per capita disposed at the landfill daily has increased steadily from 0.6 kg in 2000 to 1.1 kg in 2019, generating around 537,147 tonnes annually (See Figure 2.4). On a business-as-usual scenario, it is expected that the total amount of solid wastes requiring landfilling by 2030 will be around 648,000 tonnes⁹. The sole sanitary landfill is already saturated and there are plans to extend the lifetime of the landfill through a vertical expansion project.

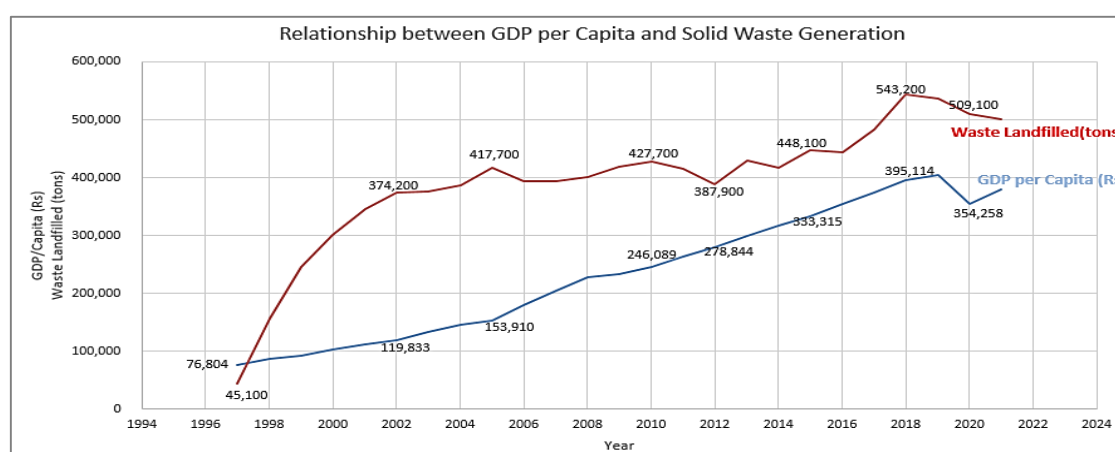


Figure 2.4: Total amount of solid wastes landfilled in Mauritius over time and relationship with GDP per capita¹⁰

Most of the solid wastes landfilled emanate mainly from the domestic and commercial sectors, also termed as Municipal Solid Waste (MSW). The composition of MSW, as shown in Figure

⁹ MoESWCC, 2020. Solid and Hazardous Waste Management Strategic Plan 2020-2030.

¹⁰ Statistics Mauritius, 2021. Digest of Environment Statistics 2020.

2.5, shows a good potential for material recovery in terms of composting or anaerobic digestion of organic wastes and recycling of the paper, plastics, metals, glass and textile wastes. It is estimated that about 4% of the total solid waste generated currently is being either recycled locally or exported. The current level of wastes disposed at the landfill and the low rate of recycling (about 4%) represents untapped opportunities to generate wealth. Furthermore, for a SIDS, there is an unsustainable consumption of land for landfilling and other land consuming waste infrastructure, with a land footprint increase estimated at about 3ha/year.

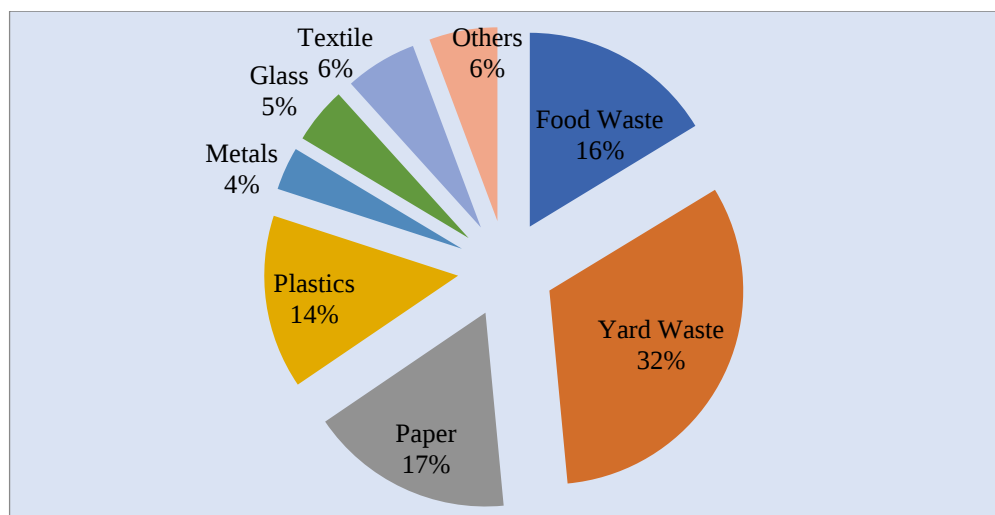


Figure 2.5: Composition of solid wastes landfilled¹¹

Beyond waste, another indicator which makes it possible to measure the evolution of production of residues is the GHG emissions, which has increased from 0.37 ton/capita in 1970 to 3.31 tons/cap in 2019 (See Figure 2.6).

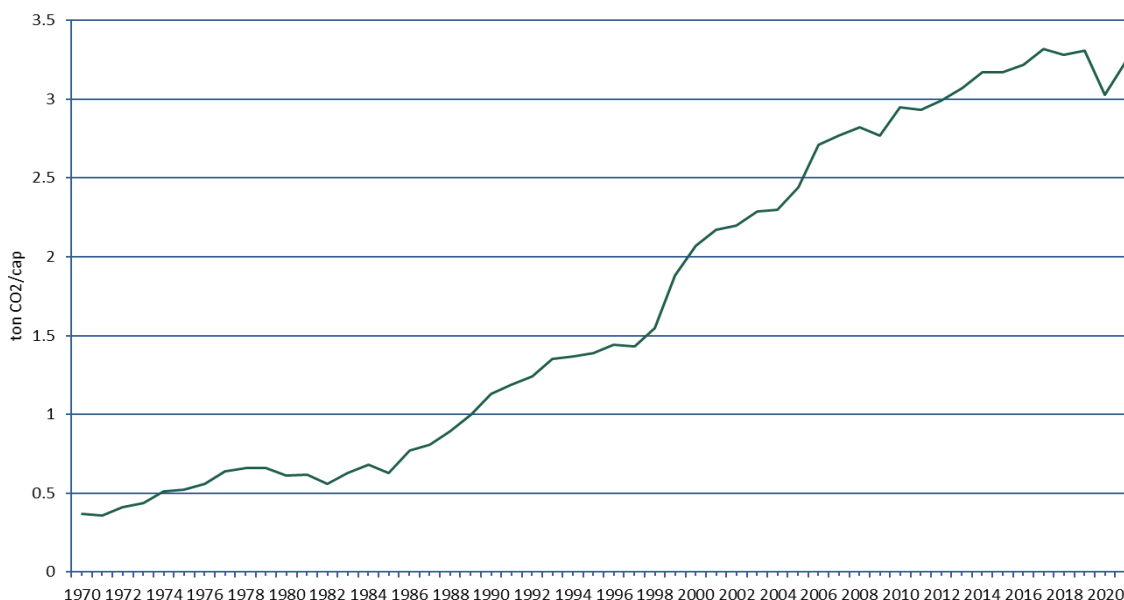


Figure 2.6: Trend in GHG emissions per capita

¹¹ Jeetah, P., Somaroo, G., Surroop, D., 2021. National Solid Waste Characterisation Study in Mauritius.

c. Because the circular economy allows the country to face the global challenges of the 21st Century

Another major source of vulnerability stems from the global ecological crisis that will lead in the years to come to a reduction in the production and global circulation of natural resources, exacerbated by strong growth in the world population which is expected to reach 8.5 billion inhabitants in 2030. Global resources extraction will increase from the current 92 billion tonnes to 190 billion tonnes by 2060 and finite resources will become ever scarcer and more expensive with the current linear model. Figure 2.7 gives the domestic extraction of the world in 1970-2017 by material groups. The circular economy has the potential to be an enormous contribution to the response that the country must give to these and other associated trends. For example, the Ellen MacArthur Foundation estimated that, **while 55% of greenhouse gas emissions are attributable to energy production, another 45% are attributable to material production**, an area in which the circular economy offers multiple strategies for increasing efficiency. However, so far, the trend of emissions from material production is increasing.

Many climate change challenges are related to the linear nature of countries' economy that currently are still, in many ways, reliant on resource extraction, the use of fossil fuels for sustaining the economy, and the waste of resources as a consequence of improper design, use and management. **CE can potentially contribute to the implementation of the Nationally Determined Contributions (NDC). NDC targets and CE strategies are complementary.** Incorporating CE strategies in the NDC can increase the level of ambition of national climate action by looking beyond the classical mitigation sectors. Built environment, transport, food systems, waste management and clean energy are the most relevant sectors for the circular economy strategies to deliver climate change mitigation efforts. CE strategies can also help enhance adaptation to climate change such as slowing down nature degradation through reducing demand for virgin materials, improving soil health through regenerative agriculture and increasing flood resilience through better waste management.

The entire world is currently facing a series of global challenges that put in check the ways in which we have organized our economic systems. As time goes by, more and more variables alert us of the impacts that human activity is having on nature: resource scarcity; loss of biodiversity, including extinction rates much higher than those observed in any previous historical period; and unprecedented climatic changes associated, with greenhouse gas emissions from human activity. At the same time, the consequences that inaction could bring for our future are becoming ever clearer. In turn, other global trends associated with the above have changed and will continue to change the global landscape. On the one hand, environmental regulations are becoming stricter and decarbonisation goals more ambitious; and, on the other hand, people are becoming more and more aware of the environmental impacts of human activity, and, in consequence, are requiring ever higher environmental standards from businesses and the state. At the same time, people are becoming much more willing to adopt more sustainable lifestyles.

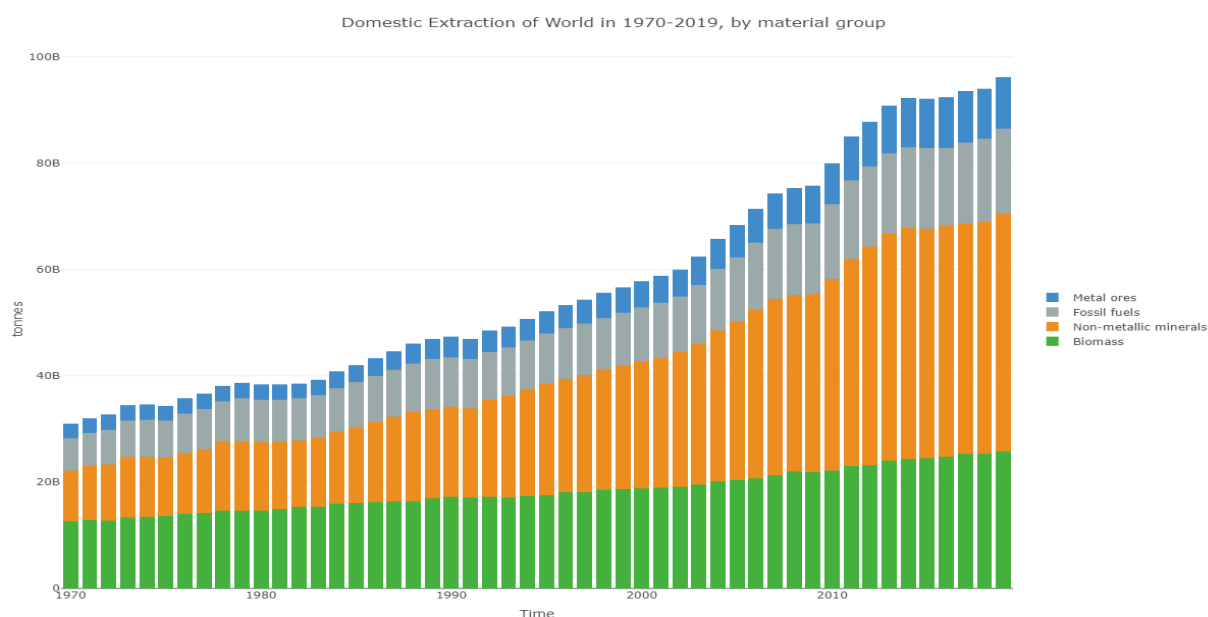


Figure 2.7: Domestic Extraction of the world in 1970-2017 by material groups¹²

The circular economy has the potential to be an enormous contribution to the response that the country must give to these and other associated trends. The potential of the circular economy is not limited to resource efficiency and mitigation and adaptation to climate change. In this sense, it should be noted that, **of the 17 Sustainable Development Goals, at least 10 would be directly and positively impacted by the transition to a circular economy**: zero hunger (SDG 2); clean water and sanitation (SDG 6); affordable and clean energy (SDG 7); decent work and economic growth (SDG 8); industry, innovation and infrastructure (SDG 9); sustainable cities and communities (SDG 11); responsible production and consumption (SDG 12); climate action (SDG 13); life below water (SDG 14); and life on land (SDG 15).

d. Because the circular economy presents economic opportunities.

One of the greatest attractions of the circular economy is that it offers ways to overcome the dilemma between economic development and environmental protection, allowing for synergies between these two objectives. The model places emphasis on a type of productivity that is usually ignored but has enormous potential both environmentally and economically: material productivity, a measure of the economic value that is generated for each unit of material resources used to generate it. In 2017, the country generated US\$ 2.34 for every kilogram of material used by the economy, while the OECD average was US\$ 2.88 per kilogram, and a leading country such as the Netherlands generated as much as US\$ 5.75 per kilogram¹³. This gap in material productivity has concrete manifestations: for example, despite the fact that all the virgin plastic resin used in the country is imported, the vast majority of plastic residues generated in the national territory are not recycled; and the importation of a large amount of synthetic fertilizers, without taking advantage of the natural fertilizers that could be obtained from the recovery of organic waste; and the negligible reuse and recycling of Construction and Demolition Wastes (CDW). The magnitude of the opportunities associated with an increase in resource efficiency is significant. **There is a growing body of research showing the positive impact of a transition to CE on economic growth, job creation and the environment.** As an example, the introduction of CE principles within the European Union is estimated to increase GDP in the EU by seven percent (by 2030) and improve the disposable income of households by up to 11 percent compared to the linear “business as usual” model. Individual

¹² UN IRP Global Material Flows Database. <http://www.materialflows.net>

¹³ <https://data.oecd.org/materials/material-consumption.htm>

European countries like Denmark, Finland, France, Belgium and the Netherlands have outlined their CE policies and strategies, expecting specific economic benefits (job creation, more competitive business environment and improved market value, investments in new technologies, improvement of the trade balance, reduction of primary material consumption). But the potential benefits of the circular economy are not limited to cost savings and productivity gains. The transition is also expected to bring numerous employment opportunities in various activities. For example, a 2018 study by the International Labour Organization (ILO) estimated that, globally, the transition to a circular economy could generate 50 million additional jobs in the recycling sector alone, and 45 million additional jobs in support services for the circular economy¹⁴. The study by UNDP and Business Mauritius in 2021 has shown that recycling wastes back to the economy can add an additional contribution to economic activity at about 1.3% of GDP in 2030 with a total employment of about 8,000¹⁵.

e. Because a green recovery requires a long-term view and a shared path

The COVID-19 pandemic has produced an unprecedented global crisis. This was exacerbated by the impacts from the Ukraine war. But every crisis is also an opportunity. In this case, **it is the opportunity to reactivate the economy with a great green drive that ensures a sustainable future. The best way to seize this opportunity is to bring together a broad coalition of diverse actors, as the depth of the transformation that is needed demands the commitment of the whole of society.** It requires green firms with sustainable business models; universities whose research and development activities are focused on solving the problems of the environments in which they are inserted; a citizenry sensitive to the consequences of the linear economy and a civil society empowered in its role as an agent of change; an educational system that integrates the environmental dimension at all levels; visionary local governments that implement innovative solutions; and also a government with a long-term vision, capable of channelling the energies of these and other actors in a productive way.

2.2 Circular Economy – A systemic approach for a complete rethinking of the economy

According to the Ellen MacArthur Foundation, economic systems today are under risks of price (due to the increasing volatility of raw materials and metals), disruption of supply (given the collapse of stocks of non-renewable resources and the damage to natural environments) and the economic costs of pollution. The current challenges offer a chance to reinvent a new economy that preserves the integrity of ecosystems and regenerate them, feed on renewable energies, is resilient to disturbances and centered on human needs and generates activities, jobs and solidarity. The operational instrument of this transformation is the circular economy which can be defined as ***“an economic system that replaces the ‘end-of-life’ concept with reducing, alternatively reusing, recycling and recovering materials in production/distribution and consumption processes. It operates at the micro level (products, companies, consumers), meso level (eco-industrial parks) and macro level (city, region, nation and beyond), with the aim to accomplish sustainable development, thus simultaneously creating environmental quality, economic prosperity and social equity, to the benefit of current and future generations. It is enabled by novel business models and responsible consumers”***.¹⁶

In a CE, growth is decoupled from the consumption of scarce resources. Products and materials are kept within productive use for as long as possible, and when they reach end of use, they are effectively cycled (or looped) back into the system. Arriving at true circularity means rethinking

¹⁴ ILO (2018). Greening with Jobs. World Employment Social Outlook

¹⁵ Business Mauritius, 2021. Circular Economy: Optimising private sector investment in Mauritius. Business Mauritius/UNDP.

¹⁶ Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An analysis of 114 definitions. Resources, Conservation and Recycling, 127, 221–232

and transforming full value chains to create a system in which waste is designed out entirely and the goal is net positivity (adding instead of extracting resources) through restorative models.

According to the Ellen MacArthur Foundation, CE is based on three principles which imply a systemic change:

- (i) **Design out waste and pollution:** For the CE, waste is a design error. Therefore, it is best to avoid its generation at this stage, and not incur the cost of taking care of it when it has already been generated. This principle is related to the waste management hierarchy, which states that reducing is better than reusing, reusing is better than recycling, and recycling is better than discarding.
- (ii) **Keep products and materials in use:** Once resources have entered the economy, efforts should focus on preventing them from diminishing or totally losing their value, as it happens when residues are discarded and end up as waste. The ideal is to look for ways to conserve materials, energy, and all the resources found in the products and infrastructure of our economies, and in the ecosystems of our territories; and
- (iii) **Regenerate natural systems:** The CE states that we must go beyond the conservation approach. The economic system must actively seek to regenerate natural capital and biodiversity. Regenerating natural systems discourages the use of non-renewable resources and preserves or enhances the renewable resources.

CE is far beyond recycling or better waste management. Recycling is undoubtedly an important part of the CE. However, the model goes far beyond it, promoting a systemic view which considers the entire lifecycle of products, services, and processes for the design of better production and resource management systems. Thus, for the CE, recycling at the end of the chain is only one way within a much broader set of strategies to inspire technological, organisational and social innovation throughout the value chain in order to ‘design-out’¹⁷ waste from the beginning. The goal is to retain the value of products and materials for as long as possible. A CE is about rethinking value creation. Circular processes can be grouped into four categories, as outlined in Figure 2.8.

¹⁷ EMF, 2013. Towards the Circular Economy: Accelerating the scale-up across global supply chains.

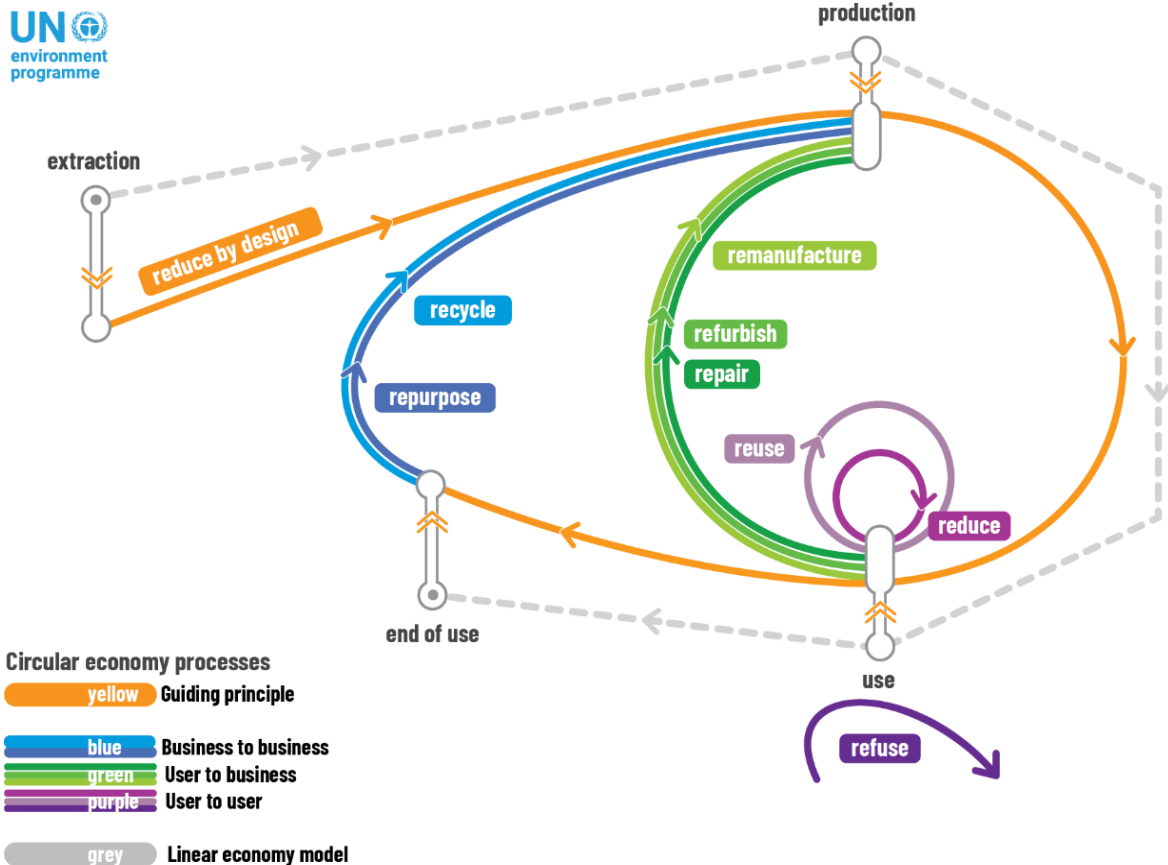


Figure 2.8: UNEP Circularity Approach¹⁸

Reducing by design is an overall guiding principle from the earliest stages of design of products and services. Circularity then builds upon the following value retention loops from the most impactful to the least:

- **User-to-user** processes: shorter loop, where a product or component remains close to its user and function (Refuse, Reduce and Re-use).
- **User-to-business** processes: medium/long loop, where a product or component is upgraded and producers involved again (Repair, Refurbish and Remanufacture).
- **Business-to-business** processes: long loop, where a product or component loses its original function (Repurpose and Recycle).

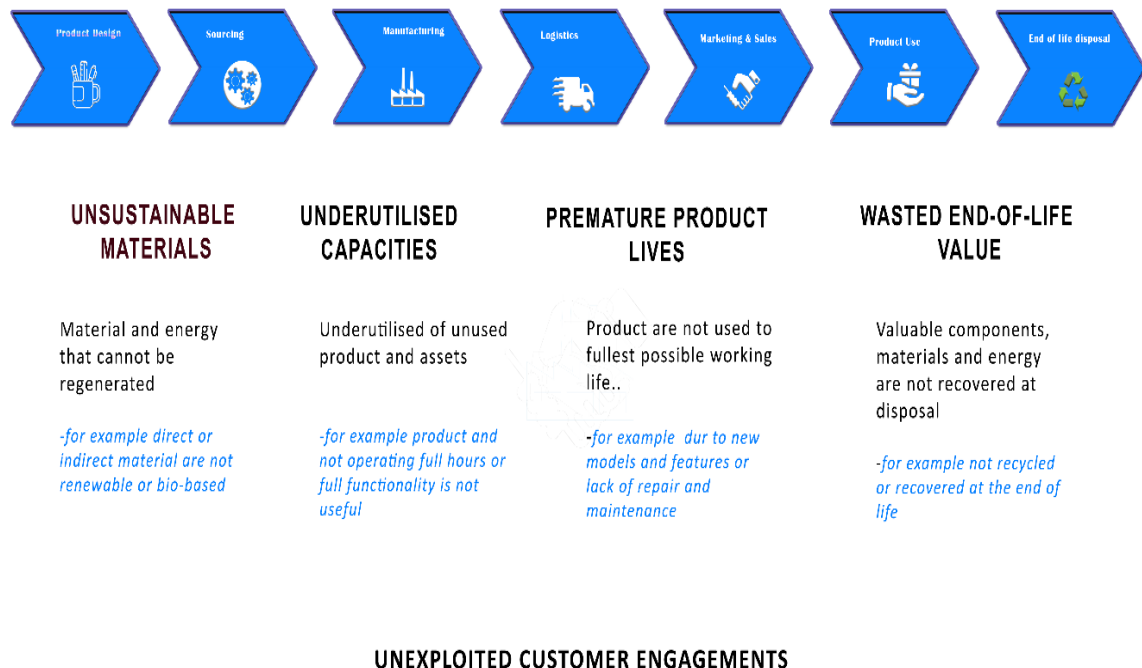
In the Waste to Wealth (2015) seminal book, the authors identified a global opportunity worth \$4.5 trillion that was up for grabs by **redefining the concept of “waste” as a valuable resource**.¹⁹ They focused on four distinct types of waste categories from which to capture this value (See Figure 2.9):

- **Wasted resources:** Use of materials and energy that cannot be effectively regenerated over time, such as fossil energy and non-recyclable material.
- **Wasted capacity:** Products and assets that are not fully utilized throughout their useful life.

¹⁸ <https://buildingcircularity.org/>

¹⁹ Lacy, P. and Rutqvist, J., 2015. The Circular Economy Advantage.

- Wasted lifecycles: Products reaching end of use prematurely due to poor design or lack of second-use options.
- Wasted embedded value: Components, material, and energy not recovered from waste streams.



Sales organisation focus on selling functionality of product rather than the customer problem
- for example - missing opportunities to engage customers throughout the product life-cycle to offer additional service and add-on sales

Figure 2.9: Types of inefficiencies in the value chain¹⁹

To seize the opportunity value of redefining waste, the authors introduced **five business models underpinning the transformation to a CE** which over the years have been widely recognized by various public and private sector organizations as a viable approach for implementing CE strategies and **reduce inefficiencies in the value chain**. A circular business model articulates the logic of how an organization creates, delivers, and captures value to its broader range of stakeholders while minimizing ecological and social costs. The five business models are as follows (See Figure 2.10):

1. **Circular Inputs:** Renewable, recycled, or highly recyclable inputs are used in the production process, enabling partial or total elimination of waste and pollution.
2. **Sharing platforms:** The utilization rates of products and assets are optimized through shared ownership, access, and usage typically enabled by digital technologies. There is a growing demand to look for facilitation in delivering services in a CE. These facilitatory services include providing stakeholder connections through platforms, helping in aggregation (especially of waste), reverse logistics²⁰ and supporting materials management over the life cycle. Here digital platforms play an increasing role.

²⁰Reverse logistics is the set of activities that is conducted after the sale of a product to recapture value at the end of the product's lifecycle. It typically involves returning a product to the manufacturer or distributor or forwarding it on for servicing, refurbishment or recycling.

3. **Product as a service:** Companies retain ownership of a product and sell its benefits on a service basis while remaining responsible for the good's maintenance and treatment at end of use.
4. **Product use extension:** A product's use in its intended application is purposefully extended through design considerations, repairs, component reconditioning, upgrades, and resale
5. **Resource Recovery:** The value of embedded materials or energy from agricultural and industrial goods is captured through collection, aggregation, and processing at the end of a product's use through recycling, upcycling, or downcycling infrastructures and practices.

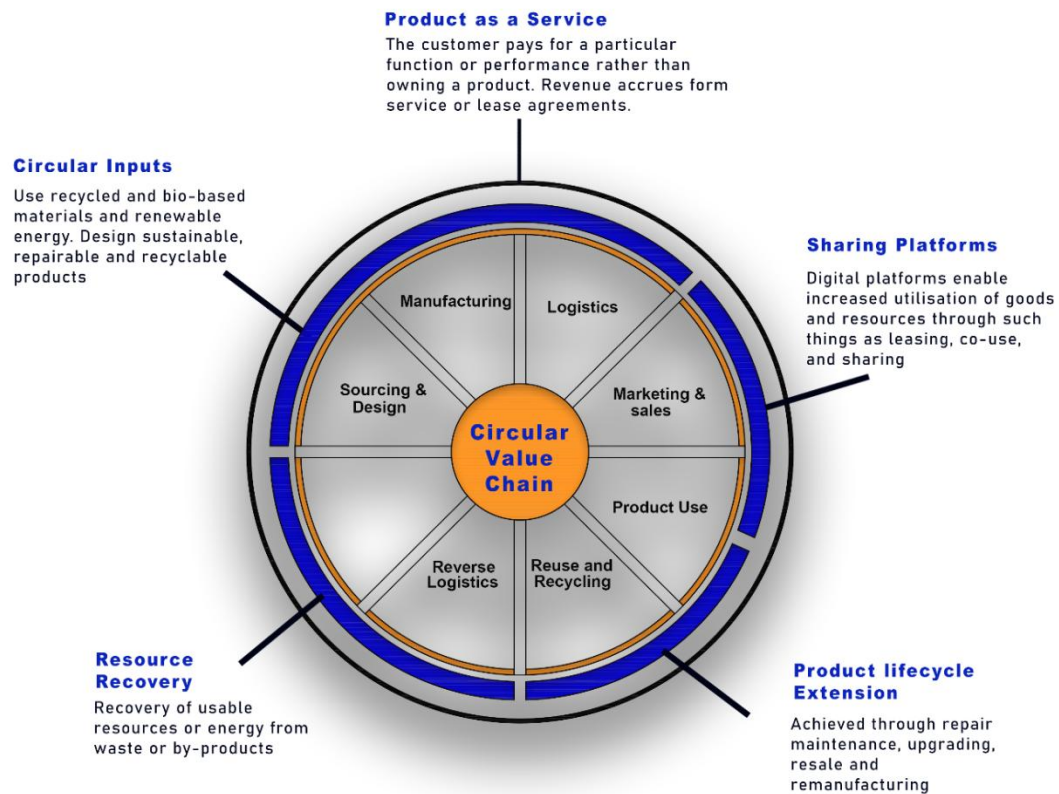


Figure 2.10: Circular Business Models²¹

Disruptive technologies of the Fourth Industrial Revolution (4IR)²² can enable the circular business models through increased efficiency, greater innovation, enhanced information transparency, and reduced reliance on resource-intensive materials, especially when the technologies are used in combination. 4IR technologies refer to an array of digital (Internet of Things, Artificial Intelligence, etc.), physical (3D printing, robotics, etc), and biological technologies (anaerobic digestion, biorefining, etc.). **True impact and scale will happen when companies deploy circular business models and 4IR technologies in a holistic manner** to capture new growth opportunities while also strengthening their core business. Digital technology represents an opportunity for the transition by enabling networking, access to information and data, support for decision making and the production of new services.

²¹ Lacy, Long & Spindler (2020). The Circular Economy Handbook: Realizing the Circular Advantage

²² The First Industrial Revolution used water and steam power to mechanize production. The Second used electric power to create mass production. The Third used electronics and information technology to automate production. Now a Fourth Industrial Revolution is building on the Third, the digital revolution that has been occurring since the middle of the last century. It is characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres.

3. HOW WAS THIS ROADMAP DEVELOPED?

The process of designing the roadmap was participatory, bringing around the table the public sector, the private sector, academia and civil society. Data collection tools included desk research, questionnaires, interviews, and focused group discussions that generated enough data to be used for the development of the roadmap. The methodology, based on international experiences in developing CE roadmaps²³, is summarized in Figure 3.1 and further discussed below.

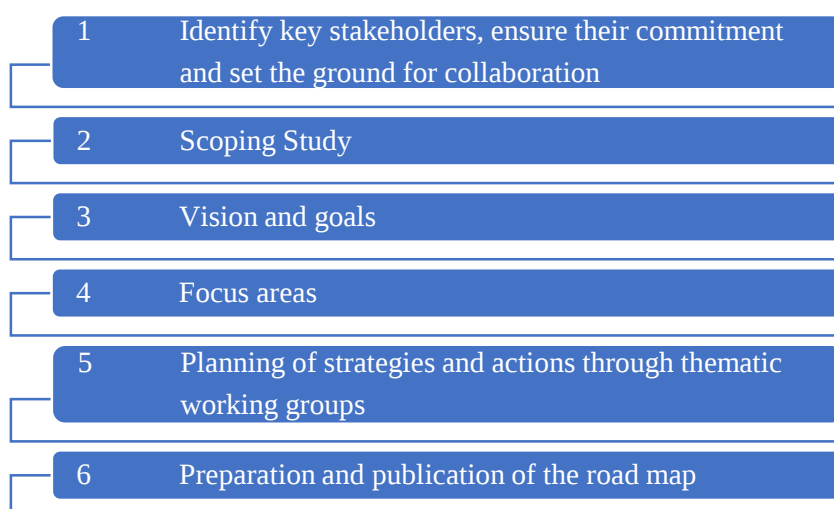


Figure 3.1: Summary of Methodology

1. Identify key stakeholders, ensure their commitment and set the ground for collaboration

A steering committee consisting of key stakeholders was set up and acted as the guiding and advisory body for the roadmap and will later on facilitate its implementation (See Annex 1 for the membership of the steering committee). All stakeholders who participated in the National Conference on CE were informed of the preparation of the roadmap and invited to collaborate in focus group discussions.

2. Scoping Study

A situational analysis and scoping study were carried out to deepen the understanding about the current state of the circular economy. The study identified the priorities and policy options to support the transition to a CE in Mauritius.²⁴ In particular, the report

- (i) identified the current status of the country's CE (including policy and legislative framework and on-going initiatives).
- (ii) identified focus areas where accelerating the CE would be particularly beneficial.
- (iii) identified potential benefits of the CE.
- (iv) identified barriers for the transition to a CE and potential policy options to support the transition; and
- (v) reviewed international experiences on the development of CE roadmaps.

The list of persons interviewed during the scoping study is given in Annex 2.

²³ Sitra (2020) How to create a national circular economy roadmap. A guide to making the change happen. Helsinki.

²⁴ Circular Economy in Mauritius: Situational Analysis and Scoping Study to identify focus areas and potential actions. November 2022. Ministry of Environment, Solid Waste Management and Climate Change. Government of Mauritius.

3. *Vision and goals*

The vision and goals are the starting points for the road map. An inspiring vision for the road map as well as specific and measurable goals were prepared and discussed with stakeholders in the steering committee and focus groups.

4. *Focus areas*

Focus areas were defined based on the road map's vision and strategic goals. The following three main criteria were used to prioritize the sectors:

- (i) **Economic potential:** This measures the importance of the sector for Mauritius's economic development, including GDP and jobs;
- (ii) **Circularity potential:** This measures the potential of the sector to benefit from a circular economy approach. It considers factors such as sustainability, the material intensity of production, the waste volumes, the unrecovered waste, and whether there are international examples of successful circular approaches in that sector;
- (iii) **Level of stakeholder support:** This measures the degree of Government and private sector support for a circular approach in that sector.

In addition to **Waste Management**, which is commonly seen as the entry point to adopting CE principles, the following economic sectors have been identified in the scoping report as having high potential for circularity in Mauritius: **Agri-food; Construction and Real Estate; Consumer Goods; and Mobility and Logistics**. It is also important to combine the selected focus areas with a cross-sectoral perspective that looks beyond single material loops or industrial sectors that allow inclusive partnerships. The horizontal focus is relevant because it enables the introduction of innovative concepts and practices that enhance the circular economy in multiple sectors and that build links across sectors. It contains the framework that enables a circular economy including research and innovation, public procurement, digitization, education and awareness, and the overall governance.

5. *Planning of strategies and actions through thematic working groups*

The vision, goals and focus areas form the basis of the road map. Once these were defined the work proceeded to forming and planning tangible actions in each focus area through a focus group. Co-creation is one of the keys to a successful road map. For these thematic focus groups, the Ministry of Environment invited relevant stakeholders to identify actions that will contribute to achieving the vision and goals. Each focus group comprising relevant stakeholders (see Annex 1) met in at least two roundtable sessions and contributed to drawing up the actions. Between November 2022 and March 2023, fifteen focus group meetings were held, and more than twenty interviews were carried out to ensure a participative approach. In addition, the consultant had focused group meetings with the circular economy committees of Business Mauritius and of the Mauritius Chamber of Commerce and Industry (MCCI). In total, more than 100 people participated in the consultations. (See **Annex 1** for participants in the focus groups). A consultative workshop was held in Rodrigues on 17th March 2023 with 27 participants.

The actions in the different focus areas of the roadmap were divided into two levels: policy actions and key focus area projects. Policy actions cover the legislative changes identified in the process, such as finding ways to streamline, co-ordinate and improve cost efficiency and other administrative prerequisites for moving to a circular economy. There is a mix of policy interventions for bringing the circular economy to scale, each addressing different barriers that

prevent circular businesses from achieving scale (see

Figure 3.2). Key projects are flagship projects central to the focus area. During the discussions, pilots were also identified which are phase one development trials that further the circular economy and which can be implemented rapidly. Pilots make it possible to disseminate existing innovations and best practices.

Circular Economy Strategies and Targets			
<i>VISION</i>	Resource efficiency, recycling, economic value addition, job creation		
<i>REGULATIONS</i>	Product Standards	Recycled content requirements	Bans of harmful substances & plastics
<i>FINANCING & TAXATION</i>	Subsidies & fiscal benefits	Externality pricing & taxation	Extended producer responsibility
<i>PUBLIC INVESTMENT</i>	Physical & digital infrastructure	Awareness & behavior change	Public R&D
<i>COLLABORATION</i>	Public private collaboration & cross-sector partnerships		

Figure 3.2: Policy interventions to support the circular economy

It is to be noted that this roadmap is part of a broader set of strategic planning instruments that helps in transforming the economic model. In developing the roadmap, the effort has focused on issues that these other instruments do not necessarily address with detail. Conversely, issues related to the circular economy, but which are addressed in great detail in other instruments, such as renewable energies or water conservation, are not addressed in this roadmap.

4. STRATEGY FOR THE TRANSITION TO A CIRCULAR ECONOMY

4.1 How will Circular Mauritius look like in 2050?

4.1.1 Vision

THE VISION OF THE ROADMAP ON CIRCULAR ECONOMY IS THAT....

By 2050, the circular economy has been embedded in the culture of the country, generating sustainable production and consumption patterns in all levels of society, driving the regeneration of nature, positively impacting the lives of people and the environment and promoting the creation of green jobs and opportunities for people and organizations. Mauritius is a role model for the circular economy in the region and among Small Island Developing States (SIDS).

Achieving this vision demands a future where:

- The circular economy has been **embedded in the culture of the society**, creating a mindset for generating sustainable consumption and production patterns.
- Circular practices have driven the **regeneration of nature** and positively impacting lives of people and the environment.
- The **innovation potential of the circular economy has been taken advantage of**, unleashing the creativity of people for design and implementation of sustainable consumption and production actions and improving the competitiveness of businesses.
- The circular economy has **become a source of opportunities**, creating green and decent jobs and enabling a fair transition.
- The systemic changes brought about by the transition have been the result of **partnerships and collaboration** between all stakeholders.

4.2 Long term goals to ensure progress in the right direction

To assess progress towards the above vision, eight long-term goals for 2033 shown in Table 4.1 will ensure progress in the right direction. The goals are discussed below.

Table 4.1: Goals for the roadmap

Indicator	Baseline	2033 Goal
Resource productivity (GDP per kg of Domestic Material Consumption)	2.34 US\$/kg in 2019 ²⁵	Increase of 25%
Generation of municipal solid waste per capita (MSW generated per capita per year)	430 kg in 2019 ²⁶	Decrease of 10%
Total waste generation per GDP (Waste generated per GDP output)	37.2 tonnes per million US\$ of GDP in 2019 ²⁶	Decrease of 10%
Reduction of food waste (% reduction of per capita food waste)	132 kg/capita/year in 2019 ²⁷ (estimated)	Decreased by 50%
Recycling of plastic packaging (% of plastic packaging recycled)	3% ²⁸ (estimated)	Increased to 50%
Waste diverted from landfill (% of MSW diverted from landfilling)	537 147 tonnes of MSW landfilled in 2019 ²⁶	70% diverted
National Recycling rate (% of total waste generated recycled)	4% ²⁶ (estimated)	Increased to 50%
Gross Value Added (GVA) contribution to GDP and Green Jobs generated. (Value added at factor cost and jobs generated in circular economy sectors)	-	1.5% of GDP and 10 000 new jobs

1st Goal: Resource Productivity

One way to measure the decoupling between economic development and resource use is to observe the evolution of the value generation indicators such as GDP in relation to the evolution of the resource use indicators such as DMC, which represents the amount of materials consumed by an economy. By dividing GDP by DMC, the material productivity of a country can be calculated. **This indicator serves to understand the value that an economy generates for each unit of material used.** As of 2019, Mauritius's material productivity had reached 2.3 USD /kg compared to 0.7 USD/kg in 1992, reflecting the decrease in intensity of material use with the growth of the services sector. Material productivity in OECD, EU and France were 2.5 USD /kg, 2.9 USD /kg and 3.5 USD /kg respectively in 2020. The economic gains that a more rational use of resources can bring, and the strong expansion of services for a circular economy that the transition entails, are opportunities to greatly speed up the increase of the material productivity of the country's economy. Considering this, the first long-term goal of this roadmap is that by 2033, the material productivity of the country has increased by 25%.

²⁵ <https://data.oecd.org/materials/material-consumption.htm>

²⁶ MoESWCC(2020). Strategic Plan Solid and Hazardous Waste Management 2020-2030

²⁷ <https://www.unep.org/resources/report/unep-food-waste-index-report-2021>

²⁸ MCCI (2022). The MCCI Roadmap for a Waste Plastic Free Mauritius.

2nd goal: Generation of municipal solid waste (MSW) per capita

The generation of MSW is a notable effect of the linear economy. Reducing MSW largely depends on the production and distribution decisions of the firms that design, produce and market products, which decide how much effort to make sure that the products they put on the market are durable, or what kind of packaging is used to sell them, among many other things. But it also depends crucially on the lifestyle choices and consumption decisions of citizens, who must constantly decide how to spend their resources, and can integrate the environmental dimension into their purchasing decisions. In the last few decades, the generation of MSW per capita has been on the rise. While in 2000, the country's inhabitants generated 0.6 kg/capita/year on average; by 2019 this had risen to 1.1 kg/capita/ year. For the country to move towards a circular economy, it must aim for a sharp decrease in the generation of MSW, promoting ecodesign, reducing packaging and promoting circular loops, adopting sustainable lifestyles and consumption patterns such as reducing food waste. For these reasons, the second long-term goal of this roadmap is that by 2033 the generation of MSW per capita has been reduced by 10%.

3rd goal: Total waste generation per GDP

Total waste generated is the total amount of waste (both hazardous and non-hazardous) generated in the country during the year. It includes municipal solid waste, non-hazardous industrial waste and hazardous waste and excludes construction waste, agricultural waste and quarrying and mining waste. **For a circular economy, it is essential to decouple economic growth from waste generation.** The achievement of this objective should translate into a decrease in the total generation of waste in the country for each unit of gross domestic product generated (i.e. total waste/ GDP). The waste generated per GDP output (constant 2015 US\$) was 398 tonnes/million \$ GDP. It is essential to reduce this value, following the examples of countries such as Spain, Poland, Slovenia or the United Kingdom, which achieved, between 2006 and 2016, reductions of 23%, 17%, 16% and 15%, respectively. Thus, the third long-term goal of this roadmap is that by 2033 total waste generation per GDP has been reduced by 15%.

4th goal: Reduction of food waste

According to the Food Waste Index Report 2021/WESR, in 2019 globally an estimated 931 million tons of food went into the waste bins of households, retailers, restaurants and other food services. This amounts to 17% of the total food available to consumers. According to the statistics published in the 2021 UNDP Report on-food waste, food waste for Mauritius per year is estimated at 118 632 tons or about 132 kg/capita/year. In 2016, a study estimated food losses in the European Union in 2012 at 173kg per capita. The fourth goal will be to **reduce food waste at the retail and consumer levels by 50%, in alignment with SDG 12.3**. A standard food loss and waste methodology should be developed to monitor this indicator.

5th goal: % of plastics packaging recycled

A consensus is emerging in the country around the ambition to achieve maximum reuse and recycling of plastic packaging. This implies, in particular to phase-out single-use plastic packaging that is not or will not be recyclable and to quickly develop recycling channels for packaging that may be recyclable. However, this evaluation has limitations as it was based, among other things, on a consultation with stakeholders and the feedback obtained is not based on any comprehensive assessment. The implementation of alternatives may also require significant investments. At the start of this study the consultant was informed that there will be a specific roadmap on plastics. In March 2023, the Ministry of Environment, Solid Waste Management and Climate Change invited proposals for consultancy Services to develop a roadmap for a plastic free Mauritius. One of the objectives of the project is to elaborate the roadmap towards achieving the Government's 2030 vision for a plastic free Mauritius based on

(a) elimination of problematic and unnecessary plastic items, in a phase-wised manner and according to availability, affordability and accessibility of alternatives on the market (b) innovation to increase use of reusable, refillable, recyclable, or compostable plastics and (c) the circular economy model. This roadmap therefore has not made a comprehensive assessment of the plastic packaging sector. However, a number of actions proposed in this roadmap as part of the consultations-such as implementing an EPR policy on packaging-will contribute to significant recycling of plastic packaging. The EU, as part of the Green Deal, has fixed a target of 55% recycling of plastic packaging waste by 2030. This roadmap proposes a target of 50% by 2033 based on the government's objective of diverting 70% of MSW from landfilling by 2030, but it is understood that this target may be revised after the above-named consultancy.

6th Goal: Waste diverted from landfill.

The Solid and Hazardous Waste Management Strategic Plan 2020-2030 sets out a target of solid waste diversion by at least 70% by 2030, with about 30% composted /digested anaerobically, 20% recycled and 20% to a WTE plant. Currently, the recycling rate of MSW barely reaches 5%. However, **international experience shows that high MSW recycling rates can be achieved.** For example, for 2016, the European Union bloc reached an average rate of 46%, while countries such as Germany reached rates of 66%. The recycling of MSW in the country will receive a huge boost from the implementation of waste sorting and composting plants and EPR policies. Hence, the sixth long-term goal of this roadmap is that, by 2033, the waste diverted from landfill has reached 70%.

7th Goal: National Recycling rate

While reducing the waste generation is essential, it is also important to ensure that the residues generated are kept in the economy for as long as possible. **The recycling rates of a country are a fundamental indicator to measure progress** in this area. Currently, the general recycling rate is less than 5%. This places the country far from the international threshold in this area: in 2016, the countries from the European Union reached, on average, a general recycling rate of 56%; and in the same period, countries such as Singapore and UK reached rates of 55 % and 44 % respectively. There are several reasons to expect an accelerated development of the recycling sector in the country. On the one hand, the implementation of EPR policies on a range of products will trigger a significant investment wave. Added to this is the drive that will be given through the implementation of the initiatives of this roadmap. Finally, as technological development for a more circular economy continues, new technologies in fields such as materials science or chemical recycling will move the frontier of what is possible today. Based on this, the seventh long-term goal of the roadmap is that by 2033 the general recycling rate of the country has reached 50%. It is recommended to adopt the SDG 12.5.1 indicator for calculating the national recycling rate.

8th goal: Gross Value Added (GVA) and Green Jobs generated

This indicator reflects the contribution of the circular economy to the creation of jobs and growth (value added at factor costs (% of GDP) in the recycling, repair and reuse sectors. This indicator is based on national accounts. Trade codes will need to be identified as proxies for recycling, repair, and reuse. The selected codes can cover diverse sectors such as waste collection and trade, scrap trade, recycling, second-hand retail and maintenance and repair of industrial and household equipment, etc.

The report of a study by UNDP and Business Mauritius in 2021²⁹ describes the scope of CE within the Mauritian economic and social context through an analysis of the main types and quantities of wastes which could be brought back to the economy and examines the economic

²⁹ Business Mauritius, 2021. Circular Economy: Optimising private sector investment in Mauritius. Business Mauritius/UNDP.

opportunities to turn waste into material resources. The potential contribution of a circular economy focused on recycling is estimated at 1.5% of the GDP. The total employment, direct and indirect, ranges from 6,000 to 9,000 by 2030.

With the deployment of EPR in Mauritius, employment in waste management and recycling will increase rapidly. Employment in activities related to the repair and maintenance of products and infrastructure is also expected to increase significantly. There are also prospects for an increase in employment in the so-called social economy³⁰ and growth of social enterprises³¹. Increases are also expected in specialized activities such as eco-design, materials science, bioprocesses design, or even consultancy and novel business models such as Product as a Service. Several studies have analysed the jobs potential of the circular economy and the recycling sector, and based on these studies, the eighth long-term goal of this roadmap is that by 2033, the circular economy has generated at least 10,000 green jobs in the reuse and repair of goods and recycling of materials. Only activities related to ‘extending the product lifespan’ and ‘recycling’ are considered here, i.e. re-use of goods, repair, waste collection and material recovery. These activities require more jobs per unit produced than for the economy as a whole. With a low risk of relocation, they contribute to the development of the production base and employment at the local level

4.3 Barriers to a Circular Economy in Mauritius

The stakeholder consultations have enabled the identification of the following **four categories of barriers that are hindering the development of a CE in Mauritius** and therefore where further consideration of policy action may be beneficial in promoting the CE. These four categories of barriers, illustrated in Figure 4.1, are as follows:

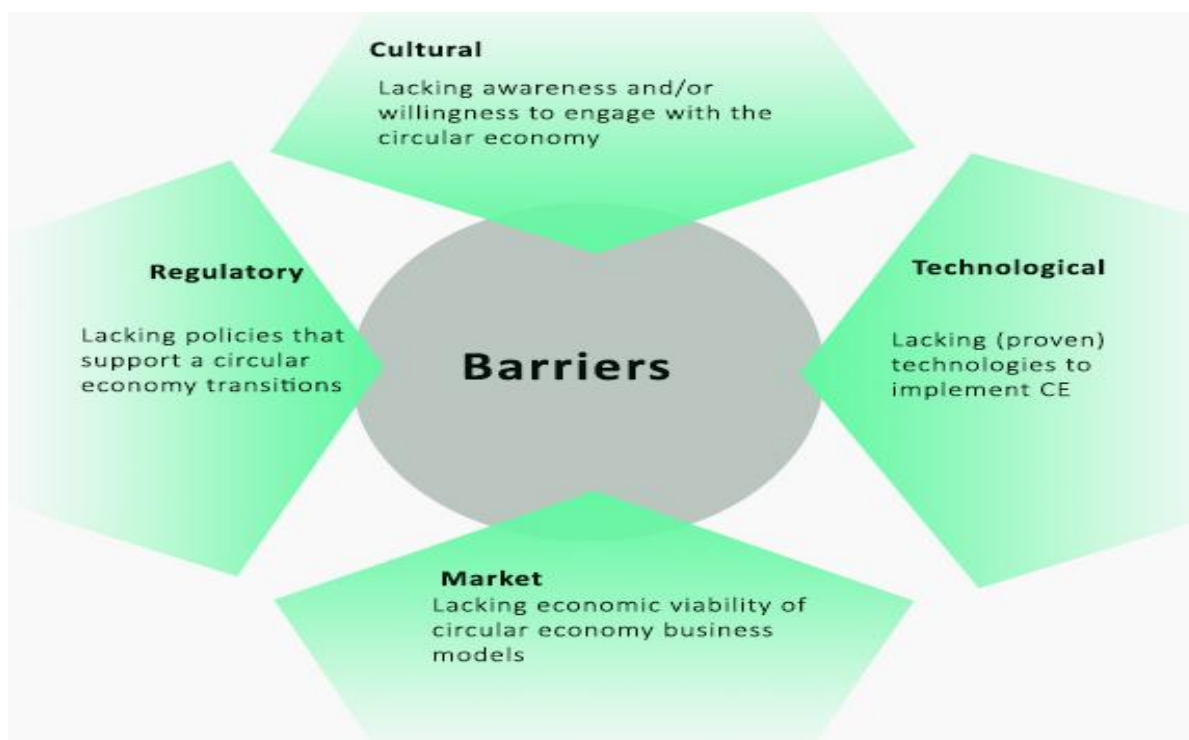


Figure 4.1: Four Categories of Barriers for a Circular Economy

³⁰ The term 'social economy' refers to all business activities that are not only driven by a strong social mission but also intended to be economically viable.

³¹ A social enterprise refers to a business with certain social objectives as its primary goal while using a commercial structure to run the organization

1. **Cultural:** Lacking awareness of the ecological emergency and/or willingness to engage with the CE due to weight of habits and established beliefs, resistance to change; weak culture of cooperation; limited awareness of the benefits of the CE
2. **Technological:** Lacking technologies and infrastructure to implement CE; low maturity or availability of green technologies; lack of technical knowledge on circular business opportunities
3. **Market:** limited demand for circular products, lack of consideration of negative externalities / the real cost of pollution in purchase and sale prices, lack of maturity of circular economy business models, lack of funds to transform production processes, lack of economic viability of circular business models and insufficient and misaligned financing mechanisms and funding options
4. **Regulatory/Institutional:** Lack of a holistic approach to adopting a CE which reflects opportunities beyond waste management. Limited coordination of circular economy strategies and little monitoring of circular initiatives

It should be noted that **these barriers are interrelated**. For instance, a business with a company culture hesitant towards CE will not develop circular designs. Hence, consumers will lack awareness and interest regarding circular designs since none of these is offered in the market. This means that cultural barriers can induce technological barriers which induce further cultural barriers. The interrelatedness of the four categories of CE barriers can result in a chain reaction towards CE failure, with the economy then remaining in its current business-as-usual. **These obstacles can reinforce each other and lock the economy into a linear as inefficient as it is stable. The whole challenge of the transition is to break this chain reaction through a coherent and strategic approach.**

4.4 Strategic pillars for a Circular Economy

There is a need to develop a clear strategy and a multitude of solutions that enable the circular economy and remove the above-named barriers that are hampering its development. **The following five strategic pillars are key to enable the circular economy** and are illustrated in Figure 4.2:

1. **Circular economy through product design and sustainable production**
2. **Circular economy through sustainable consumption**
3. **Circular economy through better waste management**
4. **Circular Economy through circular business models³² and innovation**
5. **Circular Economy through a circular culture**

Based on stakeholder consultations and focus group discussions, 80 actions have been identified to support the transition to a circular economy and are presented in the next two chapters. The 80 actions for a circular economy fall in the above five strategic pillars.

³² A circular business model articulates the logic of how an organization creates, delivers, and captures value to its broader range of stakeholders while minimizing ecological and social costs.

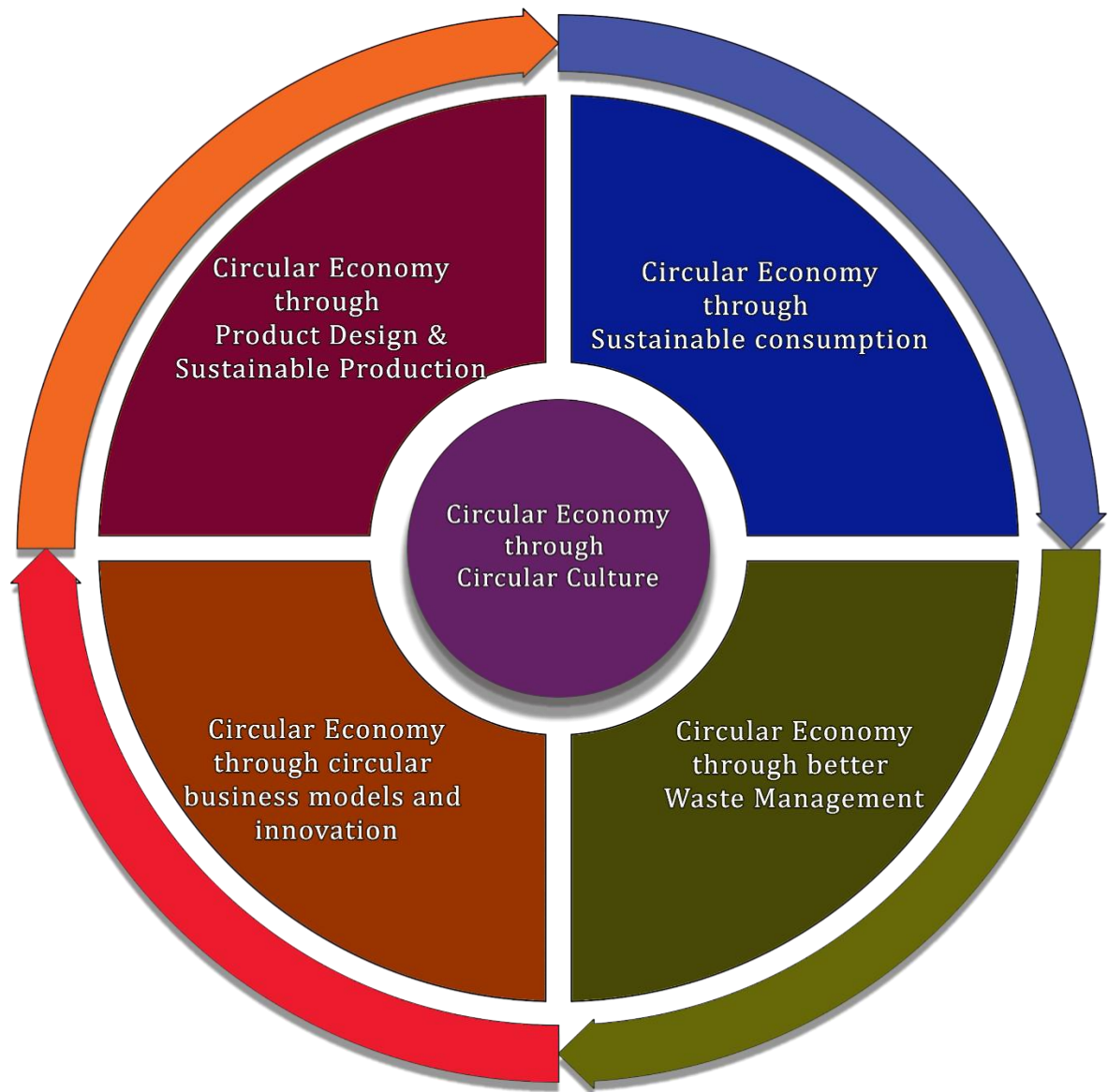


Figure 4.2: Five Strategic Pillars for achieving the vision for a Circular Economy

These strategic pillars are closely linked. Better product design and sustainable production (1) are essential to enable products and materials to circulate to a higher degree than they currently do, but there is also a need to change to a higher degree functions or services instead of products. Following from this, the consumption of private and public actors needs to be sustainable (2), which happens when they can easily demand sustainable products and services and prolong lifetime of products. Waste then needs to be properly managed and recycled (3). The transition depends on business and other actors being drivers to make the transition to circularity through circular business models and innovation (4). All these areas depend on cultural changes and a change of mindset that need to take place (5).

Strategic Pillar 1: Circular economy through product design and sustainable Production

This pillar is about how circular economy can be achieved through sustainable production and product design. **Business choices play a pivotal role in the transition to the circular economy as they determine the nature, volumes and conditions of extraction of the natural resources consumed, the waste streams generated by the manufacture of a product, the duration of use of the goods placed on the market, as well as the possibilities for repair, reuse and recycling.** The scarcity of available raw materials, the instability of supplies, the increase and fluctuation of prices will quickly impact the costs of production. The circular economy is also an opportunity for producers to create value by providing a concrete response to the expectations of consumers and policy makers and to improve their image.

This pillar aims at:

- (i) stimulating the development of more resource- and energy efficient production processes.
- (ii) promoting clear and accessible information about the content, origin and environmental impact of products and about how they can be recycled or managed.
- (iii) promoting certified and eco-responsible imports of products.
- (iv) promoting and recognizing local producers.
- (v) promoting the development of standards that support resource-efficient, circular and non-toxic design.
- (vi) steering towards a situation in which products are designed to have a long lifespan, partly by making them easy to reuse and repair, and to enable recycling when they can no longer be used.
- (vii) promoting more use of non-toxic recycled materials in new products.
- (viii) developing long-term economic instruments based on the polluter pays principle so that the cost of materials and products also includes the cost of their environmental impact.
- (ix) stimulating the emergence of industrial symbioses; and
- (x) promoting the development of the bioeconomy³³ so that bio-based, renewable and sustainably produced raw materials can replace fossil-based raw materials in products and production processes.

Strategic Pillar 2: Circular economy through sustainable consumption

This pillar is about sustainable ways of consuming and using materials, product and services. **With changed consumption and consumption patterns, businesses, consumers and the public sector can support the market for circular solutions.** This pillar aims at:

- (i) accelerating the transformation of habits and behaviors, through raising household awareness of the issues raised by consumption.
- (ii) improving consumer information to make it easier for the individual consumer to make sustainable and circular choices in their everyday lives.
- (iii) creating conditions for a wider supply of and demand for services for reuse, repair and sharing.
- (iv) making it simple and profitable for business operators and private individuals to share, repair and re-use products.

³³ The bioeconomy means using renewable biological resources from land and sea, like crops, forests, fish, animals and micro-organisms to produce food, materials and energy.

- (v) contributing to resource efficiency, recycling and circular business models through public procurement; and
- (vi) reducing food waste.

Strategic Pillar 3: Circular economy through better waste management

Even if we design, produce, and consume according to circular principles, waste will still be generated. **To support a more circular economy, public authorities must give the right incentives for recycling waste and ensuring high-quality recycling, such that it creates the highest possible value and the lowest possible environmental burden.** Improvement of collection methods, the evolution of sorting techniques and recycling technologies can make profitable the investments of recovery of certain categories of waste. A functioning market for waste and recycled raw materials will have a catalysing effect on the circular economy and create jobs. This pillar is aimed at:

- (i) introducing Extended Producer Responsibility (EPR) policies.
- (ii) developing sorting of waste so that more waste can be recycled.
- (iii) developing and optimizing waste collection.
- (iv) promoting the expansion of well-developed capacity for recycling
- (v) optimizing the management and recovery of construction waste;
- (vi) developing a regulatory framework and introducing market incentives so that the supply of, demand for and use of high-quality secondary raw materials increases;
- (vii) prohibiting the use of substances of very high concern in products whilst the risks from hazardous substances are dealt with.
- (viii) making sure that information is available about the content of problematic substances in products and materials to facilitate safe recycling.
- (ix) setting high and equivalent requirements for non-toxic virgin and recycled materials; and
- (x) improving knowledge about material flows in society.

Strategic Pillar 4: Circular Economy through circular business models and Innovation

The transition to the circular economy of companies does not only involve changes in techniques, but also by redefining economic models; that is, how these organizations produce, deliver and capture value. This pillar is about **circular economy as a driver for the business sector and other actors through measures to promote innovation and circular business models.** This can also involve using innovation to create completely new business models that include selling functions and services. Work on fostering a green financial market for sustainable investments is important for the transition to circular business models. This pillar is aimed at:

- (i) supporting businesses (especially SMEs) transition to CBMs through training, technical support, advisory services and demonstration of best practices.
- (ii) designing policy instruments that contribute to profitable circular business models.
- (iii) promoting research, innovation and technology development in areas including recycling, digitalisation and traceability to facilitate circular business models.
- (iv) increasing the efficiency of the examination of permit applications to speed up circular innovations and new circular business models;
- (v) promoting a sharing economy with circular business models intended to increase the lifespan, reusability and reparability of products.
- (vi) expanding the access to financing of circular business models and developing a taxonomy on what are Circular Business Models.

- (vii) adapting taxation so that it encourages players to transform their behaviors by rewarding circular practices and penalizing harmful behaviors; and
- (viii) transforming public investments and subsidies to focus interventions on activities which contribute to the transition to a circular economy.

Strategic Pillar 5: Circular Economy through a Circular Culture

The most important barrier is the cultural one as a circular economy requires a change of mindset of all actors in society. The transition to the circular economy will not take place unless government, businesses and consumers become aware of the risks and impacts of the linear economy. The transition towards the circular economy will depend first of all on the Mauritian who, by his/her choice, will allow or not the emergence and spread of an alternative. It therefore requires a new type of governance that encourages collaboration and cross sector partnership and dialogue between public and private sector actors to create an environment for collective transformation. Given the complexity of the issues, the transition requires close coordination between public policies in time and space, in order to offer actors a clear framework and stable and tools adapted to best meet their needs and allow them to develop long-term projects. A culture of cooperation must encourage the creation of synergies and symbioses between companies for the exchange of resources, equipment and know-how. It is essential for consumers to leave behind the throwaway culture and ensure that more circular habits, practices, patterns of use and consumption, and waste management models become the norm. This pillar aims at

- (i) education and awareness raising of policy makers and working across government departments to build policy alignment.
- (ii) education and awareness raising in private sector to create adhesion of business leaders and employees while building their capacity to carry out the required transformations.
- (iii) developing integral systems of environmental and vocational education that promote the development of a conscious attitude towards the environment and prepare people to face the challenges and seize the opportunities presented by the transition.
- (iv) building public awareness and acceptance towards circular products and services.
- (v) stimulating dialogue between different actors and facilitating engagement, the emergence and development of initiatives and experiments at all levels of society.
- (vi) monitoring and assessing the progress of the transition; and
- (vii) promoting the establishment of multi-stakeholder platforms to develop system solutions and to build public-private partnerships.

5. ACTIONS IN PRIORITY FOCUS AREAS

5.1 Agri-Food sector

Despite a contribution to GDP of 3.9 percent in 2021, the agricultural sector, including fisheries, accounted for around 40 percent of export earnings and remains an important activity for securing livelihoods in the rural areas. Due to limited land resources, the country is constrained in its agricultural production, and it is considered to be a Net-Food Importing Developing Country where it imports almost about 77% of its food requirements exposing the country to international pressures, such as fluctuating freight prices, exchange rate fluctuations and sourcing concerns³⁴. Although Mauritius is considered a net-food importing country, the small-scale agriculture sector is vital to sustain the production of some 115,000 tonnes of food crops annually. Some 9,000 farmers are involved in vegetable and fruit production and post-harvest losses are estimated at about 30%. Out of a total food production of 2,419,685 tons including imports, 5,281 tons are wasted annually which is approximately 1.73 %³⁵. As per the UNEP Food Waste Index Report 2021 – the estimated food waste index for Mauritius is 132 kg/capita/year³⁶. The COVID pandemic and the Ukraine war has underscored the fragility of global food supply chains and food security issues. To address the challenges of the food systems with a view to achieving resource efficiency and achieving the strategic objectives in terms of food security and minimizing food loss and food waste, it is imperative to leverage on sustainable agricultural practices and transition to a CE model. The process identified the following four overarching objectives for a circular agri-food system for Mauritius:

- I. **Local food production is privileged and done in ways that is resource efficient and that regenerate³⁷ nature.** Resource efficient and regenerative practices support the development of healthy and stable soils and improve biodiversity, air and water quality, which can result in healthy foods with improved taste and micronutrient content. Local supply chains also reduce food-miles and associated carbon footprint.
- II. **Food is not lost or wasted across the full value chain.** Food loss and waste needs to be reduced across the full value chain, including agricultural production, post-harvest handling and storage, processing and packaging, distribution and retail, as well as at consumer level. The food waste solutions' hierarchy must be respected.
- III. **Commonly wasted resources are used productively.** This objective focuses on food waste that cannot be redistributed, as well as inedible by-products along the food chain. Reimagining these wasted materials as valuable resources with productive uses (such as insect feed, textile or plastic feedstock, fertilizer and energy sources) can spur innovation for new products and market development.
- IV. **Responsible sustainable sourcing of imported food** for the development of a sustainable domestic food production system and creating a level playing field for local farmers on food import standards.

³⁴ Proceedings of the National Conference on Circular Economy, 2022.

³⁵ Government of Mauritius PQ– B/445, 2016

³⁶ <https://www.unep.org/resources/report/unep-food-waste-index-report-2021>

³⁷ This report uses “regenerate nature”, as this is closest to the circular economy principles. There is not a singular definition of regenerative agriculture but it is understood as a set of practices that regenerate soil, that reduce but do not necessarily eliminate synthetic fertilizers and pesticides, and that go beyond the reduction of negative impacts to ensure that agriculture has a positive environmental effect. This should be viewed as a component of a holistic transition to sustainable agriculture.

Policy Actions

Policy P1: Create a platform on Circular Economy in the Agri-Food sector	
Description	If the transition to a Circular Economy supposes mobilization, it must also be a source of cohesion. However, stakeholders present diverse and sometimes conflicting points of view and interests. In response, it seems essential to organize meetings and exchanges between stakeholders from different backgrounds to exchange views and propose answers. Creating knowledge together makes it possible to create connection and trust and dialogue facilitates a common understanding of the benefits and risks of status quo and of transformation. There is no national platform for policy dialogue that can bring together stakeholders in the value chain to discuss the transition to a circular agri-food sector. To bridge this gap, this platform will enhance dialogue and cooperation among stakeholders in the agri-food sector to discuss regulatory provisions, barriers, new opportunities and share information/best practices and review road map progress. The platform will include government, private sector, academic and research institutions, civil society, and other actors in the value chain. The platform is intended to be a forum for debate and consultation designed to provide concrete solutions to the challenges identified in the transition. A frequent dialogue between the public and private sector intends to help align each other's vision as well as the understanding that the private sector needs to comply with national policies, thus, to fulfil them. This way, the Government may be able to better tailor policies, guidelines and legislation better to the conditions and circumstances of the private actors involved in the respective sector. This platform forms part of an open governance framework for the circular economy
Implementing bodies	Leading organization: Ministry of Agro-Industry and Food Security; FAREI; Business Mauritius Other Stakeholders: All organizations involved in the development of the roadmap on agri-food as well as other stakeholders such as the MCIA
Funding option	Donors/Government
Time horizon	ST/MT/LT
Policy P2: Mandatory registration of farmers and creation of an electronic farmer registry	
Description	One of the key tenants of a circular food system and food security is the ability to track both the supply and demand sides of the agri-food system. A database on farmers and their farm information (continuously being updated) would enable better understanding and status of local food production for proper planning to balance supply and demand. Key to the supply side of the equation is the need to have a registry of all the food producers. This includes the ability to not only have the name and address but also the need, through regular surveys, to have a clear understanding of the land they hold, what they produce and how much they can produce and provide a viable forecast of produce for a season or a year. Farm registration also provides for managed access to government programs by farm businesses and collection of farm information to develop agricultural policy. A database on farmers and their farm information (continuously being updated) would enable better understanding and status of local food production for proper planning to balance supply and demand. By virtue of its Act, the Small Farmers Welfare Fund (SFWF), operating under the aegis of the Ministry of Agro-Industry and Food Security, registers small farmers, following which they are provided a Farmer's Card which gives them access to Welfare Schemes at the Fund, as well as other facilities provided by the Government. The SFWF also registers groups of farmers and companies engaged in the processing of agro-food products. However, this annual registration is presently voluntary and must be made mandatory. The criteria for this mandatory registration should be redefined for fully traceable and transparent supply chains. The information, besides

	improving agriculture policy can be digitalized and the digital platform can transmit accurate market information relevant to food producers and connect those producers more closely with their customers. It will help also in keeping records of farmers adopting sustainable agricultural practices and in setting up sharing programs for the agricultural communities.
Implementing bodies	Leading organization: Ministry of Agro-Industry and Food Security Other Stakeholders: SFWF, Mauritius Chamber of Agriculture; FAREI
Funding option	Government
Time horizon	ST
Policy P3: Develop a National Strategy and Action Plan on Food Loss and on Food Waste	
Description	Food losses occur during the production and processing stages up to the retail level. Food waste refers to food not eaten due to the decrease in the quantity or quality of food resulting from decisions and actions by retailers, food service providers and consumers. Examples include the disposal of food due to ‘best-before’ labels or abnormal aesthetic features such as size, shape, or colour. A consultancy study will develop a national strategy on food loss and food waste (FLW) that will provide overarching guidance to consumers and businesses on the government’s objectives and will complement other policies. The goal will be to reduce both food loss and waste by 50% by 2030 in alignment with SDG 12.3. The strategy will be anchored by three broad objectives: (i) prevent food loss and food waste from occurring in the first place (ii) recover safe and nutritious food for people and food scraps for animals and (iii) commonly wasted resources are used productively such as recycling energy and nutrients. The strategy will seek to leverage the efforts of food waste initiatives already underway in Mauritius. The strategy should also help to meet Mauritius obligations under the United Nations Framework Convention on Climate Change – in helping to reduce greenhouse gas emissions, primarily through the diversion of food waste from landfill. The consultancy study will (i) undertake an assessment / material flow analysis to identify the hotspots for food loss and waste. (ii) establish a standard food loss and waste assessment methodology and determine the 2023 food loss and waste baseline for Mauritius against which progress towards SDG 12.3 can be monitored. Despite estimates made by various organisations (both public and private), the causes and scale of food loss and waste in Mauritius are still not fully known. Therefore, a uniform methodology should be developed, and which will then be introduced into public statistics to monitor this phenomenon in Mauritius. (iii) formulate policies, strategies and enablers for the various FLW hotspots. (iv) assess the feasibility for mandatory reporting on food waste. (v) establish an anti-food waste action hierarchy and set best practices including through charters. (vi) clarify guidance on food safety for donations. (vii) recommend measures for liability protection for food donations. (viii) develop a regulatory framework to regulate donation of surplus food, forbidding the destruction of unsold food products still fit for consumption and obligation for some actors in the food industry and mass catering sector to make publicly available their commitment to reduce food waste. (ix) recommend financial incentives for donors and to food rescue charities and community groups that help provide those in need with a meal. (x) leverage the synergies between tackling FLW and other sustainability policies (SDGs, Climate change mitigation and adaptation, net-zero commitments, etc)

	(xi) recommend incentives for the use of digital technologies in reducing consumer food waste (xii) recommend policies for cold chain development
Implementing bodies	For A Strategy, Action Plan and legislative framework on Food Loss: Leading Organization: Ministry of Agro-Industry and Food Security Other Stakeholders: MOESWMCC, Ministry of Health and Wellness, Food Standard Agency, Mauritius Chamber of Agriculture, University of Mauritius, Ministry of Industrial Development, SMEs and Cooperatives (SMEs Division), Ministry of Commerce and Consumer Protection For A Strategy, Action Plan and legislative framework on Food Waste: Leading Organization: Ministry of Environment, Solid Waste Management and Climate Change (MOESWMCC) Other Stakeholders: Ministry of Tourism, Tourism Authority; Ministry of Health and Wellness, Food Standard Agency, Ministry of Commerce and Consumer Protection, Ministry of Finance, Economic Planning and Development, Business Mauritius, University of Mauritius, Foodwise and other food rescue organizations
Funding option	Donors/Government
Time horizon	ST to MT
Policy P4: Develop an Integrated Nutrient Management Strategy and Action plan	
Description	The agricultural system is predominantly linear, as nutrient flows are not closed loops. Most nutrients in food waste, food industry side streams, animal manure, sewage sludge, and treated wastewater are not recovered. Significantly reducing agriculture's dependence on continuous inputs of synthetic fertilisers would require recovering and reusing nutrients at scale, as well as rethinking source separation and investing in better collection, treatment, and recovery of solid waste, human waste, animal manure, and wastewater. Integrated Nutrient Management (INM) refers to the maintenance of soil fertility and of plant nutrient supply at an optimum level for sustaining the desired productivity through optimization of the benefits from all possible sources of organic, inorganic and biological components in an integrated manner. Maximising the utilisation of an INM in plantations will ensure the maintenance of soil fertility and plant nutrient supply to an optimum level for sustaining the desired crop productivity through optimisation of the benefits from all possible sources (inorganic, organic, biological) of plant nutrients in an integrated manner. This will prevent excessive use of inorganic fertilisers which have a negative effect on the soil ecosystem. INM plays an important role in transforming the economy into a circular one. Besides increasing biomass, it reduces the amount of nutrients entering water bodies causing eutrophication. Biomasses for energy production will be a growing focus of the bioeconomy, so ensuring the overall availability of fertilisers will become even more important in the future. The demand of recycled and organic fertilizers is growing, and the market potential is high. However, the market for recycled nutrients and fertilizers is underdeveloped. This policy intervention includes the development of targeted promotion of organic fertiliser to farmers as well as encouragement to businesses to start exploring the theme which offers a clear business opportunity. Due to the large amounts of generated organic waste, Mauritius has huge potential to shift away from imported chemical fertiliser to locally produced organic fertiliser. A strategy and action plan will be developed to create a market for organic recycled nutrients and reduce chemical fertilizer use. The strategy will (i) set up a national target for the use of recycled nutrients in agriculture. (ii) set the legislative framework for the safe use of organic and recycled-based fertilizer products. To improve the legislative framework for organic and

	recycled-based fertilizer products, it is recommended to develop national End of Waste (EoW) legislative framework for fertilizer products. It is essential to make clear distinctions between waste and non-waste solutions. (iii) investigate opportunities to promote the use of recycled fertilizer via a blending obligation similar to that for biofuels. (iv) promote biotechnologies for extracting and reusing nutrients from domestic and industrial effluents. (v) include aspects of nutrient recycling in public procurement of for example biowaste management services, landscaping, etc. (vi) enhance incentives for local production of high-quality commercial organic fertilisers through the Bio Farming Support Scheme (BFSS) and the Locally Produced Fertiliser Subsidy Scheme (LPFS). (vii) develop an awareness raising and communication strategy about the benefits of nutrient recycling with proper display and labelling of fertilizers to better highlight agronomic qualities.
Implementing bodies	Leading organization: Ministry of Agro-Industry and Food Security Other Stakeholders: MOESWMCC, Ministry of Energy and Public Utilities; MSB, Mauritius Chamber of Agriculture, University of Mauritius
Funding option	Donor/Government
Time horizon	ST to MT
Policy P5: Implementation of bio-wastes management	
Description	In practice, biogas is a circular economy, where waste produced is transformed into renewable energy and biofertilizer. At the same time, biogas contributes to achieving society's environmental and climate goals. Security of supply, jobs and growth are other important socio-economic benefits. However, there is presently no national biogas strategy to achieve its maximum potential. A national biogas strategy and action plan with clear goals will set out measures to be taken to scale up biomethane production and consumption and develop an overall vision for the role of biomethane in the energy system and economy. It will help to understand the feedstock potential available for biomethane production at the national level, define targets for biomethane production and consumption, integrate the targets into relevant national policies, define the supporting policies and build the market framework that will allow for an accelerated development of the biomethane market. The biogas strategy will include recommendations on capacity building, public-private partnerships, incentives for biogas plants and facilitate cooperation between farms/industries that will make larger processing capacities possible.
Implementing bodies	Leading Organization: MOESWMCC (Department of Solid Wastes) Other Stakeholders: Ministry of Agro-Industry and Food Security; University of Mauritius Ministry of Energy and Public Utilities
Funding option	Donor/Government
Time horizon	ST to MT
Policy P6: Expand land access to farmers using sustainable/ regenerative agriculture practices	
Description	The government's objective is to reduce the dependency on imported food by promoting local crops, agro-processing, and smart agriculture. In the 2020-2021 budget, the government announced the development of a National Agri-Food Development Program that aims to reduce dependence on imports. A centralized digital land bank was set up in 2021 to operate as a platform to match demand and supply for land which will further be used for food production activities in different development phases. Landscape (Mauritius) Ltd has a new mandate to acquire more private agricultural lands with the support of the State Investment Corporation (SIC). The permitted agricultural activities in the sub-lease agreement are Open

	field farming, sheltered farming, Plant and Seed production and Livestock activities. In the 2021-22 it was announced that Landscape through the Centralised Digital Land Bank will make available some 1,000 acres of land to private growers with a view to boosting agricultural production. Furthermore, in the 2022 budget, an income tax holiday of 8 years for planters engaged in innovative / sustainable agricultural practices was introduced. It is recommended that the government prioritize access to land (and finance for land preparation) to farmers with sustainable/regenerative farming projects. The sub-lease agreement can contain specific provisions for sustainable practices. In parallel, capacity building and national guidelines for farmers that provide guidance on how to set up a crop and or animal farm in the most sustainable and circular way will be developed. It is to be noted that up to now only 300 acres of land has been leased by Landscape Ltd. Farmers face a number of challenges for making the land productive such as the high cost of clearing and the absence of an irrigation network on the plots of land. Funding is needed to clear the land to assist farmers. A comprehensive land assessment and mapping need to be carried out to assess the characteristics and limitations of available land and to identify appropriate strategies.
Implementing bodies	Leading organization: Ministry of Agro-Industry and Food security; FAREI Other Stakeholders: Landscape; MOESWMCC, Mauritius Chamber of Agriculture; Ministry of Housing and Land Use Planning; MCIA
Funding option	Government
Time horizon	ST to MT
Policy P7: Review criteria of import permits for responsible sustainable sourcing of imported food	
Description	There is an urgent need to rethink dependency on food imports because it threatens food security and the development of a sustainable domestic food production system. There are two aspects of how to achieve this. First, to give space for the development of domestic food production, permits for import should be given only when there is scarcity on the market. This should be tied up with collection of data on local production. Secondly, there is a call for a level playing field for farmers on food import standards. A comprehensive approach to mitigating the environmental impacts of the Mauritian food system must also consider the environmental impact of agri-food imports. The same safety and environmental standards applied to agri-food products produced locally should also apply to imported agri-food products. The import permit should ensure that goods intended to be imported conform to the safety, quality, environmental and health requirements of the country.
Implementing bodies	Leading organizations: Ministry of Agro-Industry and Food Security; Ministry of Commerce and Consumer Protection. Other Stakeholders: Mauritius Chamber of Agriculture; MCCI
Funding option	Government
Time horizon	ST
Policy P8: Develop a policy legislative framework on abandoned agricultural lands to contribute to circular economy objectives	
Description	Abandonment of sugar cane land presents a risk of accelerated soil erosion, and undesirable changes in biodiversity and ecosystem services. Studies have shown that land abandonment was mainly due to lack of irrigation, land speculation, rocky fields, lack of time, transportation costs and lack of labour (ageing group and reliance on hired labour) and lack of economy of scale. There is a potential of abandoned agricultural lands to contribute to circular economy objectives through specific policy measures supporting appropriate land management. However, the potential of abandoned lands to contribute to various trajectories is rarely explicitly mentioned, as policies currently address

	abandonment from an agriculture perspective. The lack of explicit mentions of the potential of abandoned land for trajectories beyond farming means that land managers are often not aware of the various options available for a given land. There is a need to increase their visibility in policies. These lands can for instance provide opportunities for carbon sequestration, land restoration, recultivation or reforestation. However, there are no general rules for the development of these trajectories after abandonment. Climate and energy, biodiversity, and agricultural policies are not always aligned, creating challenges for farmers and landowners' decision-making. For example, there is the potential of abandoned agricultural lands to contribute to tree planting thus supporting climate change and disaster risk mitigation and increase biomass. Areas not suitable for cane planting should be targeted for alternative uses such as agro-forestry. There is thus a need for a clear policy and legislative framework on abandoned agricultural lands. Taxes/penalty for leaving land unused could be introduced while incentives given for biomass production.
Implementing bodies	Leading organization: Ministry of Agro-Industry and Food Security Other Stakeholders: Ministry of Housing and Land use Planning; Ministry of Finance, Economic Planning and Development; Ministry of Energy and Public Utilities; Mauritius Chamber of Agriculture
Funding option	Government
Time horizon	ST to MT

Key Projects

Key Project KP9: Implement a Voluntary Agreement on Food Waste reduction	
Description	Voluntary Agreements (VAs) are self-determined commitments with qualitative and quantitative objectives, developed by private entities and/or other stakeholders in consultation with their signatories. They are used as alternative courses of action to traditional legislation. A voluntary agreement approach – bringing together a group of committed businesses and stakeholders to collaborate across the supply chain with the aim of cutting food waste rapidly and cost-effectively is a proven method for tackling food waste. This approach has already been used effectively in the UK, where the Courtauld Commitment has achieved a significant reduction in food waste. Critical success factors identified by international experience relevant to such a VA include the need for firm VA targets owned by its signatories, dedicated staff within a strong lead organization to coordinate and monitor, sponsored by government, secure and long-term funding, using local knowledge and expertise and the need to engage all stakeholders from farm to fork through joint actions between food businesses, NGOs, government and consumers. The objectives of the VA are to be collectively designed in consultation with all signatories to ensure that each actor's needs and specificities are represented, which facilitates the development of relevant and attainable targets. Currently only a few hotels are The PLEDGE™ certified on food waste and there is a need for broader commitment to the reduction of food waste. A General Agreement on the Reduction of Food Loss and Food Waste is to be signed between the Ministry of Environment and associations in the agricultural sector, the food and nutrition industry, food processing industries and the hotel and catering sector, with the objective to reduce edible food waste by 50 per cent by 2030. By signing this Agreement, the Ministry and associations will show their shared responsibility in achieving specific goals. This agreement could include a sustainability reporting component in line with SDG 12.6, whereby the signatories will need to report to the Ministry of Environment on their initiatives.
Implementing bodies	The Ministry of Environment will be the coordinating ministry of the agreement. Foodwise can be the lead organisation to engage members and develop objectives

	and targets. A steering group – made up of organisations that represent the signatories and other key stakeholders – will be set up to agree targets and priorities, coordinate actions and review progress and manage risks.
Funding option	Most successful voluntary agreements require some type of funding to help manage and administer the group. Funding can come initially from a combination of government and businesses. Even a small amount of government funding can be helpful to demonstrate support and to encourage industry partners to join.
Time horizon	ST
Key Project KP10: Develop national guidelines for farmers that provide guidance on how to set up a crop and/or animal farm in the most sustainable and circular way	
Description	Compiling all necessary information in a comprehensive but simple way would be of significant support for people who decide to develop a farm based on sustainable and circular principles or farmers who want to shift from conventional to sustainable agriculture. The publicly available national guideline could for example contain: (i) An introduction to circular and sustainable farming principles as well as their practical application in the context of Mauritius. (ii) Information about the relevance of integrating polyculture and agro-forestry elements into farming. (iii) Instructions on where to get technical equipment and how to install. (iv) International best practices with the potential to be replicated. (v) financial support means (vi) Instructions on more recent topics, such as how to shift from chemical to organic fertiliser
Implementing bodies	Leading organization: Ministry of Agro-Industry and Food Security/FAREI Other stakeholders: SFWF, Farmers associations, Knowledge and Educational institutions, Mauritius Chamber of Agriculture
Funding option	Government
Time horizon	ST
Key Project KP11: Circular Public Procurement of products from sustainable agriculture in hospitals and government canteens	
Description	Government can act as first movers and accelerate the transition towards a more circular food system through integrating circular criteria into public procurement for food and related services. Purchasing decisions by government, such as buying fresh fruits and vegetables (FFV) for hospitals, canteens in schools, police, prisons etc can have a large economic influence, and present important opportunities to create markets and demand for sustainably produced FFV. Public procurement criteria could also discourage the use of packaging. A margin of preference in tender criteria will help to incentivize and reward farmers—from smallholders to large scale—for not only producing healthy and nutritious food, but also for being stewards of the land and environment. The margin of preference will include Agricultural Producers certified to MauriGAP (Good Agricultural Practice).
Implementing bodies	Leading Organization: PPO Other Stakeholders: Ministry of Health and Wellness; Ministry of Agro-Industry and Food Security; MOESWMCC; Relevant Ministries; Suppliers; MSB
Funding option	Government
Time horizon	ST to MT
Key Project KP12: Develop a Country-of-Origin Food Labelling Information Standard	
Description	The objective of this action is that most food sold in Mauritius must be labelled with its country of origin. This must follow the rules set out in an information standard. For foods that require country of origin labelling, the requirements will depend on whether the food is classified as a priority food or a non-priority food. Country of Origin Labeling (COOL) for food helps consumers make informed

	buying decisions. Such a mandatory consumer label standard will require retailers to identify the country of origin on certain foods, specifying where food is grown, produced, made or packed. There can be different labelling requirements depending on whether the food was: (i) grown, produced or made in Mauritius (ii) packaged in Mauritius (iii) grown, produced or made in another country (iv) packaged in another country.
Implementing bodies	Leading Organization: MSB; Ministry of Agro-Industry and Food Security Other Stakeholders: Ministry of Commerce and Consumer Protection; MOESWMCC; MCCI; Mauritius Chamber of Agriculture; AMM; Ministry of Health and Wellness
Funding option	Government/Donors
Time horizon	ST
Key Project KP13: Enhance equipment, labour, infrastructure and resource sharing platforms to support farmers across the supply chain.	
Description	In line with the circular economy, the sharing economy becomes a possibility for farmers to access means of production without acquiring their ownership, using different practices, such as sharing machinery and equipment from other farmers. The sharing of agricultural equipment and tools support circular strategies by reducing assets that sit underutilized. Digital platforms offer opportunities for sharing infrastructure (ex-cold rooms), machinery and labour so that farmers can benefit from economies of scale. Leveraging the aggregated knowledge of many farmers, other digital platforms can be used to share best practices in regenerative agriculture. This project will look into the setting up of farm equipment hiring centres and creation of digital platforms to facilitate infrastructure, equipment and labour and knowledge sharing.
Implementing bodies	Leading organization: Ministry of Agro-Industry and Food Security; FAREI Other Stakeholders: MOESWMCC; Ministry of Industrial Development, SMEs and Cooperatives (Cooperatives Division); Farmers associations; Mauritius Chamber of Agriculture; Foodwise
Funding option	Government/Donors
Time horizon	ST
Key Project KP14: Feasibility studies on thermal sludge processing and on co-digestion of organic wastes	
Description	Carry out feasibility studies for the following projects: a. Thermal sludge processing and construction of a related pelleting plant. Processing sludge thermally and then mixing it with the ash from burning biomass provides a suitable mix of growth nutrients for agricultural and forestry use. Pelleting the mixture produces fertilisers suitable for applications. b. Co-digestion of animal waste and industrial organic wastes. Anaerobic digestion is one of the technologies that will play a key role in the decarbonization of the economy, due to its capacity to treat organic waste, recover nutrients and simultaneously produce biogas as a renewable biofuel. This feature also makes this technology a relevant partner for approaching a circular economic model. However, the low biogas yield of traditional substrates such as sewage sludge and livestock waste along with high installation costs limit its profitability. Further expansion of this technology encounters several barriers, making it necessary to seek improvements to attain a favorable financial balance. The use of co-substrates benefits the overall digestion performance thanks to the balancing of nutrients, the enhanced conversion of organic matter and stabilization, leading to an increase in biogas production and process economics.

	c. Co-digestion of sewage sludge and food waste in anaerobic digesters of municipal wastewater treatment plants. Wastewater treatment plants use anaerobic digesters for biosolids management and biogas generation. Opportunities exist to utilise the spare capacity of these digesters to co-digest food waste and sludge for energy recovery and a range of other economic and environmental benefits. The techno-economic implications of co-digesting sewage sludge and food waste in wastewater treatment plants will be evaluated to optimise the usage of the sludge line infrastructure.
Implementing bodies	Leading Organization: Ministry of Environment (Department of Solid Wastes) Other stakeholders: Ministry of Energy and Public Utilities; Ministry of Agro-Industry and Food Security
Funding option	Donors/Government
Time horizon	ST to MT

Pilot ideas: These ideas, which came up during the focus group discussion, are non-exhaustive and sectors are solicited to innovate on piloting new initiatives. There are many international best practices that could be piloted by businesses and eventually replicated if successful. There are also many existing local best practices that have proven their impact and could therefore be up-scaled

- Training of Farmers on organic farming
- Integrated food-based agroforestry
- Digital platform of an up-to-date list of organisations that help businesses redistribute surplus food
- Smartphone apps enabling food-sharing and redistribution (sharing for money, sharing for charity, sharing for the community)
- In supermarkets:
 - discounting soon to expire food items or imperfect fruits/vegetables or food with damaged packaging.
 - Offer of a specific section for imperfect fruits/vegetables
 - Offer of unique, healthy and nutritional juices/dishes that are prepared for consumers in supermarkets restaurants, using imperfect products
 - Eliminate packaging waste. Customers bring reusable containers to the store which they can fill with the exact quantity of goods they wish to purchase
 - Encourage consumption of seasonal products
 - sustainable procurement and optimising forecasting and planning to avoid over-ordering
 - Enhance communication and visibility of circular initiatives
- An accelerator/incubator programme in the area of food, especially in the area of food processing so as to reduce wastage in period of gluts
- Commercial urban growing projects in urban areas and new housing developments-for example vertical farms, aquaponics and soil-less farms.
- Value-adding food waste through composting with other organic materials, producing bioenergy, and developing innovative solutions to convert food waste to animal food
- Industrial symbiosis³⁸ projects such as (i) recovery of organic food waste for pet food production; (ii) producing omega oil from sea food waste ((iii) waste to energy projects
- Production of insect meal from food waste for aquaculture, nutritional supplements for livestock and fertilizer using the Black Soldier Fly technology.
- Transforming fish byproducts into fertilizers, fish oil and animal feed.
- Digitally enabled business models to facilitate equipment and labour sharing or on-demand services
- Promote the articulation between key actors linked to the gastronomic and tourism sector in order to spread through the media the use of local ingredients, products and preparations produced with sustainable practices

³⁸ Association between industrial facilities in which the waste of one become raw materials for another

- Natural resource consumption free calculators for consumers that help illustrate the effects of consumer choices on natural resource consumption and footprints
- Food brands and retailers can commit to sharing full traceability and impacts of food products, such as via digital means, in order to help consumers better understand where their food comes from and what it takes to deliver it.
- On farm processing and transforming perishable fruits and vegetables into long lasting higher value products using solar drying technologies etc
- Mobile or digital applications that create better connections between producers and consumers. Digital platform of farmers practicing sustainable agricultural methods.
- Promote the articulation between key actors linked to the gastronomic and tourism sector in order to spread the use of local ingredients, products and preparations produced with sustainable practices.
- Initiative to introduce small-scale urban farming for residents, schools, edible gardens for the growing a variety of leafy greens. This initiative will improve people resilience and connection with food and also address food security
- Campaign to promote healthy low impact diets , easy to access and local seasonal and organic food
- Sensitisation on sustainable eating habits
- Running award schemes to promote the reduction of food waste and rewarding businesses who are making positive and sustainable changes

5.2 Construction and Real Estate sector

The building and construction sector is a major contributor to the economy and employs directly and indirectly some 120,000 workers in Mauritius representing around 22% of the total workforce. In 2019, the sector contributed to some 9.7% to the GDP³⁹. Over the past decades, the industry has progressed through many phases, evolving from the construction of small housing units to major projects like smart cities, port and airports, flyovers, motorways and more recently the light rail system. The construction and real estate sector is a very resource intensive one and is one of the key sectors with high potential to implement CE strategies especially in upcoming business parks, social housing projects, road decongestion projects and smart cities. It uses a lot of imported materials and also uses a large amount of locally extracted non-metallic natural resources (basaltic rocks) that are depleting fast. About 7 million tonnes of basaltic rocks are extracted annually. The sector has now reached the phase of construction and demolition leading to the generation of various types of wastes such as concrete and other building components (wood, metals, glass, plastic, etc.). Currently, there exists no waste management system for C&D wastes in Mauritius. Most of the C&D waste generated are either illegally dumped in barelands or disposed at the sanitary landfill. It is estimated that about 70,000 tonnes of C&D waste are generated yearly with about 80% dumped illegally, 3% recycled and 15% landfilled. An island survey by Gamma Materials showed an estimated 135,000 tonnes of C&D waste lie at the surface of illegal dumping sites.

The process identified the following opportunities and actions for a circular construction and real estate system in Mauritius. There are six circularity opportunities for a circular construction sector:

- i. **Optimising existing construction practices and processes** to reduce wastage on construction sites.
- ii. Introducing new **industrial manufacturing processes** to reduce waste during construction and renovation, including modular construction of building components and use of Building Information Modelling (BIM).
- iii. Switching to more **sustainable and locally available materials** to reduce the environmental footprint of construction.
- iv. **Reusing and high-quality recycling of building components and materials** by applying design for disassembly techniques, material passports⁴⁰, innovative business models, exchange of resources and improved collection of CDW and recycling capacity.
- v. **Increasing utility of existing assets** by promoting the sharing economy, multi-purposing buildings and repurposing buildings.
- vi. **Design and build more resource efficient buildings.**

³⁹ <http://www.govmu.org/English/News/Pages/Construction-industry-to-drive-the-economic-recovery-of-Mauritius,-states-National-Infrastructure-Minister.aspx>

⁴⁰ A material passport is a digital document listing all the materials that are included in a product or construction during its life cycle in order to facilitate strategizing circularity decisions in supply chain management.

Policy Actions

Policy P15: Create a platform on circular economy in the construction and real estate sector	
Description	If the transition to a Circular Economy supposes mobilization, it must also be a source of cohesion. However, stakeholders present diverse and sometimes conflicting points of view and interests. In response, it seems essential to organize meetings and exchanges between actors from different backgrounds to exchange views and propose answers. Creating knowledge together makes it possible to create connection and trust and dialogue facilitates a common understanding of the benefits and risks of status quo and of transformation. There is no national platform for policy dialogue that can bring together stakeholders in the value chain to discuss the transition to a circular built environment. To bridge this gap, this platform will enhance dialogue and cooperation among stakeholders in the construction sector to discuss regulatory provisions, barriers, new opportunities and share information/best practices and review road map progress. The platform will include government, private sector, academic and research institutions, civil society, and other actors in the value chain. The platform is intended to be a forum for debate and consultation designed to provide concrete solutions to the challenges identified. A frequent dialogue between the public and private sector intends to help aligning each other's vision as well as the understanding of that the private sector needs to comply with national policies, thus, to fulfil them. This way, the Government may be able to better tailor policies, guidelines and legislation better to the conditions and circumstances of the private actors involved in the respective sector. This platform forms part of an open governance framework for the circular economy. The recent budget announcement on the creation of a Construction Industry Authority (CIA), through a merger between the CIDB and the Building Control Advisory Council (BCAC) will require the adoption of a new legal framework by parliament (a CIA Act). In the meantime, the CIDB and the BCAC will continue their activities under the current framework, through their existing councils. Pending the operationalization of the CIA, the CIDB can host the platform. The CIA as one single umbrella covering all the aspects/ policies/ support & consultant services, with the right skills and resources will enhance accountability.
Implementing bodies	Leading organization: CIDB (later the CIA) Other Stakeholders: All stakeholders in the construction and real estate sector
Funding option	Donors
Time horizon	ST/MT/LT
Policy P16: Develop a strategy, action plan and regulatory framework on Construction and Demolition Wastes (CDW)	
Description	A consultancy study on CDW will include the following TORs: 1. Develop a strategy on Construction and Demolition Wastes (CDW) identifying options for the management of waste arising from construction and demolition activities, by primarily addressing the current issues within the sector as well as highlight the possible short-term and long-term measures to be adopted, with a view to shifting the treatment of such waste from backfilling/levelling to re-use and recycling. 2. Prepare regulations for the following: • Obligation to prepare a CDW Management Plan before issuing a building and land use permit for sites with an expected CDW generation greater than a given amount or above a minimum floor area. Standard forms will be drafted as well as an online tool for compiling and submitting the CDW management plan. A "Guideline for the Preparation of Waste Management Plans for Construction and Demolition Projects" and a "Guideline on Construction and Demolition Waste Management for Contractors and Site Managers" will be prepared.

	• Obligation to source-separate construction wastes and disposal at an approved disposal site and imposition of a fine for mismanagement • Payment of a waste management fee for CDW treatment and disposal for obtaining a building and land use permit for projects above a certain size. This fee would cater for a tipping fee for recyclers to cater for waste storage and disposal. • Banning of landfilling of CDW on private land, unless permitted in specific areas by the Ministry of Environment. Backfilling and levelling activities to be clearly defined. • Mandatory pre-demolition audit by an accredited consultant to obtain a Building and Land Use Permit for a demolition. The audit report will check and confirm if the building can be renovated before demolition, identify and quantify all materials that will be deconstructed and include a waste management plan for reused/recycled/disposed materials. The process will be digitalized and favor the use of open data to promote digital applications that can be used to create a link between the supply and demand for reusable materials. A “Guideline for pre-demolition audits before demolition and renovation works of buildings “will be prepared. • Standards for use of CDW as aggregates and establishment of a minimum % of recycled CDW in new construction works. • Strengthen regulation and controls to reduce illegal dumping of CDW
Implementing bodies	Leading organization: MOESWMCC (Department of Solid Wastes) Other Stakeholders: Ministry of National Infrastructure and Community Development; CIDB, RDA, BACECA, Private Sector, EDB
Funding option	Government/Donors
Time horizon	ST
Policy P17: Develop national building codes⁴¹ incorporating green and circularity principles	
Description	Building codes are regulations governing the design, construction, alterations, and maintenance of structures. These codes specify the minimum requirements to safeguard the health, safety, and welfare of the building’s occupants. There is presently no national building code and international codes (mainly BS and EU codes) are currently being used in the Mauritian construction industry. The country needs to have its own national building codes incorporating green and circularity principles. Green building strategies will be introduced into these new codes, addressing the cross-cutting categories of site selection, water conservation, energy efficiency, renewables, indoor environmental quality and resource conservation. It will also incorporate circularity principles (for ex mandatory design for disassembly to allow future repair, remanufacture, and reuse of building components, building adaptive reuse, and using salvaged materials in new construction). The new codes will set minimum standards for compliance to cover all categories of large residential, commercial and industrial buildings including renovated buildings and would lead to a faster uptake and acceptance of green building and circularity principles. It will also be key to ensure compliance and the creation of a strong and efficient regulatory system or a certification system to monitor adherence by builders, engineers and industry stakeholders. In order to support the transition towards a higher application of the compliance system, a transition plan as well as trainings and workshops should be held that provide clear guidance on the right application of the Building Code and the compliance system. Ideally, it would become common

⁴¹ Building codes are laws that set minimum requirements for how structural systems, plumbing, air conditioning (HVAC), and other aspects of residential and commercial buildings should be designed and constructed.

	practice that each construction firm has one to two people in-house that are familiar with the Building Code and the compliance system.
Implementing bodies	Leading organization: Ministry of National Infrastructure and Community Development Other Stakeholders: CIDB, Professional associations, EDB
Funding option	Government/Donors
Time horizon	ST to MT
Policy P18: Develop minimum environmental criteria for circular procurement in public buildings and infrastructure	
Description	Adjusting public procurement practices will allow for more public construction projects with higher resource efficiency. All construction and infrastructure projects that receive public funding will have to comply with circular economy principles i.e they should be designed for longevity, flexibility, adaptability, disassembly and recyclability. Minimum circular criteria for circular public procurement will be based on a life cycle approach and a scientific evidence base. Options for intervention in each life cycle stage include (i) selection of the design team and contractors (ii) detailed design and performance requirements such as recycled content in concrete or aggregates, sourcing of legal timber, reuse of components, modular design (iii) pre-demolition waste audit and management plan and implementing selective demolition processes (iv) construction of the building or renovation works(site waste management plan, sorting and cleaning of waste , etc) (v) products as a service(vi) completion and handover (audit to ensure env performance of building (vii) facilities management (waste management system, energy consumption, performance contracts, etc). Standard bidding documents will be reviewed by incorporating circularity requirements and criteria in public infrastructure and buildings. As a first step, an advisory mechanism on circular public procurement practices is to be set up. This would be complemented with training programmes for public procurement teams and testing on pilot projects. At a later stage the actual procurement rule themselves can then be adjusted.
Implementing bodies	Leading organization: PPO, MSB Other Stakeholders: MOESWMCC, Ministry of National Infrastructure and Community Development, Road Development Authority, CIDB
Funding	Government/Donors
Time horizon	ST to MT
Policy P19: Create a digital platform for increased sharing of government buildings and spaces	
Description	Through asset management, the government can ensure increased utilisation of publicly owned buildings by making them available for use through sharing schemes. An online booking system should make it as easy as possible to book government space. For example, government departments through an online platform can locate unused meeting rooms. This would allow the sharing of unused Government spaces (for example Gymnasium in schools, meeting rooms in public institutions) for public activities, including sports, meetings trainings, social gatherings, etc. This could also have demonstrating effects for private owners also. It will also be important to clarify the legislation governing sub-letting of spaces by defining unambiguously who is entitled to practice it and which regulation they need to follow. Doing so could lower the risks perceived by individuals and companies wanting to engage in such transactions.
Implementing bodies	Leading organization: MOESWMCC; Ministry of Public Service, Administrative and Institutional Reforms Other Stakeholders: Ministry of Local Government and Disaster Risk Management; Ministry of Information Technology, Communication and Innovation; Ministry of Education, Tertiary Education, Science and Technology, EDB

Funding	Government/Donors
Time horizon	ST
Policy P20: Elaborate technical standards to facilitate the use of recycled construction materials	
Description	A consultancy study will have the following TORs: • Develop specifications for using recycled aggregate in concrete and in road construction in order to facilitate the use of recycled aggregate and asphalt. • Feasibility study for a mandatory incorporation of a minimum percentage of recycled aggregates or asphalt in the works' technical specifications to promote new applications of these recycled materials. • Feasibility study for End of Waste (EoW) criteria for specific CDW streams and for reused or recycled construction materials. EoW criteria is important because once a material is not classed as waste no waste regulations should be followed. • Develop quality certificates for recycled products such as recycled aggregates to improve public confidence
Implementing bodies	Leading organization: MSB Other Stakeholders: Ministry of National Infrastructure and Community Development; CIDB, RDA, MOESWMCC, University of Mauritius; Gamma Materials; UBP, EDB
Funding option	Government/Donors
Time horizon	ST
Policy P 21: Create a materials passport and a related database to register materials used in construction projects	
Description	If the construction sector is to become sustainable, urban mining is key and a building should be enabled to function as a “material bank”. A material passport is a digital set of data that provides information on the technical characteristics of a construction product and identifies its environmental impacts and its potential for recovery, reuse and recycling. It eases the recognition of hazardous material, future dismantling phase and recovery of resource in an open traded material market. The concept of the 'material passport' is currently being developed by multiple parties in mainly European countries. A possible second-hand material market or material-bank could become a reality in the future. Construction companies would register the material passport and archived in a database/cadaster and at the end of useful life the information in the passport can be made available before demolition. The materials passport platform shall be updated by the property owner during the lifetime of the building. This provides waste management companies with relevant information regarding which materials are available. It is also possible to determine the monetary value of the structures used in the buildings. Anyone looking for new building materials can find out what materials are likely to become available and put in an offer for them. In the short to medium term materials passports can be a voluntary scheme and in the long term there will be a mandatory requirement for a basic version of a material passport for all new construction projects above a certain size. Tax incentives can be introduced for developers who register material passports.
Implementing bodies	Leading organization: CIDB Other Stakeholders: Ministry of National Infrastructure; Professional Associations; Business Associations; Asset managers of smart cities
Funding option	Government/Donors
Time horizon	MT to LT

Key Projects

Key Project KP22: Education and awareness raising on Circular Built Environment	
Description	To unlock the circular economy, stakeholders throughout the value chain need education and more awareness to shift their mindset. There is a clear need for greater dissemination of knowledge about circular economy in the industry. A strong supply of skills will help to mitigate labour and skills shortages that will accelerate the progress of a circular built environment. The following will be undertaken: • Organization of workshops/ industry training programmes/CPDs tailored to the various actors along the construction value chain (architects, engineers, entrepreneurs, construction workers, etc.) on the following topics: (i) Basics of Circular Built Environment to familiarize stakeholders with the language of the circular economy in the built environment. (ii) Circular economy guidance for construction clients-how to practically apply circular principles at the project brief stage. (iii) Design of Circular Buildings using the Circular Buildings Toolkit (iv) Construction waste management (v) Pre-demolition waste audits (vi) Building Information Modelling (BIM)⁴² (vii) Deconstruction techniques-while industrial construction is less labour intensive than traditional construction practices, deconstruction (including reuse and recycling) is more labour intensive and entails higher skill-level requirements than demolition and landfilling. To support this, developing capacity-building programmes for construction workers can be an important way of ensuring the demand for expertise and skills can be met and new job opportunities can be opened up (viii) Life Cycle Assessment for assessing the sustainability performance of construction products and buildings and Environmental Product Declarations (EPD)⁴³ (ix) Value engineering and Quality Management Systems • Introduction of CE principles into relevant university courses and development of specific modules for relevant courses where appropriate in education of professionals in the construction industry (in architecture studies, design, civil engineering, project management, etc.)
Implementing bodies	Leading Organization: CIDB/Construction Industry Training Council (yet to be set up) Other Stakeholders: Universities; MITD; Professional associations
Funding option	Government/Donors
Time horizon	ST/MT/LT
Key Project KP23: Develop a strategy and action plan for adoption of Building Information Modelling (BIM) in the construction value chain	
Description	The BIM process allows multiple stakeholders to collaborate more efficiently on the design, construction and operation of buildings. BIM platforms can bring together the entire supply chain and enable the end-customer to know what is in the building, and what the building and its components have been used for. A 3D BIM model provides transparency into building material composition. This transparency enables

⁴² BIM is a process for creating and managing information on a construction project throughout its whole life cycle. As part of this process, a coordinated digital description of every aspect of the built asset is developed, using a set of appropriate technology. It is likely that this digital description includes a combination of information-rich 3D models and associated structured data such as product, execution and handover information.

⁴³ Environmental Product Declarations (EPD) present transparent, verified and comparable information about the life-cycle environmental impact of products and services

	the building become a “material bank” in the future and facilitates reuse and recycling of building components and materials. However, BIM implementation is facing several barriers, such as lack of investment in technology and training, hesitation in quitting traditional tools and practices, etc. However, there are challenges faced by the firms during BIM adoption that must be overcome, such as: i) lack of demand for BIM; ii) entrenched current 2D and 3D drafting practices; iii) steep learning curve to build BIM expertise and iv) lack of ready pool of skilled BIM manpower. The consultancy study will look into ways of incorporating the key success factors of BIM implementation in a phase-based roadmap to support implementing BIM in practice on a step-by-step approach. The roadmap will identify strategies that allow widespread BIM use in the Mauritian Construction Industry in the coming years.
Implementing bodies	Leading organization: CIDB, Ministry of National Infrastructure and Community Development Other Stakeholders: Professional associations and Training Institutions, EDB
Funding option	Government/Donors
Time horizon	ST
Key Project KP24: Develop national guidelines to characterize and valorize CDW.	
Description	To achieve a more circular CDW management, it is important to address and change the mindset of consumers and construction industry practitioners in term of how to deal with CDW. This action aims at developing the know-how of CDW characterisation and valorisation to reduce the amount of CDW disposed at landfills and dumped in the environment and to create economic opportunities in the local labour market. The guidelines will give (i) clear guidance to construction companies and recyclers to identify the waste which is essential for choosing the most appropriate recycling or recovery technique. (ii) information on how to dismantle buildings for reuse to preserve their value, how to remove hazardous components during demolition and how to identify reusable building components during demolition. (iii) guidance on how to recycle different types of CDW as well as contain best practices. These national guidelines will be promoted via campaigns through relevant professional associations to ensure their uptake. Additionally, workshops on how to apply the guidelines could be run at universities and vocational training centres.
Implementing bodies	Leading organization: MOESWMCC (Department of Solid Wastes) Other Stakeholders: Ministry of National Infrastructure and Community Development, CIDB, EDB, Business associations, Professional Associations, MRIC, HEIs
Funding option	Government/Donors
Time horizon	ST
Key Project KP25: Enhance an online system through a CDW online platform for materials recovery and secondary material exchange.	
Description	The goal of the online platform is primarily to connect the suppliers of secondary raw materials with the seekers of raw materials. The platform will provide a database for CDW-related information and act as a forum for waste exchange for different stakeholders dealing with CDW. The platform will also include real-time stocking space available in Civic Amenity Centres and recycling facilities. The online platform will enable communications among project participants before a demolition project commences so that waste materials can be sold before they are produced. Therefore, the productivity of the demolition project could be improved. The

	platform will open for all companies with the aim of fostering the secondary raw materials market. Brokerages and marketplaces alone may be insufficient and should be complemented by reverse logistics to collect and deliver materials where needed. Business opportunities exist to cater for the reverse logistics needs through on-line platforms. The possibility of encouraging the development of the existing platform of La Decheteque implementing real time access to the mass of waste available to a larger scale rather than developing a new public platform must be looked into.
Implementing bodies	Leading organization: MOESWMCC (Department of Solid Waste Management) Other Stakeholders: La Decheteque; Stakeholders in construction value chain.
Funding	Government/Donors
Time horizon	ST
Key Project KP 26: Removal of CDW from illegal dumping sites and sites rehabilitation	
Description	Cleaning of existing CDW (about 150000 tonnes) dumped around the island and rehabilitation of sites
Implementing bodies	Leading organization: Ministry of Local Government and Disaster Risk Reduction (Local Authorities); National Environment Cleaning Authority Other Stakeholders: MOESWMCC; Construction aggregate companies; private sector
Funding option	Government/Private Sector/PPP
Time horizon	MT to LT (when CDW recycling plants are available)
Pilot ideas: These ideas, which came up during the focus group discussion, are non-exhaustive and sectors are solicited to innovate on piloting new initiatives. There are many international best practices that could be piloted by businesses and eventually replicated if successful. There are also many existing local best practices that have proven their impact and could therefore be up scaled • Launching public procurement pilots of a government building/infrastructure using BIM, modular construction, material passport, ease of disassembly, energy efficiency etc. Such pilots could serve a triple purpose: demonstrate the viability and benefits of existing circular materials and construction techniques, stimulate the development of new materials and techniques (design competitions offer an alternative), and develop the necessary guidance and procedures for procurement teams to be able to accommodate such new or unfamiliar elements (e.g. adjustments to the typical pre-construction dialogues). • Pilot commercial scale project of a circular building for evidence-based policy making (value addition, considering circularity in asset valuation, etc.) This will include BIM, modular construction, material passport, ease of disassembly, energy efficiency, take-back schemes, etc • Voluntary Environmental Product Declarations (EPDs) of materials products in the construction industry. EPDs can be made mandatory in the long term in public procurement. • Digital application for sharing meeting/conference rooms in government and private sector. • A Circular Buildings Award to reward construction or renovation projects that have implemented re-use and eco-design practices. • Pilot projects on use of CDW recycled aggregates in construction. • Pilot project on the introduction of a take back system on specific unused construction materials such as blocks, tiles and ceramics, cement, bitumen, paint, etc. • Digital applications for sharing and multi-use of spaces. The US start-up Spacious, for example, makes use of restaurants that are empty by day to provide working and meeting rooms. • Demonstrate the value of digital technologies in circular construction through pilots • Set up of professional waste centre amenities dedicated to the construction industry through PPP. • Repurposing of buildings • Repurposing of obsolete assets such as old buses, containers, vans or trucks to be used as valuable spaces – for e.g. office space on construction sites, vendor machines, restaurants, etc. • Innovative mobile structures – instead of using building spaces for specific purposes, we could consider using mobile and dynamic resources which are movable and for wider coverage.	

5.3 Consumer Goods

Consumer goods are defined as the goods that are used by households, companies and institutions for utility purposes. In other words, consumer goods involve all the products that are released after their lifecycle, either within households or by individuals from households at other locations. The past century has seen the rapid growth of consumerism with a focus on sales rather than sustainability. This has resulted in reduced lifespans of consumer goods, the growth of fast fashion, the prevalence of single use and disposable items in the name of convenience, and planned obsolescence in consumer electronics. A key source of waste generated stems from patterns of unsustainable production and consumption, which lead to many consumer goods being thrown away, often after a short time and before being worn out or broken or because of several barriers to repairing.

A distinction can be made between consumer goods with a short life cycle, often referred to as Fast-Moving Consumer Goods (FMCG), and consumer goods with a medium to long life cycle. Short life cycle products are used only once or a limited number of times, do not last long and are quickly replaced, such as disposables and packaging. Medium to long-life cycles products are products such as electronics, clothing and textiles (medium life cycle), and household appliances and furniture (long life cycle). The process identified the following three overarching objectives for a circular consumer goods sector:

1. reducing the consumption of goods, giving consumers the means for more responsible consumption (ex-switching from single use to reusable packaging, reduction of unnecessary packaging, switching for more durable/repairable products, etc)
2. prolonging the lifespan of products (through strategies such as eco-design and production of modular and repairable products, reuse, refurbishment and repair, switch from ownership to service-based economy)
3. facilitating material recovery for end-of-life products to reduce demand for virgin materials in the manufacturing of new consumer goods.

The actions recommended below are focused in achieving the first two objectives. Actions identified for the waste management focus area will help in achieving the third objective.

Policy Actions

Policy P27: Create a platform on Circular Economy for Consumer Goods	
Description	If the transition to a Circular Economy supposes mobilization, it must also be a source of cohesion. However, stakeholders present diverse and sometimes conflicting points of view and interests. In response, it seems essential to organize meetings and exchanges between actors from different backgrounds to exchange views and propose answers. Creating knowledge together makes it possible to create connection and trust and dialogue facilitates a common understanding of the benefits and risks of status quo and of transformation. There is no national platform for policy dialogue that can bring together stakeholders in the value chain to discuss the transition to a circular consumer goods. To bridge this gap, this platform will enhance dialogue and cooperation among stakeholders in the consumer goods sector to discuss regulatory provisions, barriers, new opportunities and share information/best practices and review road map progress. The platform will include government, private sector, academic and research institutions, civil society, and other actors in the value chain. The platform is intended to be a forum for debate and consultation designed to provide concrete solutions to the challenges identified. A frequent dialogue between the public and private sector intends to help align each other's vision as well as the understanding that the private sector needs to comply with national policies, thus, to fulfil them. This way, the Government may be able to better tailor policies, guidelines and legislation better to the conditions and circumstances of the private actors involved in the respective sector. This platform forms part of an open governance framework for the circular economy.
Implementing bodies	Leading organization: Ministry of Commerce and Consumer Protection Other Stakeholders: MCCI, MOESWCCC; All organizations involved in the development of the roadmap on consumer goods
Funding	Donors
Time horizon	ST
Policy P28: Develop a legal framework for social enterprises.	
Description	Social economy is part of the circular economy. Increasingly countries are recognizing the contribution social enterprises make to economic and inclusive growth and sustainable development. Some of the most interesting and innovative projects in CE are being led by social enterprises around the world and in Mauritius also, such as the Good Shop and Foodwise. A social enterprise is a business with social objectives. Funding for a social enterprise is often obtained by selling services and goods. Maximizing profits is not the primary goal of a social enterprise as is with a traditional business and profits are principally used to fund social programs. Unlike charity, social enterprises pursue endeavors that generate revenues, which fund their social causes. Regarding employment, preference is given to jobseekers from at-risk communities. Because profit-maximization is not the primary goal, a social enterprise operates differently than a standard company. Creating a legal definition of social enterprises will explicitly define the conditions that an entity must meet to qualify as a social enterprise. By establishing this specific label, the law will create favourable conditions for social enterprise development such as targeted support through grants and tax incentives, procurement criteria, etc. The assignment can also include developing a legal framework for social supermarkets.
Implementing bodies	Leading organization: Ministry of Industrial Development, SMEs and Cooperatives (Cooperatives Division) Other Stakeholders: Attorney General Office; MOESWCC; Ministry of Finance, Economic Planning and Development; Business Mauritius; MCCI; MACCOSS
Funding	Government/Donors
Time horizon	ST

Policy P29: Revise the consumer law to ensure consumers receive trustworthy and relevant information on reparability of products at the point of sale and to set minimum warranty periods for household electrical and electronic appliances.

Description	There is a need to communicate on the repair sector in general (repair directories, etc), and on the possibility of repairing the product which will lead to changes in consumer behaviour (purchase, use, sorting). The Electrical and Electronic Domestic Appliances (Trade Practices) Regulations 1989 made under section 8 of the Fair-Trading Act (GN No. 106 of 1989) is presently in force to cater for the repair of defective electrical and electronic goods covered by a warranty. With a view to better protect consumers, the Consumer Protection (Price and Supplies Control) Act N0.12 of 1998 is being revised to provide a better legal framework within which traders will operate to cater for the needs and expectations of consumers in terms of warranty on the quality of products and customer service. This action is to conduct a consultancy study to develop a consumer protection legislative framework that will ensure the following: (i) Consumers receive trustworthy and relevant information on products at the point of sale, including on the legal guarantee of conformity, lifespan, and reparability. The manufacturer/importer will be responsible for providing information about the existence of spare parts and repair services in the country, as well as providing the repair service for the consumer in case of product defect or any other reason that prevents the use of the product by the consumer within the warranty period. This will affect electrical and electronic equipment as well as furniture. (ii) Companies will be required to substantiate any environmental claims. (iii) Definition of a minimum length of warranty for electrical and electronic goods. This can be for a period of 2 years (or the length of the warranty of products is decided based on the predicted lifespan of the product rather than a singular specified number of years). Defining a minimum duration of the presumption of non-compliance will simplify the process of the consumer to easily obtain the repair of the defective good within the framework of the guarantee provided for by the law. The law will also facilitate the submission of consumer complaints such as setting up a portal enabling consumers to file a complaint easily. The law will also address product liability for repaired goods. (iv) Consumers have the right to repair the products they have purchased. There may be certain types of repairs that could be safely performed by consumers themselves and manufacturers/importers should enable consumers to conduct these safe repairs. Manufacturers/importers will determine which products are suitable for this option and based on their assessment, repair manuals and replacement parts can be produced to help consumers perform simple and safe repairs themselves. A regulatory framework for the “Right to Repair” will need to be devised taking into account Intellectual Property Rights (IPR) issues.
Implementing bodies	Leading Organization: Ministry of Commerce and Consumer Protection Other Stakeholders: MOESWMCC; Business Mauritius; MCCI; Attorney General Office
Funding	Government/Donors
Time horizon	ST to MT

Policy P30: Mandatory display on electrical and electronic equipment of simple information on reparability.

Description	This information, to be produced based on a consultancy study in consultation with stakeholders and based on international experience, would take the form of a reparability index based on the energy label model. It will allow people to better evaluate the useful life of products before purchasing them, and that leads producers
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	and distributors to increase their quality and durability and facilitate their repair. The index can be calculated based on the availability of information, the ease of disassembly, the availability of spare parts, the price of spare parts and a specific criterion for each product category. The obligation can start with a few product categories of consumer electronics such as washing machines, smartphones, laptops, TV monitors. It would progressively be extended to more consumer electronic product categories. It is expected that this index will give products a score out of 10 to inform consumers how easy to repair the product is.
Implementing bodies	Leading Organization: Ministry of Commerce and Consumer Protection Other Stakeholders: MOESWMCC; MCCI; MSB
Funding	Government/Donors
Time horizon	MT to LT
Policy P31: Include the mapping of repair and reuse services into the specifications of Producer Responsibility Organisations (PROs) and introduce eco modulation⁴⁴ of EPR fees.	
Description	In the specifications for future Extended Producer Responsibility (EPR) schemes • Include the mapping of repair and reuse services into the specifications of Producer Responsibility Organisations (PROs) and make this information available to the public as open data so that start-ups can offer applications to promote, in particular, the development of digital platforms to facilitate networking of repairers and contact with consumers. • Set reuse and repair targets to EPR schemes. • Remove the barriers to repair by allowing PROs to finance the repair diagnosis of electrical and electronic equipment for users. Repair funds could be set up (within EPR schemes) that aim to support and develop the repair sector and aim to make repair cheaper at certified professionals. • Modulate financial contributions paid to the EPR schemes based notably on durability, reparability, re-usability, recyclability, recycled content, and the presence of hazardous substances, thereby taking a life-cycle approach. • Support for the repair of electrical and electronic equipment no longer under warranty through the introduction of a bonus on repairs for a range of electrical items if consumers go to registered repair professionals. The aid will depend on the repaired appliances concerned and would correspond to about 20% of the average repair price for each device. Concretely, when paying for the repair, the bonus will be directly deducted from the bill for the consumer. The difference will be paid to the repairer within fifteen days by the Producer Responsibility Organization (PRO), financed thanks to the collection of the eco-contribution paid by the manufacturers/importers of electrical and electronic appliances but is then passed on to consumers. The consumer should call on the services of a certified repairer whose certification is validated by an independent certification body and obtaining it depends will depend on several criteria such as the expertise of the professional and the consideration of waste management
Implementing bodies	Leading Actor: MOESWMCC (Department of Solid Wastes) Other stakeholders: MCCI; Business Mauritius; PROs
Funding	Government/Donor
Time horizon	ST

⁴⁴In collective EPR schemes, the fee schedule set by Producer Responsibility Organisations (PROs) is typically quite simple and provides weak incentives for design change by producers. Fee modulation, changing fees paid by producers in a collective EPR scheme based on product design, can provide producers with stronger design incentives

Policy P32: Create a policy and regulatory framework to support the transition to packaging reuse and refill.

Description	Banning plastic does not change the reliance on throw-away products – it shifts consumption to other disposable materials that impact the planet and human health in other ways, resulting in “regrettable substitution.” As shown by several life cycle assessment studies, trading disposable plastic for single-use paper, aluminum, or plant-based fibers can result in greater climate impacts, water and air pollution, loss of biodiversity, and the use of different sets of toxic chemicals, depending on the specific products involved. Better solutions lie in focusing on Reduce and Reuse. Circularising packaging and disposables will immediately manifest the circular economy among consumers. This consultancy study will develop a policy and legislative framework to reduce single-use plastic packaging and develop alternatives such as bulk or reusable packaging. The feasibility of the following measures will be studied: (i) targets for reusable packaging-for ex targets of 5% reused packaging by 2025 and 25% by 2030. The law can mandate that specific beverage categories provide a minimum reusable packaging quota ranging from 10% to 25% by a deadline. (ii) definition of bulk selling as selling products in reusable packaging. (iii) all food products can be served in bulk unless hygiene reasons warrant otherwise for specific products. (iv) Consumers’ right to be served in their own containers, with them being responsible for the container’s hygiene. (v) Beverage sellers must provide a preferential price for consumers who bring their own containers. (vi) Retail spaces above a minimum floor area must provide reusable containers for products sold in bulk - whether free of charge or through a deposit-return scheme. (vii) the inclusion of packaging reduction clauses in a future EPR scheme on packaging. The EPR scheme must include packaging waste reduction objectives, with sanctions applied to unmet objectives. A minimum % of future EPR contributions to be used for the promotion of reusable packaging, promote refillables and finance reuse infrastructure. (viii) On-site food services have to provide food and beverages in reusable containers by a deadline. Any restaurant, cafe, or shop selling food or drinks to consume on the go should be obliged to offer refillable options and to take back the containers. (ix) Plastic containers to be banned from schools’ canteens by a deadline. (x) economic incentives to support the transition such as any single-use packaging paying a minimum fee per unit. Placing a levy (visible on payment) on single-use packaging will help create a level playing field with reusable packaging. (xi) Incentives for retail stores serving as storage and reverse logistics drop sites for reusable containers. The study can focus on beverages, take-away food & drinks and e-Commerce packaging as these are market sectors that offer the biggest potential to increase their reuse rates in the coming years. Developments in these sectors can create the conditions and infrastructure for other sectors to introduce reusable packaging systems in the future.
Implementing bodies	Leading actor: MOESWMCC Other Stakeholders: Ministry of Commerce and Consumer Protection; Ministry of Finance, Economic Planning and Development; Business Mauritius; MCCI
Funding	Government/Donors:
Time horizon	ST to MT

Policy P33: Feasibility study of a policy and legislative framework for prohibiting the destruction of unsold goods.

Description	The scale of deliberate destruction and disposal of unsold or returned goods by producers, retailers and especially online retailers is unclear. There is hardly any transparency with regard to the handling of returned and unsold goods. The deliberate destruction or disposal of returned or unsold goods severely contradicts the objectives of the promotion of a resource-efficient circular economy and the significant reduction of total waste generated. The feasibility study will document the scale of destruction of unsold or returned goods in Mauritius and its drivers, while indicating where data is not available. It will also provide specific policy recommendations to reduce this waste of resources. The policy will aim to encourage companies to rethink their stock management and production and rather than landfill unsold goods, companies will have to reuse, donate, or recycle their unsold products.
Implementing bodies	Leading actor: MOESWMCC (Department of Solid Wastes) Other stakeholders: Ministry of Commerce and Consumer Protection; MCCI; Business Mauritius
Funding	Government/Donor
Time horizon	MT to LT

Key Projects

Key Project KP34: Develop circular supplies for businesses

Description	The objective of this action is to transform the supply approaches of companies because this influence heavily on the practices of primary resource producers as well as the choice available to consumers. If the scarcity of resources requires economic actors to rationalize their methods of supply, other parameters influence decision making: need for transparency from consumers, changing regulations in terms of compliance with environmental and social standards, growing awareness of climate risk, development of organizational Labels (ISO, CSR, ESG, etc.) or product labels (FSC, Energy Star, Eco-cert, Fair trade, etc.), the appearance of purchasing guides within international groups and the promotion the promotion of short circuits indicate a strong trend of transformation of purchasing strategies. In addition to limiting their consumption of water, energy and materials, some companies are already committed to going beyond regulations. This movement must be extended to the entire economic fabric of Mauritius through the following measures: (i) Promote/encourage certified and eco-responsible imports of products. The strong dependence of our country on imports generates environmental impacts not visible to the consumer, abroad and during the transport of the goods. Locally, the impact intervenes with the production of waste, during or after the stages of transformation and consumption. These effects can be limited by ensuring greater visibility and promoting/substituting the importation of products distinguished by labels recognized worldwide. (ii) Propose Sustainable Purchasing and Sourcing Guides for Businesses. In order to support companies, it is proposed to design several guides, depending on the size of the companies, artisanal or industrial, with an approach by trades and sectors. These guides will facilitate the acquisition of goods or of services according to their environmental, social or economic impacts, taking into account of the product life cycle. (iii) Identify local producers for local supply. Local supply represents a strong advantage by reducing the negative impact linked to transport over long distances. While guaranteeing greater freshness (especially in the case of food products), it increases self-sufficiency and reinforces transparency
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	between producers and consumers. Local producers must be recognized and promoted with purchasing departments, (iv) Reinforce certifications or labels on sustainable productions. Certification and/or labeling can provide clear and credible to intermediate and final consumers. Stimulate the availability of reliable (LCA, etc) environmental information on products for buyers (citizens and Public Authorities), e.g. through labelling (eco-labelling for truly sustainable product and services, certification on a voluntary or mandatory basis).
Implementing bodies	Leading Actor: Business Mauritius Other stakeholders: MCCI; MOESWMCC; Ministry of Commerce and Consumer Protection; MSB
Funding	Donors/Private sector
Time horizon	ST to MT
Key Project KP35: Develop and scale initiatives that enable people to repair/reuse consumer goods or donate unwanted items	
Description	The consumer goods with the greatest need and potential for repair are durable (medium to long-life) goods such as smartphones, laptops and other personal electrical items, household appliances, furniture and furnishings, as well as clothes and textiles. Mauritius is already home to some businesses and non-profits that are active in the space of reuse and repair. These include tailors or clothing repair services, upholstery and furniture repair shops, electronics shops, waste management companies, social enterprises, zero-waste community organizations, and volunteers and technicians with repair experience for different types of consumer goods. This action focuses on mapping and building partnerships with the existing local reuse and repair industry to cultivate this sector and foster a local culture of reuse and repair. Government can support the local reuse and repair industry by: (i) Promoting repair as attractive and aspirational through informed educational and communications campaigns. This can be done by partnering with NGOs to raise consumer awareness about the benefits of products and services that integrate circular principles and on the benefits of reuse, repair and recycling. Public advertising can be used to promote circular economy initiatives such as ‘libraries of things’, secondhand stores, repair events, etc. (ii) Developing a directory of local businesses and non-profits to raise awareness of their services. This can be done by partnering with a social enterprise to map the country’s reuse and repair shops and services in an online directory. (iii) Establishing or supporting recurring repair events in the community. These events provide repair services and/or teach people to perform their own repairs at no or low cost. Repair events should be hosted in accessible locations, such as cafés, public libraries, community centres and business storefronts, and held monthly, quarterly or another regular schedule. They are often staffed, at least initially, by a network of skilled volunteers, including staff from local businesses and non-profits that can benefit from the publicity. Repaired items can be donated to local people in need or sold at low prices. (iv) Organizing an annual major reuse and repair event such as a Reuse and Repair Week to deliver repair workshops and share advice and to raise citizen awareness and encourage active participation of circular consumption by asking people to bring and donate their unwanted products (like books, textiles, toys, etc) (v) Establishing lending libraries to reduce the need to buy tools and other goods. ‘Lending libraries’ enable people to borrow a wide range of goods that they only need infrequently, including tools for repair. They can be located in lower-income neighborhoods to maximize accessibility for those who can benefit most and ensure the selection of tools and goods responds to local needs and interests.

	(vi) Incentivising residents to donate their unwanted items to (i) charities or social enterprises through online platforms, (ii) Civic Amenity Centres or (iii) through community centers that can arrange for a ‘donation space’ for people who are in need. This can be done with the collaboration of NGOs.
Implementing bodies	Leading Actor: MOESWMCC Other stakeholders: Ministry of Local Government and Disaster Risk Reduction; MITD; MCCI
Funding	Government/Donors
Time horizon	ST/MT/LT
Key Project KP36: Promote the development and implementation of circular economy strategies or action plans for specific sectors	
Description	Many of the actions set out in this roadmap are cross-sectoral and applicable to e.g., furniture, textiles or tourism. These sectors can come up with a specific ambitious plan on a concrete growth path to circularity. Concrete actions for the sector in question must be elaborated in such a plan, based on the objectives and principles outlined in this report. The proposal is to elaborate this for multiple sectors, such as furniture, textiles, tourism, packaging, etc. The initial outlines of a specific action agenda for these sectors have already been indicated during the development of this roadmap. Several parties may take the lead in this process; in any case, a key role can be played by the sector organisation concerned, assisted by relevant stakeholders.
Implementing bodies	Leading actor: Relevant sector association Other stakeholders: MCCI; Business Mauritius; MOESWMCC
Funding	Private Sector
Time horizon	ST to MT
Pilot ideas: These ideas, which came up during the focus group discussion, are non-exhaustive and sectors are solicited to innovate on piloting new initiatives. There are many international best practices that could be piloted by businesses and eventually replicated if successful. There are also many existing local best practices that have proven their impact and could therefore be up scaled • Pilots on circular public procurement and disposal of public assets in government departments • Develop an online directory of businesses and non-profits in repairs, reuse, etc • Conduct of repairs workshops by MITD for the public • Repair cafes... hands-on learning events at which people are helped to fix their own electronics – and then help others to do the same. • On-line and physical “libraries of things”⁴⁵ • Sharing platforms/product as a service business models ex rental business models for clothing. • Design competitions and awards on circular products or business models. • Zero waste grocery stores. Customers bring reusable containers to the retail store which they can fill with the exact quantity of goods they wish to purchase. • To address costs and shift customer, businesses can pilot pricing schemes that encourage consumers to choose reusables for example for disposable cups • Dismantling of spare parts in used Electrical and Electronics equipment by BEM recycling for resale at discounted prices through a digital platform. • Manufacturing of spare parts through 3D printing using recycled plastics • Civil society can raise consumer awareness about the necessity of plastic reuse, and provide information on how to make the shift in a practical way in the local context. • Promote the development of reverse and collaborative logistics⁴⁶ systems that enable the circulation of reusable containers and packaging for the transport of products	

⁴⁵ A Library of Things is any collection of objects loaned, and any organization that practices such loaning. Objects often include kitchen appliances, tools, gardening equipment, electronics, toys and games, art, science kits, craft supplies, musical instruments, and recreational equipment.

⁴⁶ The collaboration between two or more competing organizations to optimize their transportation and logistics facilities by means of sharing equipment, vehicles, and information

5.4 Mobility and Logistics

Road transport is the main form of inland transport in Mauritius and is constantly expanding. The number of vehicles per km of road increased from 39 in 1981 to 209 in 2021. As per data from the National Land Transport Authority (NLTA), vehicle registrations have nearly doubled between 2010 and 2021 to reach about half a million, with growth driven primarily by personal cars. Economic growth has enabled a gradual shift from public transport to private modes of transport and this has resulted in increased traffic congestion, greenhouse gas (GHG) emissions, and pollution. Buses, together with the recently introduced light railway system form the principal modes of public transport in Mauritius. In terms of transport /mobility, government's recent policy is towards the use of hybrid and electric cars and there is a need to enhance the sustainability of the battery value chain for electro mobility and also promote a sharing economy that minimizes car ownership and alleviate congestion.

Vehicle registrations have grown at an average rate of 4% per annum over the last decade. Current linear practices in mobility, such as high dependence on individual car ownership and fossil fuels have created high levels of congestion leading to lost productivity and pollution. Dependence on individual cars can also be a strain on household budgets and can lead to high amounts of urban land devoted to parking. Growing use of private transport and increased accidents are indicative of an inadequate public transport system in Mauritius.

There is currently no comprehensive long term sustainable low-carbon transport masterplan. With MetroExpress becoming operational and multi-modal transport hubs under construction and planning at several locations, it is important for Mauritius to define its integrated, comprehensive long-term sustainable low-carbon transport masterplan, with both public transport electric buses and MetroExpress, together with park-and-ride schemes, bicycling and walking pathways and private and shared vehicles seamlessly integrated with each other.

A circular mobility system would offer more choices and be shared, electrified, multi-modal, and looped. Better system integration would make most trips multi modal. Sharing economic transport solutions and optimized and clean transport will increase resource efficiency. Logistics will be optimised with digital solutions and by closing the loop of product lifecycles, reverse logistics plays an important role in the transition to a circular economy. There are three objectives for the actions identified during the process:

- i. Promote alternative forms of transport to replace private cars such as compatible door-door mobility services (Mobility as a Service⁴⁷), smart and easy to use public transport and development of new services such as car sharing and carpooling.
- ii. Optimise efficiency of forward logistics⁴⁸ and support the establishment and scaling of reverse logistics models.
- iii. Looping of components and materials

⁴⁷ Mobility as a service is a type of service that, through a joint digital channel, enables users to plan, book, and pay for multiple types of mobility services. The concept describes a shift away from personally-owned modes of transportation and towards mobility provided as a service.

⁴⁸ Forward Logistics are used to manage the forward movement of goods from raw materials to the consumer.

Policy Actions

Policy P37: Create a platform on Circular Mobility and Logistics	
Description	If the transition to a Circular Economy supposes mobilization, it must also be a source of cohesion. However, stakeholders present diverse and sometimes conflicting points of view and interests. In response, it seems essential to organize meetings and exchanges between actors from different backgrounds to exchange views and propose answers. Creating knowledge together makes it possible to create connection and trust and dialogue facilitates a common understanding of the benefits and risks of status quo and of transformation. There is no national platform for policy dialogue that can bring together stakeholders in the value chain to discuss the transition to a circular mobility and logistics system. To bridge this gap, this platform will enhance dialogue and cooperation among stakeholders in the mobility and logistics sector to discuss regulatory provisions, barriers, new opportunities and share information/best practices and review road map progress. The platform will include government, private sector, academic and research institutions, civil society, and other actors in the value chain. The platform is intended to be a forum for debate and consultation designed to provide concrete solutions to the challenges identified. A frequent dialogue between the public and private sector intends to help align each other's vision as well as the understanding that the private sector needs to comply with national policies, thus, to fulfil them. This way, the Government may be able to better tailor policies, guidelines and legislation better to the conditions and circumstances of the private actors involved in the respective sector. This platform forms part of an open governance framework for the circular economy.
Implementing bodies	Leading organization: Ministry of Land Transport and Light Railway Other Stakeholders: All organizations involved in the development of the roadmap on circular mobility and logistics
Funding	Donors
Time horizon	ST/MT/LT
Policy P38: Develop policy instruments and incentives to accelerate a change towards a more service-based transport system.	
Description	In November 2020, Government of Mauritius' Cabinet approved the '10-Year Electric Vehicle Integration Roadmap' for Mauritius that includes policy measures to be enacted to enable electric mobility integration at scale in the country's road transport sector. On the other hand, Component 1 of the UNDP GEF funded project "Promoting Low-carbon Electric Public Bus Transport in Mauritius" which started in 2022 will address the lack of a "Comprehensive Long-term Sustainable Low-carbon Transport Masterplan" for Mauritius and a lack of an Integrated Policy and Regulatory Framework for Electric Bus Mobility. Activities under this Component will define an integrated, comprehensive long-term sustainable low-carbon transport masterplan, with both public transport electric buses and Metro Express, together with other modes of low-carbon transport options (bicycling, walking, park-and-ride schemes, private and low-carbon transport options) seamlessly integrated with each other. When completed and approved by the government, the Masterplan document would serve as the key guidance for all future transport sector programs, activities and investments and will build on ongoing multimodal transport integration plan of the government, and set the tone for further formulation of policy and regulatory frameworks to set other modes (other than Metro Express and public bus transport) of public transport to be transitioned into a low-carbon modes. This action focuses on accelerating a change towards a more service-based transport system through the following: (i) Develop a multi-modal integrated approach to transport. This approach will look at improving the complementarity of all modes of public and private

	transportation and develop clear actions to bring about multi-modal integrated transportation services to the population. (ii) Strengthening car sharing and car-pooling initiatives. A consultancy study will improve understanding of policy makers on the core requirements for the introduction of car sharing and car-pooling initiatives in the country. The deliverables will be as follows: -Desktop analysis of car sharing and car-pooling services globally containing good practices, policies and lessons learned. -Develop guidelines on the creation of car sharing and car-pooling services based on desktop analysis adjusted to the needs of the country. -Develop a clear regulatory framework for implementation of car sharing and carpooling and establish administrative procedures for issuing permits for car sharing activities and introduce economic incentives for shared mobility operators including increasing the number of parking places for shared cars. (iii) Feasibility study of a Mobility as a Service (MaaS) concept for Mauritius. Mobility as a service (MaaS) is a type of service that, through a joint digital channel, enables users to plan, book, and pay for multiple types of mobility services. MaaS offers end-users the added value of accessing mobility through a single application and a single payment channel. All transport options would be integrated on a single payment platform. Users would access the platform via a smartphone app which will also function as a journey planner. MaaS is also in line with objectives and targets for Safer Roads and Roadsides as well as Safer Road Users of the National Road Safety Strategy 2016-2035. (iv) Develop Sustainable Public Procurement criteria for purchase of mobility services instead of ownership of vehicles in government departments
Implementing bodies	Leading actors: Ministry of Land Transport and Light Railway; NLTA Other stakeholders: TMRSU, Metro Express, MOESWMCC, Ministry of Finance, Economic Planning and Development; PPO
Funding	Government/Donors
Time horizon	ST to MT
Policy P39: Feasibility study to optimise forward logistics	
Description	To increase the efficiency of forward logistics, a feasibility study will be carried out on the following: Restricting operational times for goods vehicles above a given tonnage to night-time deliveries in specific retail stores. Such deliveries, done preferably with electric and silent vehicles, offer the opportunity to reduce traffic congestion in the daytime without causing a nuisance to citizens during night hours. A pilot project on nighttime deliveries will investigate the effects of goods delivery during night versus daytime and the costs implications and regulatory requirements in terms of insurance and licensing of vehicles involved in delivery. Special emphasis will be given to noise issues since fear of noise ruining residents' night sleep is one of the main reasons for the general ban on night deliveries. In addition to silent vehicles, it is necessary to reduce noise while unloading the goods. Thus, also measures like silent wheels on carriers etc. must be implemented. The data collected during this pilot trial of night delivery with clean and silent vehicles will be used to support the preparation of a new regulatory framework for night transportation. The expected impacts of implementing this trial for nighttime deliveries includes more efficient transportation and handling of goods, improved work environments, and effectively addressing noise pollution - thereby making night deliveries possible without disturbing residents and others.

	• A regulatory framework to make it mandatory for shipping lines to have a depot of containers in the centre of the island. This will significantly reduce empty back haul of vehicles to Port Louis. • A regulatory framework to allow last mile delivery⁴⁹ in non-goods vehicles. Increasing demand for deliveries is causing a last mile delivery challenge. One approach to overcoming this challenge is to leverage the assets of others by crowdsourcing last mile delivery similar to Uber for transportation. Using similar technology to ride hailing, crowdsourcing last mile delivery offers access to a vast network of vehicles at a fraction of the capital investment.
Implementing bodies	Leading actor: Ministry of Land Transport and Light Railway; NLTA Other stakeholders: RDA; Ministry of Commerce and Consumer Protection; MOESWMCC; Ministry of Blue Economy; Fisheries and Marine Resources.
Funding option	Government/Donors
Time horizon	ST to MT
Policy P40: Devise efficient waste management schemes for end-of-life vehicle, waste batteries and waste tyres.	
Description	• Waste tyres have numerous end-of-life solutions. Used tyres can be handled in four ways: reuse secondhand tyres; retreading used tyres; material recycling (recycled to produce rubber crumb that has various applications in e.g. sports tracks, building materials, and road surfaces); and incineration with energy recovery. There is a financial incentive of Rs 2000 provided for each tonne of used tyres recycled locally or exported for recycling. A feasibility study for the implementation of an EPR or Acceptance Duty policy⁵⁰ for End-of-Life tyres will be carried out. • Lead-acid batteries have already achieved high levels of recycling in Mauritius. However, as vehicle manufacturers move towards EVs, an increase in waste lithium-ion batteries (LIBs) will occur. With Mauritius slow to adopt EVs, the impact of large volumes of LIBs entering the waste stream is only expected in the next 10 years. One of the recommendations in the 10 Year Electric Vehicle Integration Roadmap for Mauritius is the implementation of a National Battery Plan for battery electric vehicles through second life applications and battery recycling. A feasibility study will look at the potential role of an extended producer responsibility (EPR) policy in facilitating the safe and sustainable management of electric/hybrid vehicle batteries at their end of life. • End-of-life vehicles (ELVs). There is no formal policy regarding ELVs. There is a lack of regulations regarding declaration, deregistration, collection of ELVs, depolluting, dismantling, shredding, and disposal of the final product. The Road Traffic Act should require that owners be made responsible for removing abandoned vehicles and giving authorities the right to remove such vehicles if necessary. The regulations should designate end-of-life vehicles (ELVs) that would be categorised as waste, generally due to age or accident. In addition, there are no statistics related to the number of ELVs because there is no enforcement of the requirement for vehicle owners to de-register. As per the <i>Feasibility study for the development of End-of-Life Vehicle dismantling and recycling facility in Mauritius (March 2022)</i>, an ELV recycling facility is feasible, sustainable and practical for the next 20 years beyond in Mauritius. There are currently sufficient scrap vehicles being stored around the island to make an ELV plant commercially viable. A PPP model for the setting up of the end-of-life vehicle treatment facility was included in the 2022-2023 Budget.

⁴⁹ Last mile delivery is a term used for transportation of merchandise from the nearest distribution hub to the final destination, such as a home or business

⁵⁰ This obligation – as a type of extended producer responsibility (EPR) – ensures that those who produce and market products bear responsibility for the collection and processing of the resulting waste. The Acceptance Duty implies that the vendor is obliged to take back for free the returned product that he has once sold to the consumer

	The policy and legislation should address this existing regulatory vacuum to make the ELV recycling system viable in a sustainable manner.
Implementing bodies	Leading actor: MOESWMCC (Department of Solid Wastes) Other stakeholders: NLTA; MCCI; Motor Vehicles associations
Funding option	Government/Donors
Time horizon	ST to MT
Key Project KP41: Leverage existing and under-used logistics network capacities for transportation of sorted waste in shopping malls and supermarkets to recycling companies.	
Description	Key motivations for companies to initiate Reverse Logistics are legislation (primarily Extended Producer Responsibility (EPR), shifting physical/financial responsibility of managing EoL products to producers), economic (cost savings from recovery) and corporate image (social and environmental responsibility, customer expectations and raising brand value). Key success factors for realizing economies of scale is leveraging existing and under-used forward logistics network capacities to enable recovery of returned goods and waste (e.g. packaging) and implementing incentives for consumers to return products (including ease of access and transparency on drop points). Shopping malls and supermarkets are in a unique, highly relevant position for the transition towards a circular economy due to their direct influence on customers' consumption patterns. They can play a vital role in the circularity of recycling by providing customers with shop-and-drop facilities and implementing reverse logistics, which means that the same truck that delivers and supplies the stores is in charge of bringing back all the boxes and packaging materials used as well or using the opportunity of empty back haul of goods vehicles transporting waste materials to recycling companies. Shopping malls/supermarkets offering recycling services at their stores, whether in the outdoor car park areas or dedicated bins in the store itself provide several benefits. It offers convenient drop-off points for shoppers and more economic and environmentally friendly logistics. The emptying of bins in supermarkets is possible with large vehicles travelling much shorter distances when the ecopoints act as hubs compared to kerbside collections, meaning fewer emissions from vehicles. The objective of this action is to carry out a feasibility study for a regulatory framework and provision of incentives to make it mandatory for shopping malls and supermarkets to implement recycling stations and leverage existing and under-used forward logistics network capacities to enable transport of sorted wastes to recycling companies. The ecopoints are usually placed in the parking lots and mostly target customers that go to the supermarket by car, based on the common assumption that most customers use their car to bring their recyclable materials to the stations. The ecopoints at supermarkets would present a complementary option for frequent recyclers in addition to a service that would be available at household level, thereby increasing the overall amount that is recycled. Moreover, for those people who want to recycle but who live in areas where there is no segregation at source the supermarkets' recycling stations will provide an alternative.
Implementing bodies	Leading Actor: MOESWMCC (Department of Solid Wastes) Other stakeholders: MCCI, NGOs; Ministry of Commerce and Consumer Protection
Funding	Government/Donors
Time horizon	ST to MT

Pilot ideas: These ideas, which came up during the focus group discussion, are non-exhaustive and sectors are solicited to innovate on piloting new initiatives. There are many international best practices that could be piloted by businesses and eventually replicated if successful. There are also many existing local best practices that have proven their impact and could therefore be up scaled
A shared digital platform for collaborative logistics that aims to use the traditional empty back haul of goods vehicles by offering the space to other logistics companies through an online trip exchange platform (an “Uber for cargo”).
Public procurements for Mobility as a Service (MaaS).
Car-sharing service provided by car importers
Product as a service on tyres.
Telematics solutions to help fleet owners manage the costs, lifetime and utilization rate of their fleet
Cars take-back program for recycling
Recycling of road safety devices
Uses of electric batteries that are no longer suitable for vehicles in stationary storage systems

5.5 Waste Management

The management of solid waste is one of the major environmental challenges facing Mauritius, in part due to unsustainable production and consumption patterns, and to the traditional linear business model of ‘take-make-use-dispose’. Heavy reliance on imported goods and tourism without much control on upstream processes generally tend to make solid waste generation rates higher in SIDS. Solid waste generation increased by 19 percent between 2010 and 2020, and by more than 33 percent over the last 20 years. With a population of 1.27 million (2019), the average amount of solid waste per capita disposed at the landfill daily has increased steadily from 0.6 kg in 2000 to 1.1 kg in 2019, generating around 537,147 tonnes annually. The composition of MSW, as shown in Figure 2.5, shows a good potential for material recovery in terms of composting or anaerobic digestion of organic wastes and recycling of paper, plastics, metals, glass and textile wastes. The sole sanitary landfill is already saturated and there are plans to extend the lifetime of the landfill through a vertical expansion project. A total of 7,509 tonnes of waste were recycled locally while 6,411 tonnes of waste were exported for recycling in 2021 by recyclers and exporters registered with the SWMD. It is thus estimated that about 4% of the total solid waste generated currently is being either recycled locally or exported. The current level of waste disposed at the landfill and the low rate of recycling represents untapped opportunities to generate wealth.

The process identified the following five overarching objectives for a circular waste management sector:

1. **Expansion of the range of products subject to EPR** (In a circular economy producers must be held to account for the sustainability of the products they place on the market)
2. **Increase sorting of waste and reduce contamination in recycled materials stream.** (Develop sorting of waste and reduce contamination so that more waste can be recycled)
3. **Promote the expansion of well-developed capacity for recycling that can manage source-separated waste.** (Investment and innovation are necessary to improve the recycling infrastructure)
4. **Improve markets for recycled commodities.** (Improve markets for recyclable materials and products and better integrate recycled materials into product design)
5. **Standardize measurement, increase data collection, and improve knowledge about material flows.** (There is a need for consistent methodologies to measure recycling system performance and to increase data availability and transparency)

Policy Actions

Policy P42: Create a platform on Circular Waste Management	
Description	If the transition to a Circular Economy supposes mobilization, it must also be a source of cohesion. However, stakeholders present diverse and sometimes conflicting points of view and interests. In response, it seems essential to organize meetings and exchanges between actors from different backgrounds to exchange views and propose answers. Creating knowledge together makes it possible to create connection and trust and dialogue facilitates a common understanding of the benefits and risks of status quo and of transformation. There is no national platform for policy dialogue that can bring together stakeholders in the value chain to discuss the transition to circular waste management. To bridge this gap, this platform will enhance dialogue and cooperation among stakeholders in the waste management sector to discuss regulatory provisions, barriers, new opportunities and share information/best practices and review road map progress. The platform will include government, private sector, academic and research institutions, civil society, and other actors in the value chain. The platform is intended to be a forum for debate and consultation designed to provide concrete solutions to the challenges identified. A frequent dialogue between the public and private sector intends to help aligning each other's vision as well as the understanding of that the private sector needs to comply with national policies, thus, to fulfil them. This way, the Government may be able to better tailor policies, guidelines and legislation better to the conditions and circumstances of the private actors involved in the respective sector.
Implementing bodies	Leading organization: MOESWMCC (Department of Solid Wastes) Other Stakeholders: All organizations involved in the development of the roadmap
Funding option	Donors
Time horizon	ST/MT/LT
Policy P43: Expand the range of products subject to EPR and feasibility study of a mandatory EPR on packaging in the short term	
Description	EPR is an environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of a product's life cycle. EPR legislation will be enacted soon for electrical and electronics equipment and beverage containers. The range of products subject to EPR will need to be expanded by conducting feasibility studies, in consultation with the relevant actors, in order to evaluate candidates for new priority products. It is recommended that, as a priority, a feasibility study be carried out for a mandatory EPR on packaging as from 2025. A Roadmap on Plastic free Mauritius is being planned and the TOR of the feasibility study can be taken on board under this study. The feasibility that future EPR schemes include the following specifications will be studied: • Arrangement for the financial risk related to fluctuations in the prices of recycled materials to be transferred from recycling operators to the Producer Responsibility Organization⁵¹ (PRO) with which they enter into contracts within the EPR scheme. • Eco-modulation of EPR fees. Modulate financial contributions paid to the EPR schemes based notably on durability, reparability, re-usability, recyclability, recycled content, and the presence of hazardous substances, thereby taking a life-cycle approach. This is expected to incentivise better product (or packaging) design.

⁵¹ A professional organization authorized or financed collectively or individually by producers, which can take the responsibility for collection and channelization of waste generated from the 'end-of-life' of their products to ensure environmentally sound management of such waste.

	• Contribution towards a sustainable national funding model for communication campaigns on waste prevention, sorting and recycling. • Incentives through PROs to encourage retailers/supermarkets to become drop off points for some types of materials and facilitate reverse logistics to recyclers. • Introduce minimum share of waste that must be dealt by social economy in the license agreement of Producer Responsibility Organisations (PROs). Coordinate collaboration agreements between PROs and the social economy. Reserve part of the EPR funds to social economy. For example, recognize the work of waste pickers throughout the country and ensure their inclusion in the transition to a circular economy through a wide range of opportunities for decent work and participation. To increase the understanding of the business community about the concept, challenges and opportunities of EPR schemes, a national conference on EPR will be organized by the end of the year.
Implementing bodies	Leading Actor: MOESWMCC (Department of Solid Wastes) Stakeholders: Ministry of Finance, Economic Planning and Development; Ministry of Commerce and Consumer Protection; MCCI; Business Mauritius
Funding	Government/Donors
Time horizon	ST to MT
Policy P44: Institutional strengthening of the Department of Solid Waste and of Local Authorities for integrated waste management	
Description	An effective institutional structure is the essential foundation for delivering a well-functioning and integrated waste management system across all levels of government. Mauritius has a structured solid waste management framework where Local Authorities are mandated for waste collection whilst transfer and disposal of wastes and policy setting rest with the Department of Solid Waste Management of the Ministry of Environment. Well-trained professional staff are needed as waste management is a dynamic process. Continuous capacity building at the level of the Department of Solid Waste Management is essential. The technical unit is presently highly under-staffed and with the increasing number of projects to be handled by the Department for moving up the waste hierarchy additional Project Officers (Civil and Chemical Engineers) and technical officers would be required for project management. The achievement of national targets and objectives of the circular economy will depend on the ability of local authorities to provide waste management services on a reliable basis. When a disconnect exists between aspirations of the circular economy and the ability to meet the aspirations through waste management services at the local level, ambition as expressed in this roadmap will remain unfulfilled. Local authorities (LAs) will have to play a more important role when moving up the waste hierarchy and while implementing waste segregation at source and enforcing improper sorting. This requires adequate financing and staffing capacity in LAs. A dedicated sustainability/waste management department or unit with a designated waste management officer should be set up in each LA. The LA can be restructured with existing staff and the existing staff undergo capacity building for better waste management. The LA will have the duty of carrying out local waste surveys and draw up a local solid waste management strategy and action plan, implement waste minimization and recycling initiatives, collect data for the National Waste Management Information System and deliver public awareness campaigns in collaboration with NGOs. Training of the personnel in Local Authorities in the area of circular economy and integrated waste management will be essential to match the tasks for integrated waste management. Information as regards collection modalities, sorting categories and frequency of collection of sorted wastes at households should be widely disseminated by each LA on the digital platform for circular economy.

	Facilities should be offered to the public on the platform as regards posting of comments and requests for waste collection.
Implementing bodies	Leading Actor: Ministry of Local Government and Disaster Risk Reduction Stakeholders: MOESWMCC
Funding	Government/Donors
Time horizon	ST to MT
Policy P45: Development of a waste reporting mechanism for shopping malls, large hotels and convention and exhibition centres	
Description	The reporting requirement aims to better draw and sustain greater management attention on the amount of waste produced by the premises and help build greater awareness of the potential for improving their waste management systems. They will be required to annually report waste data, waste reduction plans and submit recycling rate targets. Affected premises would be hotels > 100 rooms; shopping malls >4,000 m ² of Net Lettable Area and convention/exhibition centres. A Guide on how to prepare and submit the Waste Report online using relevant forms will be prepared. The reporting will be done online to the National Waste Management Information System.
Implementing bodies	Leading actor: MOESWMCC (Department of Solid wastes) Other stakeholders: MCCI; AHRIM; Business Mauritius
Funding option	Government
Time horizon	ST
Policy P46: Set up a strategic watch on the recycling industry.	
Description	The objective of this action is to enable the policy maker to identify the technical and economic barriers to recycling of certain products. Many actors believe that everything is recyclable. Although this is theoretically quite true, there are always technological and economic limits. It is appropriate for the recycler to inform the producers and the legislator of these brakes to improve recycling efficiency. It will enable (upstream) producers to put in place a more in-depth reflection on the eco-design of their products and enable the legislator to identify the technical and economic barriers to recycling of certain products. It will also allow consumers to have a real vision of the potential for reuse/ recyclability of the product they buy. An effective relay with the waste management actors must be set up to identify the barriers. This can be in the form of a work plan carried out by staff of the Ministry (or through an independent consultant) which will provide for the following elements: • visits to recycling industries/MRFs with a discussion with management/employees (actions in the field) to identify the various problems of dismantling /reuse / recyclability; the goal is also to determine the technical and economical obstacles • a summary report for each visit with technical and economic data/ photos showing the different difficulties of the sector visited. • an annual report by flow. • annual communication of the main results. • a series of meetings with recycling companies, business associations, NGOs etc in order to strengthen the awareness of all actors and propose solutions to barriers.
Implementing bodies	Leading actor: MOESWMCC (Department of Solid Wastes) Other stakeholders: MRIC; Academia
Funding option	Government/Donors
Time horizon	ST
Policy P47: Ensure that there is clear and accessible information about contents of packaging and how they can be recycled or taken care of	

Description	By providing information to producers, service providers, consumers and waste actors regarding products, it becomes possible to streamline the use of resources and extend the value of the material. Also, information about chemicals in goods and their content of specific hazardous substances can be improved to contribute to non-toxic and resource-efficient cycles and thus high-quality secondary raw materials. To be able to ensure material recycling which is safe from a health and environmental point of view is needed better information about the content of particularly dangerous substances along the life cycle. Then the companies that dispose of the waste material recycle it safely and provide a recycled material of high quality that is attractive in the market. Access to chemicals in products (CiP) information is a necessary condition to enable sound management of chemicals in everyday products, not only within manufacturing but also throughout the product's life cycle. There will be voluntary and eventually regulatory information disclosure requirements on chemicals in specific products. There will be information requirements for producers of certain plastic products to provide information to consumers about the chemical content, and on how the product should be handled when it becomes waste.
Implementing bodies	Leading Actor: Ministry of Commerce and Consumer Protection Other stakeholders: MOESWMCC; MCCI; Ministry of Health and Wellness; MSB
Funding option	Government/Donors. For example, the Chemicals in Products (CiP) Programme is an ongoing activity at UN Environment Programme (UNEP) on the policy and practical facets of access to information on the chemicals contained in everyday products
Time horizon	ST to MT
Policy P48: Define End of Waste criteria⁵² for specific secondary raw materials.	
Description	The lack of certainty regarding the waste or product status of secondary raw materials hampers their market access and ultimately the transition towards a more circular economy. End-of-waste status creates positive perceptions of recovered materials by removing the waste 'stigma' that can deter potential customers. Also, when a recycled product receives the status of end-of-waste, users of this product no longer have to comply to waste regulations such as for transportation. End-of-Waste criteria contribute to ease the circulation of secondary raw materials meeting quality criteria to industries using them as feedstock for their production. Harmonised or mutually recognised end-of-waste criteria can ease economies of scale and help to a well-functioning regional market for secondary raw materials. This study (either through a consultancy or a Technical Advisory Committee (TAC)) will develop End-of-Waste criteria for glass cullet, metal scraps, recycled aggregates plastic flake recyclate, wood, paper, tyres, fertilizers, etc. Besides criteria development, the study will clarify EOW procedures (via e.g., online description of procedures, helpdesk, training...) and help the industry understand if they are eligible for EOW (via e.g., online tools, training, help desk).
Implementing bodies	Leading Actor: MOESWMCC (Department of Solid Wastes) Other Stakeholders: MSB; Academia; Recyclers Association
Funding option	Government/Donors
Time horizon	ST to MT
Policy P49: Develop technical standards for secondary raw materials and recycled content measures	
Description	Most technical standards are based on the performance and characterization methods adequate for primary materials whereas it may not be necessary for targeted uses. For example, technical requirements used for procurement are often based on the performance of virgin materials. The development of technical/quality standards applicable to some secondary raw materials (recycled plastics, aggregates; glass

⁵² End-of-waste criteria specify when certain waste ceases to be waste and becomes a product, or a secondary raw material

	cullets; etc.) can create confidence for users of recycled materials and will also be useful for End of Waste decisions. However, the standards should be adequate to avoid loss of performance and avoid incorporation of hazardous substances. Currently there is no widely agreed method for measuring the amount of recycled content and it is thus important to create recycled content measures and develop criteria for claiming “recycled content” in products. Although tests can be conducted in a laboratory on a case-by-case basis to determine if recycled content is present, it is not possible to determine the amount. Across the range of materials in use, including all suppliers big and small, the only practical way of accounting for recycled content is to measure and audit a business on a mass balance basis according to polymer type across individual sites. Manufacturers must be able to demonstrate, using purchase data and paper trail, that the level of required recycled content has been met. A distinction will have to be made between “post-consumer” and “waste” of production when calculating the recycled content. Production waste can for ex. be assigned a lower factor in the calculation, or even be completely excluded. An Excel calculation sheet can be developed to calculate the recycled content of a product. This sheet calculation can simplify the integration of a claim in the specifications for procurement exercises. A “recycled content” label can also be considered so that consumers can clearly understand what portion of the materials in the product is recycled.
Implementing bodies	Leading Actor: MSB; MOESWMCC (Department of Solid Wastes) Other stakeholders: MCCI; Business Mauritius
Funding option	Government/Donors
Time horizon	ST to MT
Policy P50: Support the development of markets for secondary materials through circular public procurement, mandatory recycled content, interactive platforms and market development workshops.	
Description	Public procurement currently does not take into account of the objectives of a circular economy, e.g., ensuring that materials can re-enter the economy. Public procurement should value circular products and services and it can significantly support the transition towards a more circular economy. Various announcements have been made in recent budget speeches regarding margin of preferences for local manufacturing SMEs and for SMEs holding the ‘Made in Moris’ label. All recycling activities have also now been classified as a manufacturing activity and therefore should benefit from the various fiscal and other incentive schemes. Tenders for collection and recycling of specific waste streams need to take these budgetary provisions into account in the final evaluation to promote the circular economy and local recycling companies and not local exporters. Presently, to take advantage of the margin of preference, it is compulsory in the tender for the bidder to submit a detailed costing. This forces the bidder to show all details of the costing with no guarantee of confidentiality and this may act as a barrier for recycling. A bidder should be eligible for the margin of preference for enterprises with a “Made in Moris” label by submitting a copy of the certificate. In the recent budget speech was announced that “A margin of preference will be provided for products manufactured from recycled products.” There is a need to speed up the implementation of this measure and put it in practice in public procurement guidelines. The incentive should be applicable to local recycling industries and not only for goods and works but also for services. Mandatory recycled content is relevant when there are market failures such as the cost of recycling comparatively more expensive than easily accessibly primary materials / products. Imposing mandatory recycled content will stimulate demand for recycled materials and thereby stimulate investment in R&D / production facilities

	to incorporate recycled materials and comply with the regulation. A mandatory recycled content would apply to all products placed on the market, in order to avoid distortion of competition between domestic and imported products. Compliance with mandatory recycled content needs to be verified via a paper trail which requires a quality assurance scheme and external audit. It is recommended to have a mandatory minimum recycled content requirements for certain plastic manufactured items to strengthen the market demand for recycled plastics. Initially durable items like waste bins or flowerpots can be targeted as these have an ability to use lower quality recycled plastics that are more difficult to use in packaging applications for example. In the medium to long term, once the sorting infrastructure is in place, packaging can be considered for recycled content as it is the single largest market for plastic. Primary (direct contact) food packaging can be excluded for the requirement for recycled content except for beverage containers. Market development workshops and dialogues can be conducted to spur market development for recycled materials, educate stakeholders on the value of secondary materials and identify solutions to recycling system challenges. Market development workshops – organized by the Ministry of Environment and Recycling and Business Associations – are one mechanism to bring together targeted stakeholders to engage in discussions about specific market development issues. The development of interactive platforms for the development of markets for secondary materials should be promoted, which enable the generation of permanent links between actors that generate potentially valuable waste and those that could use them; taking advantage of the latest technologies to generate timely and effective links.
Implementing bodies	Leading Actor: MOESWMCC (Department of Solid Wastes) Other Stakeholders: PPO; MCCI; Recycling and Business Associations
Funding option	Government
Time horizon	ST

Key Projects

Key Project KP51: Introduce simple waste sorting processes and develop communication campaigns about importance and value of waste sorting and recycling in collaboration with NGOs	
Description	With the setting up soon of Integrated Waste Processing Facilities (IWPF) in Mauritius, it is important to introduce simple waste sorting processes by having unambiguous sorting instructions and harmonizing the colours of waste bins throughout the country. For example, it has been recommended to use only black colour bins in PP or HDPE recycled plastics. Adding a black pigment will help to increase considerably the recycling of all mixed colours of plastic waste and help to sustain the local market. To identify segregation of wastes on bins, a colour code can be printed on the bins. A uniform labelling has to be provided on household and street bins and at public events and festivals. It is recommended to have extensive consultations with NGOs and manufacturers of waste bins before finalizing the labelling and instructions etc. By providing clear signage and instructions on bins and reception points, stakeholders can reduce the impurities from collected waste. In parallel, messaging and educational materials will have to be developed about the importance and value of recycling (env, social and economic benefits) and make sure the public understands the consequences of contamination and how to recycle properly. A partnership between Local Authorities and the Ministry of Education with NGOs must be developed to carry out adult and children sensitisation campaigns as well as Train the Teachers on waste management. To develop impactful communication, the following will be taken into account:

	• Communication channels strengthen each other. Communication campaigns should occur simultaneously via different channels: TV, radio, Twitter, Facebook, websites, newspapers, local magazines, etc • The public is diversified: young, old, different cultural and social backgrounds. Therefore, the messages and use of language must be adapted to each of the target groups. • Awareness raising needs permanent maintenance and creativity to keep inspiring. It is key to set indicators that measure awareness such that campaigns can be evaluated and priorities for communication can be determined. • By measuring impurities in collected waste streams, local authorities can assess where and on which topics more communication to households is needed. It is essential that resources are available for the above education and outreach activities.
Implementing bodies	Leading Actor: MOESWMCC (Department of Solid Wastes) Other stakeholders: Local Authorities; Ministry of Education, Tertiary Education, Science and Technology; MCCI; Business Mauritius; NGOs
Funding option	Public-Private Partnership
Time horizon	ST
Key Project KP52: Provide a network of fixed and mobile Civic Amenity Centres⁵³	
Description	An indicative no of 30,000 people per Civic Amenity Centre (CAC) is recommended in the literature which means that the country will need about 40 CAS. It is recommended to establish fixed CACs distinct from the transfer station to avoid contamination with organic waste. Staff will have to be trained to inform citizens correctly and maximize the quality of the sorted fractions. Long opening hours including weekends must be considered such that households can come during and after commuting. Access must be only through personal vehicles and the focus must be on household waste only. Allow the public to have specific areas in the CAC to display goods that can be reused or repaired. The lack of available space in high density areas makes it difficult to implement an effective network of sites. It is recommended to implement a network of mobile civic amenity sites. This would consist in the temporary installation of collection spaces on public spaces with sufficient area to offer facilities for a comprehensive range of waste streams. The location of the mobile CAC is fixed, and the frequency of opening is decided with the local authorities which can be at least once a month. The system is also suitable for the population that has a limited access to personal vehicles, preventing them from using traditional fixed civic amenity sites. An app can be devised to raise awareness and to provide the locations of all the CAC. Citizens can see their closest recycling point, see the waste categories accepted, get directions and give feedback to the Authorities.
Implementing bodies	Leading actor: MOESWMCC (Department of Solid Wastes) Other Stakeholders: Ministry of Local Government
Funding option	Government
Time horizon	ST to MT
Key Project KP53: Feasibility study on separate collection of households hazardous waste	
Description	Household Hazardous Waste (HHW), excluding WEEE, typically ranges around 1% of municipal waste (oil, paints, varnishes, batteries, solvents, printer cartridges, medical waste, spray cans, pesticides, etc). It can be collected at fixed or mobile

⁵³ A Civic Amenity Centre (“dechetterie”) is essentially a facility whereby households and small and medium enterprises can dispose of specific types of wastes, which normally are not collected as part of the normal waste collection service. It consists of containers/bays for temporary storage of different sorted waste fractions whereby recyclers collect the ‘waste’ materials for further processing.

	CACs, periodic pickups by local authorities or in-shop take back. If no appropriate system is provided, it would be discarded via the waste bins or by flushing down the toilet. The primary goal of this HHW Feasibility study will be to provide an evaluation of HHW collection and disposal options for the Ministry to make informed policy decisions and infrastructure development. The study will evaluate the economic feasibility of implementing a permanent HHW collection program and to outline convenient and cost-effective ways to best handle HHW.
Implementing bodies	Leading actor: MOESWMCC (Department of Solid Wastes) Other Stakeholders: Ministry of Local Government and Disaster Risk Reduction
Funding option	Government/Donor
Time horizon	ST
Key Project KP54: Implement a National Waste Management Information System	
Description	There is a need to strengthen information and traceability systems for waste flows generated in the country. A comprehensive and detailed overview of the total waste generated, and its different waste streams is a prerequisite for successful and effective waste management. The Environment Protection (Industrial Waste Audit) Regulations 2008 and the Waste Management and Resource Recovery Act 1: Section 21b (Submission of data and information on waste) provide a legal basis for the creation of a National Waste Management Information System. The objective of such a management information system will be to (i) store, verify, analyse, evaluate and provide data and information for the management of waste. (ii) provide information for the development and implementation of any integrated waste management plan. (iii) provide information for education, awareness raising, research and development purposes. (iv) for obligations to report in terms of any legislation. There will be an obligation from stakeholders in the waste value chain to supply an online data system with information. Collectors of waste, exporters of waste, MRFs, recycling companies, etc will be required to report data on their activity on a monthly basis. Mandatory reporting by industries, shopping malls, large hotels and convention and exhibition centres will also be done through this platform. The system can be used by government and industry to capture routine data on the tonnages of waste generated, recycled and disposed of in Mauritius on a monthly and annual basis. This platform can serve market participants for information (supply and demand) and trading purposes. Once in place such a system will also enable EPR schemes. The data collection database could be linked to a simplified GIS or to Google Maps. Once in place, such a system will also enable initiatives, such as future EPR systems. With increasing number of ships and cruise vessels coming to and passing through Port Louis, the shipping industry locally generates significant volumes of packaging and food wastes and this data also need to be collected and reported for better management. Different definitions and measurement practices create challenges to setting goals and tracking progress. The recycling rate is commonly used as an indicator of the progress of national waste recycling activities and of the circular economy. However, countries use different methods for calculating national recycling rates, making comparison difficult. Recycling rates take many forms, such as recovery rate, collection rate, diversion rate, and cyclic use rate. More consistent measurement methodologies and metrics are needed to measure recycling system performance and track progress as the roadmap is implemented and compare data with other countries. It is recommended to adopt the SDG 12.5.1 indicator for National recycling rate: (Material recycled + material exported for recycling –

	material imported for recycling) / total waste generated (excluding mining, construction and agricultural waste). Recycling includes co-digestion/anaerobic digestion and composting/aerobic process.
Implementing bodies	Leading actor: MOESWMCC (Department of Solid Wastes) Other Stakeholders: Ministry of Information Technology, Communication and Innovation; Statistics Office; Ministry of Local Government and Disaster Risk Reduction; Ministry of Blue Economy, Marine Resources, Fisheries and Shipping; MCCI; Business Mauritius; Academia
Funding option	Government/Donors
Time horizon	ST to MT
Key Project KP55: Implement a National Industrial Symbiosis Programme (NISP)	
Description	A National Industrial Symbiosis Programme (NISP) will be created to tackle the problem of knowledge and information gaps concerning resource efficiency and a circular economy in the business sector. It will be tasked to reduce information market failure through networking and to promote information sharing between traditionally separate industries. The NISP will be a public-private partnership designed mainly by and for the private sector but also with Government and/or donor funding and its main activities will be to carrying out several workshops in which businesses can identify mutual synergies. Experts will facilitate these workshops and guide these synergies. Face-to-face interaction, sharing and dissemination of information between experts and businesses are crucial elements to promoting market intelligence. Participation bears comparably low transaction costs for businesses and the NISP is a low-cost measure that will have rather short payback times. The resource information and identified opportunities for synergies can be collected in a common database which can be used to monitor the progress of the synergies and achieved benefits. Resources will be needed for coordination, organizing the workshops with engagement of companies and a pool of experts for knowledge transfer network to guide in the match making. The programme should also include a digital platform to enable match making.
Implementing bodies	Leading Actor: MOESWMCC (Department of Solid Wastes) Other stakeholders: Ministry of Industrial Development, SMEs and Cooperatives(Industrial Development Division), MCCI; Business Mauritius; Academia
Funding option	Government/Donors
Time horizon	ST

Pilot ideas: These ideas, which came up during the focus group discussion, are non-exhaustive and sectors are solicited to innovate on piloting new initiatives. There are many international best practices that could be piloted by businesses and eventually replicated if successful. There are also many existing local best practices that have proven their impact and could therefore be up-scaled

- Voluntary EPRs in the private sector
- Pilot sorting of wastes by local authorities in specific locations in collaboration with NGOs
- Create a national map of existing recycling infrastructure to depict available recycling capacity from available collection points to recycling industries.
- Develop platforms or specific mechanisms to better involve people in environmental monitoring, for example, generating distributed, geo-referenced, and real-time data on environmental problems such as illegal waste dumps.
- Develop a voluntary Public-Private Partnership recognition programme that could encourage companies to increase their use of secondary materials both through procurement (buying recycled) and incorporating recycled materials into their manufactured products.
- Government can introduce a 3Rs award to recognize organizations for their leadership in waste prevention and diversion

6. CROSS-CUTTING ACTIONS

This includes horizontal policy interventions that are essential to systemic change and apply to the entire society. It includes actions for an open governance and collaboration, education and

awareness raising, research and innovation, business support, public procurement, fiscal framework and financing, identified as key enabling elements.

6.1 Governance

The transition from a linear to a circular economy raises many challenges, economic, political, technological and socio-cultural. It questions and impacts our ways of producing, consuming and beyond our habits, behaviors and beliefs, including our relationship to nature. This transition depends first of all on the Mauritian who, by their choice, will allow or not the emergence and spread of an alternative. It therefore requires original governance that is based on and encourages the self-organization of stakeholders, which organizes the dialogue between diverse points of view and interests to build a shared vision that allows everyone to contributing to the definition, management and monitoring of the measures undertaken. It is also based on a reflective approach which should make it possible to continually adjust the objectives and the methods of implementing the plan thanks to a system of effective monitoring and evaluation, capable of highlighting progress and barriers of the transition.

Policy P56: Create an open governance that promotes active involvement of stakeholders and coordination of actions	
Description	This action aims at creating an open governance that promotes active involvement of stakeholders, the coordination of agendas and the evaluation of progress made. The setting up of circular economy platforms in various focus areas is part of this open governance. The recommendations of these platforms will be presented and further discussed at an annual conference on circular economy. Accessible online to the general public, the annual conference will be a space for discussion and collective reflection which makes it possible to involve as many people as possible in the definition of national priorities. Thus, through a dedicated web platform and once a year during a dedicated event, all Mauritians will become aware of initiatives carried out by various stakeholders on the circular economy and can also provide their opinions and their proposals for action. A high-level inter-ministerial committee will then discuss the recommendations of the circular economy platforms and of the proceedings of the annual conference. The transition to a circular economy concern everyone and requires everyone's participation. The governance must therefore facilitate engagement, the emergence and development of initiatives and experiments at all levels of society. To do this, the roadmap encourages the creation of circles of interest, bringing together actors subject to identical problems or wishing to build projects and solutions that contribute to the circular economy. Whether they take the form of associations, informal organizations, business and academic networks, neighborhood groups, these organizations constitute both places of debate, deliberation, proposal and action. To promote their development at the neighborhood level, it is proposed that local governments provide permanent meeting spaces for the exchange of knowledge, mutual services, and second-hand goods, where activities such as flea markets or training sessions in repair skills can be carried out. The development of urban agriculture and community composting projects that generate community bonds, produce food, and enrich food culture can also be promoted.
Implementing bodies	Leading actor: MOESWMCC Other stakeholders: Local Authorities; Business Associations, Professional Associations; Academia, NGOs; neighborhood groups.
Funding	Government/Donors
Time horizon	ST/MT/LT
Policy P57: Coordinate and assess government policies and legislation for circularity	
Description	There must be a coordination of public policies to offer operators a readable framework conducive to action. Circular economy principles must be applied throughout all strategic documents, legislations and support mechanisms. An audit of

	all policies and legislations will be carried out to analyze the consistency of instruments, to identify contradictions and to propose ways of adaptation. Harmonization of key national strategic documents and integration of the circular economy will be required as an integrative horizontal topic, connecting different ministries, strategies and plans, including spatial planning. An index of circularity of policies will also be developed. The effective coordination of public policies will be carried out by the inter-ministerial committee which will meet twice per year, in particular at the end of the annual conference to take stock of the initiatives undertaken during the year, assess the impacts of public policies, validate the action plan resulting from the work of the circular economy platforms and ensure the coordination of policies. The inter-ministerial committee will be supported by a steering committee
Implementing bodies	MOESWMCC will host the steering committee and the inter-ministerial committee
Funding	Government
Time horizon	ST/MT/LT
Policy P58: Monitor progress towards a circular economy	
Description	The objective of this action is to develop tools that make visible the progress towards a circular and sustainable economy in the long term. A permanent monitoring system of the country's progress in the transition to the circular economy will be implemented, which distinguishes between process and results indicators, and is capable of accounting for progress in the implementation of actions and progress in the fulfilment of the long-term goals of this roadmap. The methodological and institutional basis for the systematic measurement of the indicators for the long-term goals such as the number of green jobs in the economy will be established. The feasibility of incorporating the accounting of natural capital and ecosystem services into the monitoring system of the circular economy and other relevant information systems will be assessed. The following activities will be undertaken: • Identification of indicators already defined and monitored. • Identification of available data sets • Identification of missing data sets and related indicators
Implementing bodies	Leading actor: Statistics Mauritius and MOESWMCC Other stakeholders: Ministry of Finance, Economic Planning and Development; Ministry of Agro-Industry and Food Security; CIDB; Ministry of Transport and Light Railway
Funding	Government/Donors
Time horizon	ST/MT/LT
Policy P59: Mainstream the principles of Circular Economy in all EIAs and PERs	
Description	Mainstream the principles of circular economy in all EIAs and PERs, in order to ensure that the environmental objectives of circular economy are integrated into the design and implementation of projects, covering the whole life cycle of development. While assessing the environment impacts, proponent should propose mitigating measures and actions, taking into consideration the principles of circular economy, which is aimed at keeping resources within the production chain for as long as possible, through optimal use and reuse – with the greatest value to the economy and the least amount of damage to the environment. It is to be noted that one of the chapters of an EIA report and PER document deals with sustainability and enhancement opportunities. The measures to be adopted by a proponent towards circular economy can be considered in this chapter. A guidance document will explain how to incorporate CE principles. It will guide and advise proponent on the possible measures and actions to be adopted, geared towards a circular economy in various key sectors such as medical/pharmaceutical, hotel, manufacturing, animal husbandry, residential development and the construction sector, amongst others. The guidance will be developed in collaboration with developers, architects, engineers, contractors, suppliers and other

	specialist consultants. It is also recommended that, for some specific type of developments such as smart cities or hotels, there is an obligation from developers, as part of their social responsibility, that they invest through a PPP in a Civic Amenity Centre (CAC) in a nearby town or village.
Implementing bodies	Leading organization: MOESWMCC Other Stakeholders: Business Mauritius, EDB
Funding	Government
Time horizon	ST
Policy P60: Feasibility of a comprehensive legislation on Circular Economy	
Description	Provisions pertaining to CE prior to a waste being generated (i.e. waste prevention, minimization and reuse) are covered in both the Environmental Protection Act and in the Waste Management and Resource Recovery Act (under Part V-Integrated Solid and Hazardous Waste Management Measures). Provisions pertaining to CE once a waste has been generated (i.e., recycling, composting) is made under the Waste Management and Resource Recovery Act. In addition, the Public Procurement Act also has provisions that can be used to steer circularity in the economy. It is proposed that a feasibility study for a comprehensive new legislation on circular economy to be carried out in the medium term after a policy impact assessment of all legislations and policies implemented. Given the scope of the topic, the circular economy and its underpinnings are often defined in different ways by different stakeholders. It is important that, from a regulatory point of view, all definitions are established to ensure a common understanding of novel notions for Mauritius and create a level playing field. As a short-term measure, it is recommended to pass a regulation under the Waste Management and Resource Recovery Act to define all technical circular economy terms for the proper functioning of the law.
Implementing bodies	Leading Actor: MOESWMCC Other stakeholders: Attorney's General Office
Funding option	Government/Donors
Time horizon	MT
Policy P 61: Enhance regional and international cooperation on the circular economy	
Description	This action is to ensure the active participation of Mauritius in regional and international initiatives to promote the circular economy, gathering information and exchanging experiences with special emphasis on the Indian ocean and SADC region. Mauritius will participate actively in various regional and international platforms on circular economy such as the African Circular Economy Alliance. By raising awareness, facilitating collaboration, developing policies and regulations, identifying barriers of trading secondary raw materials, carrying out feasibility studies for management of specific waste streams on a regional basis and supporting waste reduction and recycling initiatives, regional organisations such as the Indian Ocean Commission (IOC) can help promote CE in the region.
Implementing bodies	Leading Actor: MOESWMCC Other Stakeholders: Ministry of Foreign Affairs, Regional Integration and International Trade; Indian Ocean Commission
Funding option	Government/Donors
Time Horizon	ST/MT/LT

6.2 Education and Awareness raising

The most important barrier for a circular economy model is the cultural one. Transition to a circular economy requires a change of mindset of all actors in society through education and awareness raising. The transition will not take place unless more and more people become aware of the risks and impacts of the linear economy and adopt more circular lifestyles. System-

wide change is not possible without a major investment in education aimed at influencing” the next generation” that promote the development of a conscious attitude towards the environment and prepare people to face the challenges and seize the opportunities presented by the transition. The main objectives of the following actions is to establish an education and training policy at all levels of education that enables a circular economy and to also educate and raise awareness of the concept in the public and private sectors.

Policy P62: Identify circular economy initiatives and disseminate widely through a government information platform successful local case of circular economy

Description	A government information platform on CE will be implemented which will identify ongoing circular economy initiatives, contain CE guidelines, information about incentives for entrepreneurs and current support programmes, as well as educational brochures. The platform will enable the wide dissemination of successful local cases of circular economy, narrating their genesis and development trajectories, and characterizing their business models and positive impacts, in order to generate a demonstration effect that encourages others. The platform will also contain a dashboard showing progress towards predefined circular economy targets. The portal will also enable companies to easily locate funding sources they can access to contribute to the circular economy.
Implementing bodies	Leading actor: MOESWMCC
Funding option	Government/Donors
Time horizon	ST

Policy P63: Mandatory circular economy education in primary and secondary schools

Description	Integrating the circular economy concept in the curricula is a fundamental step to introduce children to the concept of circular economy. Doing so, information will potentially penetrate to their parents which will ultimately expand the reach. If the majority of the population understands the importance of a circular economy, it will enhance the implementation of all other policy interventions. Education modules must impart a renewed level of awareness, such as the use of everyday goods and consumer items (with less plastic), everyday electrical appliances (energy saving), judicious shopping (with minimum wastage of items like food), reuse and recycle of goods (upcycling and raw material savings), responsible transport (lower emissions), waste segregation and rational management of resources like water. Children must be introduced to the various frameworks of circular economy (9Rs) and explore how these principles may be attributed to daily experiences. The first and fast option of implementing the circular economy into national curricula for primary and secondary students is to include circular economy topics in existing related courses, such as those that tackle sustainability and environmental topics. A second option is to develop a stand-alone course which might take one or two years to set up and would naturally allow going more in depth. Both options would introduce the students to the principles of the concept, how it offers a solution to rising global and local challenges, examples of best practices, and finally how it can be applied to everyday life. By teaching circularity, this would ideally also contribute to making educational institutions inherently more circular in the long-term. Led by the MIE, the following actions will be implemented: (i) “Train the Trainers” workshops on the fundamentals of circular economy and best practices and international experiences on teaching the concept. An international consultant with expertise in circular economy education and training will be recruited to conduct these workshops and to elaborate the
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	best strategies for introducing circular economy in the curricula at both primary and secondary levels. (ii) Development of educational packages for both teachers and students. A multidisciplinary working group will be created to develop these packages. In addition to experts in the field of education and circular economy, the working group will also comprise experts from other sectors of society, such as business, industry, and the social sector. The course material is anticipated to be freely accessible in an open-source format. (iii) Training and continuing education for teachers: making a sustainable way of life and circular economy issues part of teacher education.
Implementing bodies	Leading Actor: MIE Other stakeholders: Ministry of Education, Tertiary Education, Science and Technology; MOESWMCC; RGSC
Funding option	Government/Donors
Time horizon	ST to MT
Policy P64: Enhance Circular Economy in the School Community	
Description	The objective of this action is to spread knowledge about circular economy and circular habits and practices in the school community through initiatives such as: • Awareness campaigns in schools (and in the community) on circular economy and the 9Rs and publishing content and pedagogical resources on topics related to the circular economy on a specific platform. This action can be led by the RGSC. • Promoting the implementation of science, technology, and innovation contest and activities on circular economy, where groups of students develop applied projects on the subject and practical learning. For example, through the InnoveD or Science Quest projects organized by the NPCC and RGSC respectively. • Promoting the reuse of school supplies such as books, uniforms, etc and promoting the use of free hours of educational establishments for the implementation of participatory activities on circular economy issues, for example, workshops on repairing things, development of school gardens, or the implementation of recycling and composting systems. This can be done through Science Clubs in schools and coordinated by GSC and MOESWCC • Promote the use of digital books and make provision in procurement exercises of textbooks for addendums every year instead of replacing with new editions. • Partnering with NGOs for awareness campaigns on specific topics for ex awareness campaign on food waste with Foodwise and on waste sorting and recycling with Mission Verte , Zero-Waste Mauritius, etc. A special desk at the Ministry of Education will facilitate access of NGOs in schools during the first and second terms through a defined calendar of activities.
Implementing bodies	Leading Actors: RGSC and Ministry of Education, Tertiary Education, Science and Technology Other Stakeholders: NPCC; MOESWCC; NGOs
Funding option	Government/Donors
Time horizon	ST
Key Project KP65: Mandatory circular economy education in TVET courses	
Description	The increasing importance of the circular economy will have a significant impact on the shape of jobs and competencies. In order to identify the needs of the country in the medium and long term, a training needs analysis to identify the specific skills requirement for the circular economy will be carried out by the HRDC in partnership with policy makers, business organizations, networks of HR managers in companies, training organizations, etc. This approach will complement previous studies on green jobs. Based on the results of this analysis, the development of adapted curricula in training will be proposed to training organizations.

	TVET has a critical role to play in the evolution of circular approaches to extend the service life of goods and close the loop. First and foremost, it must meet the demand for higher technical skills and provide crucial support for lifelong learning through upskilling as well as continuous and in-work learning. In addition, TVET needs to equip young people with the relevant entrepreneurial skills and STEM (science, technology, engineering and mathematics) competencies for green jobs in emerging sectors. Sustainability must become a mandatory cross-over topic in vocational education and training qualifications frameworks. TVET institutions must therefore be supported in the development and implementation of green strategies to transform their learning and training environments. This requires an investment in resources such as suitable training equipment, teacher training, resource libraries, and more. This project will develop the capacities of TVET teachers and training staff to implement green and circular economy approaches to skills for employment and entrepreneurship. The project will be developed in collaboration with an international institution specialized in the area and will aim to: (i) develop circular economy teaching materials for vocational training. (ii) develop and implement a Train the Trainer activity for TVET personnel and institutions to adopt approaches to deliver upskilling programmes to graduates on circular economy practices such as repair skills. Suitable training equipment and resources will also be purchased. (iii) implement upskilling programmes targeted at early graduates of vocational tracks and future market entrants, focusing on circular economy principles and how they can be applied in jobs and practices. (iv) create certifications of technical competence recognizing the skills that contribute to the circular economy to enhance the value of these jobs, particularly in the area of repair and reuse of products or artisanal production based on recycled inputs. This will, for example, improve confidence in the quality of repair that repair businesses offer. A “licence” to practice for some specific jobs should also be considered. (v) develop continuing education courses for the general public on circular economy and on reuse and repair.
Implementing bodies	Leading actor: HRDC and MITD Other stakeholders: Polytechnics Mauritius; MCCI; MOESWMCC; MQA
Funding	Government/Donors
Time horizon	ST
Key Project KP66: Develop knowledge related to the circular economy through curricula and research strategies of Higher Education Institutions (HEIs).	
Description	At university level, the fundamentals of the circular economy will be included/updated in the curricula of different careers, through introductory courses for undergraduate and professional degrees, integration of specialized modules in existing curricula and offer of continuing education courses, where appropriate. Specific circular economy topics, such as life cycle analysis, ecodesign, circular business models, industrial symbiosis, repair and remanufacturing will be integrated in relevant curricula. A system of incentives will be devised for universities to introduce research programmes and curricula concerning CE, e.g. subsidies for scientific research, support for subsidizing laboratories/design studios, support for subsidizing the activity of academic associations, competitions for engineering and master's theses on CE. A funding application process targeting universities for incorporation of CE in the curricula of courses will be launched and the institution with the best application will receive the necessary funding. The project will include a deliverable

	for an inventory of the existing offer of circular economy training in HEIs and identify gaps. Teaching materials developed by the selected HEI and used in various courses will be shared with other institutions. The materials will also be used to increase the understanding of circular economy of government officials and teachers. Research funding in HEIs will be directed at cross-disciplinary research projects that promote the circular economy. The Higher Education Commission (HEC) and the MRIC will launch calls for cross -disciplinary research projects to foster the technological innovations required for the deployment of the circular economy and mobilize cross-functional experts. The outcome of the research will be widely disseminated during publications, research weeks or seminars. A Chair on Circular Economy will be set up at one of the HEIs and which will be funded by both the public and private sector.
Implementing bodies	Leading actor: HEC Other stakeholders: MRIC; Ministry of Education, Tertiary Education, Science and Technology; Ministry of Environment; Business Associations; HEIs
Funding option	Government/Donors/Private Sector
Time horizon	ST
Key Project KP67: Education and Awareness raising on Circular Economy in Public and Private sector	
Description	Lack of knowledge of the issues and benefits is identified as one of the main obstacles to the transition to a circular economy. The challenge is to create adhesion from policy makers and business leaders while building their capacity to carry out the required transformations. Training workshops for heads of organizations who can intervene at the policy level and during its implementation and specific courses on CE for government employees will be offered by the Civil Service college and/or the NPCC. Government employees will also be given incentives to follow already available online courses on the topic. A portal hosted by the Ministry of Environment will be created/enhanced with a communication structure that can convey the concept to different audiences using robust examples. In order to encourage as many companies as possible to embark on the path of the circular economy, a network of business leaders on the circular economy will be constituted. This network will ensure the construction of awareness and training action plans for companies. The “Club des Entrepreneurs de L’Economie Circulaire” created by Business Mauritius can be such a network and expand its membership and organize such awareness and training sessions.
Implementing bodies	Leading Actors: MOESWMCC; Business Mauritius Other stakeholders: Ministry of Public service, Administrative and Institutional Reform; Civil service college;NPCC
Funding	Government/Private Sector
Time horizon	ST
Key Project KP68: Dissemination of circular habits and practices	
Description	This action aims to develop a culture that highlights efforts to avoid the impacts of the linear economy and raises awareness about different ways to avoid them, promoting the dissemination of circular habits, and practices and more sustainable lifestyles. Investments in communication campaigns will be made to mobilize citizens in particular regarding sustainable consumption, reuse, repair, recycling, the environmental impact of dumping waste and the sorting of waste at source. • Develop a communication campaign to raise awareness about food loss and waste and promote different strategies to avoid them. A national public awareness campaign, using behavioral science and international best practices such as the Wasting Food: It’s Out of Date and Love Food Hate Waste campaigns in other countries, will draw attention to the serious issues

	resulting from the high volume of perfectly edible food that is wasted, and seeks to change attitudes and behaviors so that food waste can be significantly reduced. It will also provide practical tips for individuals and organizations to reduce their “foodprint”. The campaign will also help consumers understand expiry and best before dates, inform the public about the importance of food donations and healthy diets. In parallel, the project will support food waste awareness programs in school and a capacity building workshop for media on FLW. Resources to be developed during the campaign include campaign flyers, posters, infographics, smartphone apps, t-shirt designs, videos, Case studies, articles, etc. The campaign will have a website which will include these downloadable items. • Develop a communication campaign to promote the repair and reconditioning of home appliances. • Develop a communication campaign to raise awareness about the impacts of fast fashion. • Develop a communication campaign to raise awareness about the impacts of plastic pollution. For example, the association Mission Verte has launched its awareness campaign project entitled “Mauritius Plastic Challenge” and which will be implemented by several stakeholders. This, in order to face the challenges of plastic waste and to promote the importance of recycling this waste to the general public. • Deploy a system of circular economy ambassadors to inform the public more effectively and improve the mobilization of citizens on the circular economy, responsible consumption and waste prevention and management.
Implementing bodies	Leading Organization: MOESWMCC Other Stakeholders: Ministry of Commerce and Consumer Protection; Ministry of Agro-Industry and Food Security; MCCI; Business Mauritius; Foodwise; NGOs
Funding	Donors/Government/Private sector
Time horizon	ST to MT

6.3 Research and Innovation

The transition to a circular economy requires innovation at all levels of society. Moving to circularity requires novel materials and products with new design, new technologies and production processes. Using less material to get the same or higher utility from products is an important part of the shift to circularity. High impact materials like concrete will need to be replaced with low impact ones such as ones made of renewable bio-based resources. But it's not just about materials, innovation in new business and governance models is just as important.

hole value chains and material flows must become circular. Digital innovation will be key to making this happen. Information on products' environmental performance can empower consumers, who will drive the demand for sustainable solutions. Value chain information will facilitate circular collaboration and increase efficiency. Research and innovation is crucial to fill knowledge gaps and develop specific technological solutions.

Policy P69: Promote the development of a line of R&D+i projects on circular economy	
Description	Mobilize the scientific and technical community with a multidisciplinary approach, notably by launching calls for projects financed by the MRIC. Promote the creation of lines of research, development, and applied innovation (R&D+i) with potential to accelerate the transition to the circular economy in the country. Favour R&D support for value chain integrated projects, that is the selection and support level (% subsidised) will depend on the collaboration of actors from different stages of the value chain. • Promote the development of a line of R&D+i projects on valorization of organic residues from the food system. Wasted materials from the agri-food system should be reimagined as valuable resources. This should spur innovation and new products and market development. There is a burgeoning body of research on alternative uses of many types of byproducts, inspiring new business opportunities. • Promote the development of Mauritius' bioeconomy so that bio-based, renewable and sustainably produced raw materials can replace fossil-based raw materials in products and production processes. The integration of the circular economy and bio-economy – research and development must be focused on the search for new materials that are based on natural sources which will replace the existing ones that present a burden for the environment. • Promote the development of a line of R&D+i projects that increase knowledge about the design of goods and services with low environmental impact. • Promote the development of a line of R&D+i projects on the use of digital and advanced manufacturing technologies for circular economy applications. • Promote research and Innovation on Circular Construction. The construction industry has been historically slow to adopt innovation and change, from business models to methods and approaches. Research projects and collaborative initiatives must therefore play key roles in driving innovation, setting up and testing pilots, and discussing and sharing ideas. Research and innovation is crucial to fill knowledge gaps and develop specific technological solutions. This action will promote the development of a line of R&D+i projects for (i) innovative building materials (ii) calculating the added value of circular construction (iii) recycling of CDW (iv) Life cycle assessment (LCA) studies in the built environment (v) Digital applications for circular built environment • Carry out research to determine the carrying capacity of the island and the ecological footprint of the economy • Carry out research to map the circulation of energy and material flows in the country
Implementing bodies	Leading organization: MRIC Other Stakeholders: HEC, HEIs; Government/Donors/Private Sector
Funding option	Government/Private Sector/Donors
Time horizon	ST/MT/LT

Key Project KP70: Launch a circular economy accelerator and incubator programme	
Description	Implement an open innovation challenges program in order to support companies and public organizations in identifying and formulating their challenges in the face of the transition to the circular economy, providing support to bring these challenges to entrepreneurs and innovators who are capable of proposing effective solutions, and jointly generating pilots and validation instances in real conditions. The National SME Incubator Scheme (NSIS) is a scheme initiated by government to encourage the creation of Innovative businesses for the socio-economic benefit of the country through a nurturing and training process in a conducive environment provided by Incubators. It aims at promoting initiation and development of innovative start-ups facilitated by a network of Private Sector- led Accredited Business Incubators. The Circular Economy (CE) accelerator and incubator programme will enable individuals and startups to prototype and develop innovative solutions contributing to accelerate the transition towards Circular Economy in Mauritius. During the program, the selected entrepreneurs work on implementing their solutions and validating their business models, with the support from high-level mentors, experts and a network of impact investors. The programme will provide access to investors through pitching events. This action will include a review of the existing international circular economy incubator and accelerator programmes. Good and innovative ideas will be incubated with grants of up to Rs. 1 million each. The action will include courses on CE (advanced) and business management skills.
Implementing bodies	Leading Actor: MRIC (National SME Incubator Scheme (NSIS)) Other Stakeholders: SME Mauritius; Private sector
Funding option	Government/Private Sector/Donors
Time horizon	ST/MT/LT
KP71: Develop national databases of life cycle inventory	
Description	Currently, there are several dozen ways of calculating the environmental impact of products and several hundred types of environmental labels used worldwide. In this situation, it is difficult to clearly define what an environmentally friendly product is and how one can compare individual products, considering their environmental impact. At the same time, the competitive position of a given product and the company's position on the market may depend on the adopted method of calculating the environmental impact of their product. LCA (life-cycle assessment) is one of the approaches to assessing the environmental impact of a product or business activity. This action aims at developing information systems for modelling the local environmental impact of goods and services. It will create broad and easily accessible national information systems that allow quantifying the environmental impacts of goods and services through their lifecycles, ensuring they have permanent support and resources to ensure their continued development and update in time. It will gather available data on indicators of environmental relevance (e.g., use of material resources, water and energy, carbon footprint, generation of waste, etc.) and use the information to accelerate progress in the areas of the ecodesign and ecolabelling. It will also develop a national database of life cycle inventory that serve as open repositories of information on the total impacts of energy and resource use, waste generation and emissions, expressed in multiple categories of impacts (e.g., climate change, ozone layer depletion, human toxicity, acidification, land use, among others); to enable manufacturers, designers and developers of products, services, and processes to make design decisions based on life-cycle impact considerations. This action will also develop information and educational materials concerning the calculation of the environmental impact of products and economic activities based on the recognized methodologies. Necessary softwares will be purchased and capacity building sessions on Life Cycle Assessment organized.

Implementing bodies	Leading Actor: MOESWMCC Other stakeholders: MRIC, Academia, Statistics Mauritius, Business and Professional Associations
Funding option	Government/Donor
Time horizon	ST to MT

6.4 Business Support

In order to increase access to new markets and enhance competitiveness, enterprises will benefit from focusing on the development of circular solutions and services. Enterprises may improve their business by designing products and components in a way that they have a long useful life and are readily repaired, reused, and recycled. Enterprises may create more value from the same volume of materials, for instance through more efficient use of materials in their production, sharing economy, remanufacturing, and product-as-a-service models under which they sell the access to using products, while the enterprises maintain ownership of them. The circular economy also seeks to extend the useful life of products and materials. In this context, it seems crucial to act upstream, during the design and production of goods put on the market. This through methods such as eco-design which aims to reduce the ecological impact of a good or a service throughout its cycle of use, or even the modular design which makes it possible to produce modular goods, resulting from the assembly of components that are easily separable, repairable and replaceable to ensure low-cost maintenance.

For many enterprises, especially for SMEs, it is difficult to realise the potential of the development of a more circular business model. This is due, among others, to lack of knowledge, time constraints, sufficient venture capital, and to the fact that it may be relatively more cost-intensive for small enterprises to go through the transition. It is important to design policy instruments that contribute to profitable circular business models. Therefore, the following actions will be launched to strengthen enterprises as the driving force for circular transition.

Key Project KP72: Create a Business Support Institution that will act as a Circular Economy Hub	
Description	A business support institution (similar to ADEME in France or to National Cleaner Production Centers found in several emerging economies) is needed that would provide technical support, advisory, training, seed grants and demonstration of best practices in the area of Circular Economy to businesses. Such an institution would provide the following services. • Raise awareness of the benefits and advantages of Resource Efficient & Cleaner Production (RECP) and Circular Economy. • Demonstrate the environmental, financial and social benefits of RECP and circular economy through in-plant audits and assessments and demonstration projects. • Promote the development of a community of practice around the theme of ecodesign, which facilitates learning about life cycle analysis, ecodesign methodologies and practices, and their application to the local context; provide access to specialists in the area. • Develop national databases of life cycle inventory that serve as open repositories of information on the total impacts of energy and resource use, waste generation and emissions, expressed in multiple categories of impacts to enable manufacturers, designers and developers of products, service and processes to make design decisions based on life cycle impact considerations. • Help obtain financing for RECP and Circular Economy investments. • Provide policy advice to the government.

	• create enabling frameworks for private innovation efforts. • disseminate technical information and best practices. Such a business support institution would provide technical support and advisory services to businesses to develop circular economy business models. This business support institution will also serve as a platform to engage all stakeholder groups. This center can become a member of the United Nations Industrial Development Organisation and the United Nations Environmental Programme's global RECP network and collaborate with ADEME.
Implementing bodies	Leading Organization: MOESWMCC will lead the discussion with potential donors to identify the most suitable organization to host this institution. Other Stakeholders: Ministry of Industrial Development, SMEs and Cooperatives; Business Mauritius; MCCI; MRIC; NPCC
Funding	Government/Donors
Time horizon	ST to MT
Key Project KP73: Set up a working group on transforming business models	
Description	The transition to the circular economy of companies does not only involve changes in techniques, but also by redefining business models; that is, how these organizations produce, deliver and capture value. There are novel circular business models in companies, which means that products are rented out or leased, can contribute to increased incentives for products to be shared, designed and manufactured so that they can be reused, repaired or update and thus rent out for a longer period of time. However, the transformation of business models can encounter significant obstacles such as (i) a lack of knowledge makes them undesirable in the face of a model established and known; (ii) the need to thoroughly rethink the organization of the company's activity, which may be costly in terms of time and resources, and uncertain in its effects; (iii) consumer reluctance or inappropriate behavior that damages shared goods and (iv) the obligation to develop new know-how, for example in terms of eco-design, logistics or repair. To remove these obstacles and support the transformation of existing companies, this action sets up a working group dedicated to circular economic models led by an expert in circular business models. Bringing together entrepreneurs, trainers and policy makers, this group will act as a coordinating body to promote and support the transition to these models, through: • the selection and provision of relevant knowledge and content: concrete examples of business models, awareness-raising and training materials, methodological guides, etc. • the promotion of the integration of circular business models in the curricula of HEIs. • the training of trainers to integrate circular models into existing tools for sustainability training and build a network of consultants able of advising companies in the transition; • the organization of awareness-raising and training actions to highlight and facilitate the incorporation of circular business models. • the development of a circular toolkit for good practice and guidance on setting CBMs. The circular toolkit will be a practical guide that provides insight, examples and hands-on tools to help business transition to the circular economy. The guide will help businesses identify circular opportunities in the local context and design business models. The guide will: (i) describe the rationale for why circular economy is relevant in the local context. (ii) identify circular business models with highest value potential per sector. (iii) outline required organisational and operational changes (vi) provide a blueprint of a transformation journey for companies to achieve circular advantage.

	• Develop a taxonomy of circular business models and metrics defined that measure the environmental and social impacts of new business models. • Review economic and fiscal instruments used worldwide by different countries to incentivize a shift toward circular business models. Design policy instruments that contribute to profitable circular business models.
Implementing bodies	Leading actor: Business Mauritius Other stakeholders: NPCC; MCCI, MOESWMCC; Ministry of Finance, Economic Planning and Development; EDB
Funding	Donors/private sector
Time horizon	ST
Key Project KP74: Promote the development and use of tools for the diagnosis and measurement of circularity at the organizational level	
Description	This action will promote the development and use of tools for the diagnosis and measurement of circularity at the organizational level of which some already exist. (e.g. Circulytics from the Ellen Mac Arthur Foundation or the Circular Transition Indicators (CTI) Tool published by the World Business Council for Sustainable Development (WBCSD)). These consider process indicators (existence of information systems, enabling organizational structures, etc.) and results indicators (reduction of the use of resources, reduction of waste generation, increase in recovery rates, etc.), and that enable the identification of priority areas for improvement. It is important to consider that, currently, the availability of standards that define what requirements a project, product, service, process, company, etc. must meet to be considered “circular” is scarce, being far behind other areas of sustainable development such as, for example, the calculation of greenhouse gas emissions, where for many years there have been international standards tested in real life experiences. However, this is changing rapidly. For example, in 2018, the ISO/TC323 Committee was constituted, which is developing a set of six standards for the circular economy, which are expected to be published soon. One of these standards (ISO / WD 59020.2 Circular economy - Measuring circularity framework) refers to a framework for measuring circularity.
Implementing bodies	Leading actor: Business Mauritius Other stakeholders: MCCI; MSB; EDB
Funding	Donors/Private sector
Time horizon	ST to MT
Key Project KP75: Promote the development of a community of practice⁵⁴ around the theme of eco-design in product development.	
Description	Promote the development of a community of practice around the theme of ecodesign in Mauritius, which facilitates learning about life cycle analysis, ecodesign methodologies and practices, and their application to the local context; provide access to specialists in the area and highlights local advances in the field through the visibility and dissemination of the most notable projects. This action will build on the Eco-design program which is a collaboration between AMM and Qualitropic from La Reunion
Implementing bodies	Leading Actor: Ministry of Industrial Development, SMEs and Cooperatives (Industrial Development Division) Other stakeholders: MCCI; AMM; Business Mauritius; HEIs; SME Mauritius Ltd.
Funding option	Government/Donors/Private sector
Time horizon	ST

⁵⁴ A group of people who share a common concern, a set of problems, or an interest in a topic and who come together to fulfill both individual and group goals. Communities of practice often focus on sharing best practices and creating new knowledge to advance a domain of professional practice.

6.5 Public Procurement

On 31st March 2023, Cabinet agreed to the recommendations contained in the Greening of the Public Sector Report commissioned by the European Union under the ‘Switch to Green’ Facility. The objective is to encourage public organisations to green their activities through the adoption of sustainable consumption practices.

By imposing precise purchasing criteria, public procurement can transform the characteristics of goods and services produced by companies and stimulate innovation. It also contributes indirectly to the evolution of the economy by facilitating the emergence of a critical mass of demand, encouraging producers to respond. However, procurers often lack knowledge about how to incorporate relevant circular requirements for suppliers and how to design tender documents to promote circular products and services. In addition, procurers often lack knowledge about the economic and environmental benefits associated with procuring circular solutions. Finally, the dialogue between procurers and enterprises ahead of a purchase or a tender is often limited, as there is also a lack of tools making it easier for procurers to set the relevant circular requirements. The approaches to circular public procurement can be grouped/categorized as follows:

1. Procurement of improved products and services by adding “circular criteria.” ex recyclability; share of recycled materials; etc.
2. Procurement of new and innovative products, services and materials promoting circular economy-based business ex long life span and repairable products
3. Procurement of services and new business concepts-ex using leasing and rental business models instead of buying products manufactured from non-renewable raw materials.
4. Procurement promoting circular ecosystems-ex construction projects with closed material loops
5. Disposal of Public Assets in accordance with circular economy principles

The objective of the following actions is to leverage the purchasing power of government to encourage the development of the circular economy. Circular economy principles and criteria can be applied to purchase of various products and services and to the disposal of public assets. Circular Economy Labels and Information Schemes can play an important role in fostering circular economy activities.

Policy P76: Create a national policy on circular public procurement, build internal capacity, develop circular criteria, pilot circular tender processes and mainstream circular procurement	
Description	It is important to set and communicate the level of ambition by creating a circular procurement policy or incorporating circular economy principles into existing sustainable public procurement policy. This will ensure it is visible as a priority. A working group comprising experienced procurement officers in different fields will be set up and will be trained as trainers by experts on green/circular public procurement. They will be the champions for circular public procurement and advise on future tender exercises. The group will learn from other countries and identify international opportunities for cooperation on circular public procurement. The European Green Public Procurement (GPP) agenda has reached a level of maturity

	and it is recommended to have a close collaboration with the EU for the training (for example using the Green Public Procurement Training Toolkit). The working group will conduct market research and collect data and conduct market dialogues and identify low-risk pilots to embed circular economy considerations in upcoming tenders. For example, in the 2022-2023 budget speech it was announced that “a margin of preference will be provided for products manufactured from recycled products.” There is a need to speed up implementation of this measure and put it in practice in public procurement, but consultations and market dialogues need to be conducted. Once the foundations have been laid, public procurement officers in collaboration with the working group can work on setting circular criteria and requirements and review standard bidding documents rewarding circularity to ensure that more circular products or services have equal chances in tender procedures. With the help of consultants and the working group, guidance and toolkits for public procurers to include circular criteria in key sectors for the circular economy...such as construction; transport; food and catering, textiles, cleaning products, paper and ICT equipment will be prepared. The creation of sector-based guidance material would broaden the perspective of the procurers. Clear circularity criteria can encourage the procurement of improved products or to promote new business models. The development of circular criteria is an ongoing process and the market dialogues conducted ahead of the tender will help to define what criteria and requirements suppliers can presently realistically respond to. The level of ambition will be raised over time by gradually raising the minimum requirements, as more circular options become available on the market. Procurement criteria will be about increasing durability, resource efficiency, reuse, recyclability, refurbishment and to buy recycled. It is important to consult with the market to find the right ambition level for the criteria. Training courses will be delivered by the working group. Following the above steps, public procurement officers in collaboration with the working group can pilot tenders that incorporate circularity considerations, allocating resources for the analysis of results and the dissemination of learning. The pilots will provide tools for circularity evaluation-for ex tools for life cycle cost (LCC) or total cost of operation (TCO). High consideration must be given to the concept of “Return on Investment” or “Value for Money” which is the achievement of a desired procurement outcome at the best possible price - not necessarily the lowest price - based on a balanced judgement of financial and non-financial factors relevant to the procurement. As the government starts to procure more circular goods and services, project managers and public procurement officers will gain expertise in circular public procurement activities. By sharing lessons learned and best practices, the process can be replicated across departments and spend categories. The lessons learned from the pilots and engagements with the relevant stakeholders can inform a national circular public procurement strategy and a review of the regulatory framework. It will also inform future training for staff.
Implementing bodies	Leading actor: MOESWMCC (Department of Solid Wastes) Other stakeholders: PPO, Ministry of Finance, Economic Planning and Development
Funding option	Government/Donors
Time horizon	ST
Policy P77: Review Financial Instructions for Disposal of Public Assets in accordance with circular economy principles	
Description	The objective is to strengthen the capacity of government departments in asset disposal management and public assets’ disposal towards sustainable procurement. The disposal of assets after their end-of-use is often considered the end-stage in the

	procurement cycle. Assets disposal in a public organization is its capacity to attach reusable value to its assets at their end of life. It is an area where significant improvements can be made to the public procurement process and has the most potential for sustainable procurement practice. The Financial Instructions of 2012 for Disposal of Unwanted Goods and Board of Survey in the Financial Management Kit will be updated and provide clear guidelines and practical advice regarding the disposal of public assets in accordance with circular economy principles. It will provide an understanding of the disposal process, including methods of disposal. The government's social, economic and environmental policy objectives and the promotion of fair, ethical and effective competition will be considered when determining the disposal method. The procurement department needs time to conduct market research, develop an appropriate disposal strategy, and generate requests for offers. Some disposal methods, which are to be considered, are outlined below: • Transfer to another Government Entity. Public authorities should consider whether the assets can be utilized by another state government entity prior to considering other methods of disposal. • Trade-In may be an effective way of achieving cost savings through a reduced price on new assets. Trade-ins allow for upgrading of equipment where existing technology may be outdated and is no longer cost effective. In some cases, provision can be made in the contract to have the assets disposed of at the end of their life by the supplier. • Tender or Written Quote. Public authorities may wish to sell assets by tender or written quote. Sale by tender can be an effective option for the sale of high value or unusual assets. • Public Auction. Sale by public auction may be a cost-effective method of selling assets whilst maximising the opportunity for public participation. Public authorities should consider any costs associated with undertaking an auction in relation to the expected revenue. • Donations. Public authorities may dispose of assets by way of donation to charities, social enterprises or other similar initiatives as deemed appropriate by the public authority. • Recycling - Public authorities can dispose of assets through destruction/recycling if no future social, economic or environmental benefits are expected from its use or disposal. • Employees. Purchase by employees through appropriate channels
Implementing bodies	Leading Actor: Ministry of Finance, Economic Planning and Development Other stakeholders: PPO; MOESWMCC
Funding	Government
Time horizon	ST

6.6 Greening of Fiscal policies and Financing

The transition towards a circular economy is hindered by the presence of “linear” regulations, markets, investment tools and practices. These obstacles prevent the economy from reflecting the true cost of negative environmental externalities in the market price of goods and services. Presently, only 5% of materials are recycled. The relatively low price of raw materials whose negative externalities are not priced by commodity markets, allows for the linear economy to be profitable for many actors, products and materials. The costs associated with the recycling of various waste streams is often higher than the price of primary materials thereby distorting competition. In this report, incentives are defined as any type of instrument implemented by financial or non-financial policy makers with the goal to stimulate circular economy. Incentives are necessary to address these distortions and make the circular economy profitable. Hence, a

number of incentives relate to waste management and recycling activities given their instrumental role in speeding up the transition towards a more circular economy by increasing the uptake of recycled materials in manufacturing and substituting primary materials. The wider focus on incentives focuses on these activities as well as on the repairability, re-usability or recyclability of products. These incentives are also instrumental to enable consumers' preferences for sustainable products. Making the economy (more) circular also means more fundamental changes where the needs are not expressed as material needs, but as functional needs. This translates for instance in new business models where services replace product ownership, for instance.

Since incentives aim at correcting different market failures or obstacles hampering the transition towards a more circular economy, a number of them are more efficient when used in combination. For instance, incentives which increase the price of final disposal (e.g. tax on landfill) to support the implementation of the waste hierarchy and incentives that stimulate the demand for recycled materials (recycled content obligations, tradable recycling credits⁵⁵) or ease market access and reward quality (end-of-waste criteria) contribute to a well-functioning market for secondary raw materials.

To increase access to financing for circular business models, there is a need to support financial innovation and entrepreneurial skills development.

Policy P78: Adapt taxation for a circular economy	
Description	This action concerns firstly the carrying out of a strategic fiscal policy assessment to assess the contribution of fiscal measures to the circular economy. This analysis must first make it possible to quantify the weight of green/circular taxation in the entire tax system. The government spent an estimated 0.75% of GDP on environmental programmes in 2012. Key green fiscal policy measures include fuel and motor vehicle taxes, fiscal incentives for green investment in the energy sector and a number of smaller environment related taxes and fees such as a road tax, a registration fee for imported vehicles, a fee on polyethylene terephthalate bottles and plastic products an environmental protection fee applied on certain products and services and other minor charges. Beyond the quantitative evaluation, this study will make it possible to highlight the taxes and tax credits that contribute to the transition and those that inhibit it, and to propose changes in the tax systems in order to strengthen incentives for economic actors. In the short term, the orientations defined by the previous action will result in an adjustment, a “greening” of the tax system in force in Mauritius, with the aim of strengthening taxation environmentally harmful activities and to increase support for activities that fall within the scope of the circular economy, to encourage changes in behavior and the reallocation of resources. In the medium to long term, policymakers should review the impacts of taxation on resource efficiency and, when possible, consider shifting taxation toward resource use. To prevent the total tax burden from rising, increases in taxes on the use of materials can be accompanied by reductions in the taxation of labor, stimulating new, circular activities that create jobs and contribute to more inclusive economic growth.
Implementing bodies	Leading organization: Ministry of Finance, Economic Planning and Development Other stakeholders: MOESWMCC; EDB
Funding	Government/Donors
Time horizon	ST to MT

⁵⁵ Similar to carbon credits, plastic credits are certificates that can be traded, and they represent a defined amount, typically one metric ton, of plastic waste that has been recycled, removed from the environment as litter, or prevented from entering the environment.

Policy P79: Introduce economic incentives for increasing circularity in economic sectors	
Description	Many circular economy solutions are prevented by market failures that make circular activities economically unfeasible. It can be the price of virgin materials, non-existence of the market with secondary materials, lack of knowledge and information about the economic potential of circular solutions. In this situation signals can be given to private actors by providing financial stimuli. Introduce economic incentives (such as grants, lower VAT, subsidies, etc) for • A circular built environment (i) subsidies for investment in CDW recycling plants and a tax rebate for CDW processing equipment (ii) Use of recycled materials (recycled aggregates, recycled plastic bricks/ flooring materials, etc) in construction projects (iii) Use of regenerative, renewable and low carbon materials/innovative materials such as timber and bio-based materials. Mass timber is a more sustainable building material than concrete and its use is an opportunity to develop the bioeconomy and create a new supply chain in the industry. (iv) Companies allowing users to rent under-used spaces or assets or enabling waste exchanges through online platforms (v) schemes subsidising reconstruction of buildings could have the condition to apply circular principles, methods and products. (vi) construction projects that adopt green rating systems • Reuse and Repairs (i) Examine the feasibility of providing a repair bonus. This bonus funds up to 50% of the total cost of a repair up to a maximum for electrical appliances. Consumers apply to be reimbursed once the repair is done and an invoice has been paid. (ii) It is recommended, as a short-term action and pending the introduction of the bonus for repairs, to reduce VAT on repair services for bicycles, shoes, leather goods, clothing and household linen. In addition, consumers are to be encouraged to repair specific household appliances (fridges and washing machines) by allowing them to deduct 50% of the labour cost off their income taxes. This will send a strong signal to consumers and to the market on the commitment of government for a circular economy. (iii) VAT reduction and/or subsidies on air freight for importation of spare parts to make repair costs affordable. (iv) Reduced taxation for innovative companies involved in Reuse and Repair of goods. Trade codes at the Registrar of Companies should enable us to distinguish between different trades. • circular waste management (i) Review the incentives for diverting waste from the landfill taking into account the cost of SWM for the public sector (about Rs 3400 per ton of waste) (ii) A landfill tax on construction, demolition, and commercial/industrial waste disposed at a transfer station. A total cost of Rs 1140/ton of waste is estimated to be the hidden cost incurred by the public sector to sustain the management of industrial waste.⁵⁶ (iii) Increase funding opportunities to set up recycling companies or to maintain up to date facilities with advances in recycling technologies

⁵⁶ PAGE (2021), Industrial Waste Management – Cost Structure Review in the Republic of Mauritius (2021 IWM-CSR).

	through tax credits, sustainable loans, subsidies, specific lines of credit, etc. The available funding sources should be compiled and shared on a website. (iv) Gradually ban the sending of specific waste streams to landfill as alternatives become available. (v) Lower VAT on products with a minimum % of recycled content (vi) Removal of VAT on all waste bins produced locally and “Made in Moris” certified and to reduce VAT by 50% on imported bins used for segregation of wastes. (vii) Subsidies -ex (i) a scheme for local plastic recyclers similar to the existing one for PET collectors and exporters (Rs 15/kg) (ii) a bonus system for integrating recycled material in products. An example is the OrPlast system in France (“Objectif Recyclage Plastiques”). It is a financial incentive policy launched to support and increase the use of recycled resins by plastic producers, and regulate the market of recycled resins (cost, supply, demand). The support provided is divided into three pillars: Financial support for feasibility studies and assessments for the integration or increase of recycled resins use; Financial support for investing into a sustainable production process; Support for the supply to guarantee a competitive cost. The financial policy is implemented as a call for project for companies. Submitted projects must respect a number of criteria such as use of recycled resins in addition or as a substitute for virgin resins. The direct beneficiaries of the good practice are plastic producers. The second indirect beneficiaries are the plastic recycling companies benefitting from the demand growth. (viii) Grants for research projects (ix) Subsidies for construction of recycling facilities/first market applications of new technologically advanced recycling plants
Implementing bodies	Leading actor: Ministry of Finance, Economic Planning and Development Other stakeholders: MOESWMCC; EDB
Funding	Government/Donors
Time horizon	ST to MT
Key Project P80: Expand access to financing of Circular Business Models	
Description	Circular business models are newer and require seed funding to convert them into successful and sustainable businesses. Financing such as seed and growth capital to grow and scale new and existing circular economy business models is limited and is predominantly provided by governments, NGOs, and a few global DFIs. This is because these business models are relatively unknown and are therefore deemed as riskier and more complex than linear economy business models. Developing widely acceptable metrics that both private and public financial institutions can use to assess the circularity of businesses, providing innovative tailored financing mechanisms for circular businesses. (i) The following initiatives with regard to the financial/banking sector will be undertaken: • Set up a Circular Economy Finance Support Platform to enhance the link between existing financial instruments and potentially develop new financial instruments for circular economy projects. This platform will bring together the relevant Ministries, DBM, Business Mauritius, Mauritius Bankers Association, institutional investors and other stakeholders. This platform can be supported by an expert group for advice. • Provide technical support to local banks for the identification of circular economy projects and the characterization of their environmental benefits, risks, and business models, etc., and the definition of funding priorities in the topic.

	• Develop circular criteria relevant to the national context that banks should use in assessing funding applications. • Develop due diligence frameworks and metrics that allow businesses and financiers to assess the circularity potential and impact of their business practices and/or production processes. The Ministry of Financial Services and Good Governance is in the process of developing an Environmental, Social and Governance (ESG) framework that would guide businesses to make impactful investments in projects and this framework can include circularity aspects. • Conduct studies on the return on investment (ROI) of transitioning to a circular economy to showcase its viability as an approach to sustainable business and investment. ROI in a particular project is normally worked out by the project promoter and reviewed/assessed by financing institutions. Studies can be conducted on ROI when shifting to circular business models. (ii) The following initiatives with regard to the SME sector will be undertaken: • Promote, through grants and other mechanisms, the development of a broad base of SMEs operating under the logic of the circular economy, that is , that adopt circular strategies and business models to offer products with less socio-environmental impacts than the alternatives available in the market, and services that support the transition. • Lack of advisory services etc. is stated as a barrier to the development of circular business models. Lack of knowledge and resources is a huge challenge for SMEs when incorporating circular economy into their core business and strategic management. To overcome these barriers a national effort will be launched to promote circular business development, implementation, and upscaling of circular business models in SME s. Concretely, a programme will be established under which enterprises are offered 50 percent co-financing for the procurement of consultancy from private experts about where and how they may development, implement, and upscale circular business models and, if necessary, also co-financing of the procurement of supporting machinery and equipment. This is to give SMEs access to exactly that knowledge and those resources that can help them convert their enterprise to the use of a more circular business model. The Ministry of Finance, Economic Planning and Development and the Ministry of Industrial Development, SMEs and Cooperatives will work together and secure financing from international financing bodies for the procurement of consultancy and support the finance of acquisition of machinery and equipment for SMEs to develop circular business models. • Provide technical assistance to equip SMEs with the skills and documentation required to access funds designated for a circular economy, as well as skills to iterate and improve their innovations to make their business models more bankable. The business support institution to be set up will provide this technical assistance. • Channel international impact investing funds towards national projects of circular economy with high potential and scale-up financing needs. The Ministry of Financial Services and God Governance is in the process of developing an Environmental, Social and Governance (ESG) framework that would guide investors to make impactful investments in projects. Through the ESG framework it would be possible to assess and monitor projects to ensure they are really fulfilling the ESG considerations • Corporate-driven CSR financing: Most circular SMEs in Mauritius are solving most of the externalities posed by the corporates. Corporates need to support circular SMEs. Corporates should be encouraged to establish partnerships with SMEs tackling their externalities through different support mechanisms: finance, infrastructure development or capacity building (accelerators/incubators).The
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	Ministry of Finance, Economic Planning and Development can advise on the use to be made of CSR resources as a matter of policy. Engage multilateral DFIs to establish innovative financing products and adopt proactive circular economy credit policies and lending strategies.
Implementing bodies	For the banking/financial sector Leading organizations: MOESWMCC and Business Mauritius Other Stakeholders: Ministry of Finance, Economic Planning and Development, Ministry of Financial Services and Good Governance, DBM; Bank of Mauritius; Mauritius Bankers Association; EDB For the SME sector: Leading Organization: Ministry of Industrial Development, SMEs and Cooperatives (SME Division) Other Stakeholders: Ministry of Finance, Economic Planning and Development, MOESWMCC, DBM, SME Mauritius (Ltd); Business Mauritius
Funding	Government/Donors
Time horizon	ST to MT

7. INDICATORS FOR MONITORING THE CIRCULAR ECONOMY

7.1 Introduction

Monitoring the circular economy will enable informed decision-making and form the basis for relevant strategy modifications in light of achievements. **Indicators are here to inform, educate, monitor, and report.** They serve different purposes for its users. These may include informing policy design, monitoring policy outcomes, or tracking progress towards a target. **Some indicators will measure circular economic transition, while others measure the impact of the transition.** Some will provide insights into the processes taking place in an economy, while others provide a picture of the outputs and changes in that economy.

A recently published review of literature has revealed more than 100 different definitions of circular economy, reflecting that there is no uniform understanding of the term although many

do converge towards a similar scope⁵⁷. This is also reflected in the existing monitoring systems and the very diverse academic suggestions on how the circular economy should be measured. Many efforts have recently arisen to develop circular economy metrics for public or private sector use. Together with a variety of challenges ranging from current limitations in indicator coverage to data availability and collection, **the circular economy indicator field is still on its way towards maturity**⁵⁸. As a result, interested stakeholders looking to adopt circular indicators for policy and reporting needs have to conduct their own research and draw their own conclusions on which indicators would be most meaningful. This chapter aims at recommending a set of circular economy indicators relevant for Mauritius.

7.2 Overview of key circular economy indicators

7.2.1 European Commission Circular Economy Indicators

The EU and its member states can currently be considered one of the most active regions globally in the development of circular economy indicators. Within the EU, Eurostat has been tasked with collecting statistical information from EU member states. In 2018 the EC approved a set of 10 macro-economic circular economy monitoring indicators grouped under 4 thematic areas to monitor progress and assess the effectiveness of action towards the circular economy in the EU and its member states.⁵⁸ These are summarized in Figure 7.1.

⁵⁷ Masi, D. et al., 2017. Supply chain configurations in the circular economy: a systematic literature review. *Sustainability*, 9(9), 1602.

⁵⁸ PACE (2021). Circular Indicators for Governments. Platform for Accelerating the Circular Economy.

Circular economy monitoring framework

1 EU self-sufficiency for raw materials

The share of a selection of key materials (including critical raw materials) used in the EU that are produced within the EU

2 Green public procurement

The share of major public procurements in the EU that include environmental requirements

3a-c Waste generation

Generation of municipal waste per capita; total waste generation (excluding major mineral waste) per GDP unit and in relation to domestic material consumption

4 Food waste

Amount of food waste generated

7a-b Contribution of recycled materials to raw materials demand

Secondary raw materials' share of overall materials demand - for specific materials and for the whole economy

8 Trade in recyclable raw materials

Imports and exports of selected recyclable raw materials

5a-b Overall recycling rates

Recycling rate of municipal waste and of all waste except major mineral waste

6a-f Recycling rates for specific waste streams

Recycling rate of overall packaging waste, plastic packaging, wood packaging, waste electrical and electronic equipment, recycled biowaste per capita and recovery rate of construction and demolition waste

9a-c Private investments, jobs and gross value added

Private investments, number of persons employed and gross value added in the circular economy sectors

10 Patents

Number of patents related to waste management and recycling

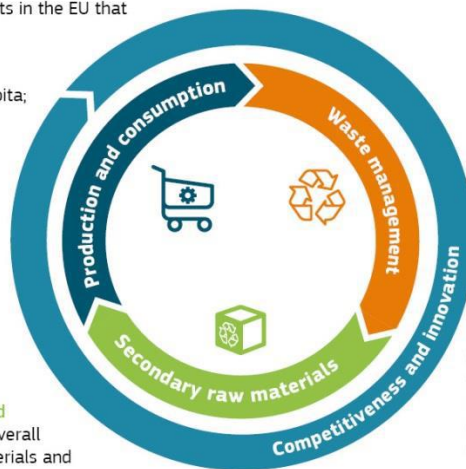


Figure 7.1: Overview of EU circular economy monitoring framework consisting of 10 circular indicators⁵⁹

7.2.2 The Bellagio Declaration Indicator Groups

Acknowledging the need to further develop the EU's framework, in early 2020 the Bellagio Process 'monitoring progress in Europe's circular economy' was launched, led by the Italian Institute for Environmental Protection and Research (ISPRA) and the European Environment Agency. The aim of the Bellagio Process (see Figure 7.2) has been to consolidate key principles and identify areas for future work to improve circular economy monitoring, with the initiative designed as a process of discussion and consensus building on 'What to Monitor' and 'How to Monitor'. **The set of seven Bellagio Principles resulting from this process capture essential elements of a monitoring framework for the transition to a circular economy.** They will form the basis for further developments around indicators and monitoring frameworks in support of the EC's second circular economy Action Plan. In addition to the launch of a set of core principles, the Bellagio Process has highlighted the need to complement macro-level indicators with indicators at meso and micro-level, to better understand processes within the economy, as well as to identify changes in 'push and pull' stakeholders who may facilitate circular transition. It also acknowledges that a good monitoring system encompasses the economy, its processes, and its impacts on people and the environment, within and beyond its jurisdictional boundaries.

⁵⁹ PACE (2021). Circular Indicators for Governments. Accelerating Action in the circular Economy.



1. Monitor the circular economy transition

Monitoring the transition towards a circular economy needs to holistically consider all relevant initiatives—public and private—across the economy. It should capture the full extent of changes happening to the material and waste flows, products over their lifecycles, business models, and consumer behavior, including the economic, environmental, and social dimensions of these changes.



2. Define indicator groups

A robust monitoring system for the circular economy transition should include:

- Material and waste flow indicators to monitor changes throughout the material lifecycle, including resource efficiency dimensions
- Environmental footprint indicators to capture the impact across the full lifecycle of products and materials, so that spill-over effects are assessed, and planetary boundaries are respected
- Economic and social impact indicators to capture positive as well as negative impacts that may occur during structural changes of the circular economy transition
- Policy, process, and behavior indicators to capture the implementation of specific circular economy policy measures and initiatives, in particular for key sectors



3. Follow indicator selection criteria (RACER)

Indicators included in a transparent monitoring framework for the circular economy transition should follow RACER criteria: Relevant, Accepted, Credible, Easy to monitor, and Robust

However, development of innovative, experimental indicators should also be encouraged, even if not all RACER criteria may initially be fulfilled



4. Exploit a wide range of data and information sources

The data underpinning a monitoring framework for the circular economy transition may consist of:

- Official statistics from the European statistical system or national statistical offices, other data produced by EU institutions, national or local authorities, as well as from international organizations—exploiting and integrating official information sources
- Policy information—tracking policy developments and implementation including qualitative assessments
- New data sources—exploiting new information sources beyond official statistics, such as data from the private sector and trade associations, research models, or from new applications of digital technologies



5. Ensure multi-level monitoring

Monitoring should capture changes happening across all levels of the economy. It should address both public and private sector stakeholders, and different governance levels from global to local. A well-defined monitoring and governance structure is required to promote the development of coherent metrics that capture the multiple dimensions of the circular economy transition



6. Allow for measuring progress towards targets

Monitoring circular economy implementation should help assess progress to relevant policy targets and objectives, thus helping inform if the right policies are in place and well implemented, or if corrections or new policies are needed



7. Ensure visibility and clarity

A well-designed circular economy monitoring framework will inform policymakers, stakeholders and citizens. Appropriate indicators as well as user-friendly methods of communication, such as dashboards, should therefore be identified.

Where possible, open data principles should be followed, with data being made fully and freely available.

Figure 7.2: The Bellagio Principles, encompassing seven principles for monitoring circular economy transition⁵⁹

7.2.3 OECD Circular Economy Indicators

OECD has prepared an inventory of 474 circular economy indicators classified into environmental, governance-related, economy and business, infrastructure and technology and society, with the major share going to environmental and governance-related indicators⁶⁰. The indicators have been further classified based on their relevant sectors namely air, built-environment, energy, food, public administration, resources and materials, reuse, repair, share, waste, water, not-sector specific and other (agriculture, culture, forest, industry, land use, mobility, textile and tourism). The list of indicators is available on <https://www.oecd.org/cfe/cities/InventoryCircularEconomyIndicators.pdf>

7.2.4 SDG 12 indicators

Launched in 2015 as part of the United Nations' Sustainable Development Goals (SDGs), SDG 12 is concerned with responsible consumption and production patterns. SDG 12 consists of a monitoring framework with 11 targets and 13 indicators. Of those, at least partial data availability for tracking progress in the UN's SDG Tracker is achieved for only six of the 13. Most importantly, SDG 12 aims to achieve the sustainable management and efficient use of natural resources by 2030, shifting away from the current 'take-make-dispose' culture to a more circular approach—although current global resource consumption trends do not align with such a goal (UN, 2018). SDG 12 indicators with at least partial global data availability, which are also commonly used in circular economy indicator sets, include the following:

- Indicator 12.2.1: material footprint, material footprint per capita, and material footprint per GDP.
- Indicator 12.2.2: domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP.
- Indicator 12.5.1: national recycling rate, tons of material recycled.

It should be noted that, the UNEP, through the International Resource Panel (IRP), maintains a Global Material Flows Database with material flows and resource productivity⁶¹ data. Recently, together with Eurostat and the IRP, it developed a global manual on so-called economy-wide material flow accounts, providing guidance to experts in national statistics offices on how to build capacity at the national level and report progress towards the relevant SDG indicators.

7.2.5 Country-level efforts

In addition to the EC's efforts to develop circular economy indicators, a number of EU member states have started acting on circular economy indicators to advance thinking and development. Examples include the Netherlands, with the Netherlands Environmental Assessment Agency having a dedicated program for the development of a comprehensive set of circular economy targets and indicators at national level⁶².

In 2017, the French Government developed 10 indicators for circularity, and these have since been improved by the Ministry for Ecological Transition as follows⁶³:

- Domestic material consumption per capita
- Resource productivity (ratio of GDP to domestic material consumption)

⁶⁰ OECD, 2021. The OECD Inventory of Circular Economy Indicators.

⁶¹ Resource productivity is the quantity of good or service (outcome) that is obtained through the expenditure of unit resource.

⁶² PBL Netherlands Environmental Assessment Agency, 2020. <https://www.pbl.nl/en/topics/circular-economy>

⁶³ Minister for Ecological Transition, 2021. DATALAB: Key indicators for monitoring the circular economy, 2021 edition.

- Material footprint
- European ecolabel licences
- Number of industrial symbiosis initiatives
- Number of companies and local authorities that have benefitted from an ADEME support mechanism on the functional economy
- Food waste
- Household spending on product maintenance and repair (excluding vehicle maintenance)
- Landfill tonnage trend
- Use of secondary raw materials in production processes
- Jobs in the repair of goods and recycling of materials

Six indicators focus on the upstream part of the circular economy cycle, centred on the supply side of the economy (extraction/manufacturing and sustainable supply chain, ecodesign, industrial symbiosis and the functional economy). Two indicators highlight consumer demand and behaviour (responsible consumption and extension of product lifespan) and two indicators focus on the downstream cycle, relating to waste management (recycling). Finally, a last indicator relates to jobs and covers two pillars: extending product lifespan and recycling.

China has enacted national laws and regulations in view to boost circularity and has developed and grouped nationally focussed circular economy indicators both at macro level and at industrial park level. The indicators developed at macro level are summarised in Table 7.1, some of which are also specific to the industrial sector.

Table 7.1: Circular Economy Indicators in China⁶⁴

Groups	Indicators
Resource output	Output of main mineral resource
	Output of energy
Resource consumption rate	Energy consumption per unit GDP
	Energy consumption per added industrial value
	Energy consumption per unit product in key industrial sectors
	Water withdrawal per unit of GDP
	Water withdrawal per added industrial value
	Water consumption per unit product in key industrial sectors
	Coefficient of irrigation water utilisation
Integrated resource utilisation rate	Recycling rate of industrial solid waste
	Industrial water reuse ratio
	Recycling rate of reclaimed municipal wastewater
	Safe treatment rate of domestic solid wastes
	Recycling rate of iron scrap
	Recycling rate of non-ferrous metal
	Recycling rate of waste paper
	Recycling rate of plastic
Water disposal and pollutant emission	Recycling rate of rubber
	Total amount of industrial solid waste for final disposal
	Total amount of industrial wastewater discharge
	Total amount of SO ₂ emission
	Total amount of Chemical Oxygen Demand (COD) discharge

⁶⁴ Geng, et al., 2012. Towards a national circular economy indicator system in China: an evaluation and critical analysis. Journal of Cleaner Production, 23, 216-224.

7.2.6 ISO

The ISO is also active in the circular economy field, with the development of standards within the Technical Committee 323 ‘Circular Economy’ standard, which aims to cover different aspects of a circular economy including public procurement, production and distribution, end-of-life, as well as wider areas such as behavioral change in society. To this end, ISO Technical Committee 323 is currently in the process of developing three standards to define core circular economy principles and a common base language to enable meaningful exchange, with a view of publishing these by 2023. To this end, ISO Technical Committee 323 is currently in the process of developing three standards to define core circular economy principles and a common base language to enable meaningful exchange, with a view of publishing these by 2023. Each standard is governed by a working group, which includes external representation from expert organizations:

- ISO 59004 Standard 1: circular economy framework and principles for implementation.
- ISO 59010 Standard 2: circular economy guidelines on business models and value chains.
- ISO 59020 Standard 3: circular economy measuring circularity framework.

7.2.7 Private sector efforts

- In early 2020, the World Business Council for Sustainable Development (WBCSD) published Circular Transition Indicators (CTI), developed in collaboration with partners including KPMG. CTI aims to provide a simple, objective, and quantitative self-assessment framework that can be applied to businesses of all industries, sizes, value chain positions, and geographies.
- The Ellen McArthur Foundation launched Circulytics. Going beyond assessing products and material flows, this company-level measuring tool reveals the extent to which a company has achieved circular performance across its entire operations via a scorecard. Circulytics is designed to help companies build a broad picture of their circular performance and can be used for example to identify blind spots, inform circular strategy, and communicate circular results to investors and other third parties. Eventually companies are provided with a score on a scale from A to E.
- The Global Reporting Initiative (GRI) published an update to its GRI 306: Waste Standard to include circular economy principles. GRI provides widely used standards for sustainability reporting on a range of economic, environmental, and social topics. Organizations that adopt the GRI standards can use its various modules to select the exact set of topics and indicators they would like to report on.
- The Cradle-to-Cradle Products Innovation Institute offers Cradle to Cradle Certified, a globally recognized certification scheme and a mark of safer, more sustainable products made for the circular economy. Products are assessed for their environmental and social performance across five categories: material health, material reuse, renewable energy and carbon management, water stewardship, and social fairness. A product is assigned an achievement level (Basic, Bronze, Silver, Gold, Platinum) for each category.

7.3 Recommendations on circular economy indicators for Mauritius

Depending on the transition phase a country (or company) is in, different indicators may be more or less important. For instance, a country at the beginning of the circular economy curve

with poor waste management will be able to derive a lot of value for policymaking from a waste diversion indicator, while a country that is ahead of the curve will require indicators further up the value chain to inform circular economy strategies and actions. Also, transition processes at macro level are often slow moving, and it can take a long time for measurable effects to be seen. Long product lifetimes may also result in a delay of noticeable effects for output indicators. A more valuable transition indicator for a policymaker could be one at micro or meso level and/or an input indicator that is able to quickly deliver feedback. Data availability is also a challenge. Data for resource use, waste generation/treatment, and environmental and socio-economic state of affairs are comparatively easily available compared to data for inner loops (reuse, repair, sharing, etc).

A monitoring system embracing only selected aspects of the circular economy (where data is readily available) risks exaggerating the focus on these areas and downgrade the importance of other areas where data is unattainable, even though the latter may (in principle) be creating more circular value (such as prolonging products' lifetimes through reuse and repair). Producing reliable data at regular intervals for a diverse number of indicators also entails a number of key challenges. With some data being scarce, indicators that may be fit for purpose to track a broader set of interventions may prove difficult to measure for the time being, and collecting data where it exists could turn out to be costly and cumbersome. Moreover, the quality of this data will pose an additional hurdle if the robustness or consistency is considered insufficient for publication. Finally, data may not be publicly available, and the sharing of data between entities can be met with resistance.

Based on the above considerations, Table 7.2 gives the **15 circular economy indicators recommended for Mauritius**. Data availability was taken into account when choosing them, limiting the administrative burden. Other criteria against which the indicators were assessed include relevance, acceptance, credibility, ease of use and robustness.

For nine of the indicators (*Domestic Material Consumption per capita; Resource Productivity; Material footprint; Share of public procurement incorporating circularity requirements; Generation of municipal solid waste per capita; Total waste generation per GDP output; % of MSW diverted from landfilling; National Recycling rate; % recycling of plastic packaging*) the data would be relatively easy to collect.

However, for the following six indicators, the appropriate methodology for data collection will have to be devised: *Food waste; Household spending on product maintenance and repair (excluding vehicle maintenance); Use of secondary raw materials in production processes; Number of industrial symbiosis initiatives; Number of companies and organizations that have benefited from a support mechanism on the functional economy; Jobs in the repair of goods and recycling of materials.*

Dissemination of these indicators will be facilitated by the creation and management of an online platform, which makes it possible to share, learn about and follow the evolution of the indicators.

Table 7.2: Recommended Circular Economy Indicators for Mauritius

Indicator	Description and Relevance
1. Domestic Material Consumption per capita	Domestic material consumption per capita: The demand for goods and services by economic stakeholders in the national territory requires the extraction of raw materials from the country and the import of raw materials that cannot be produced locally. The sum of the materials extracted from the territory and imported, minus the materials exported, results in domestic material consumption (DMC). It is the quantity of material directly consumed by the region's population for its own needs. This indicator is one of the 2030 Sustainable Development Goals set by the United Nations (UN). Domestic material consumption quantitatively demonstrates one of the pressures on the environment and shows how resource-efficient behaviour is. An efficient use of construction materials for example will lead to a decline in the DMC. The circular economy should help to address the supply risks for raw materials, in particular critical raw materials.
2. Resource Productivity (GDP per kg of Domestic Material Consumption)	Resource productivity: Resource productivity is the ratio of gross domestic product (GDP) to domestic material consumption (DMC). This indicator measures the transition to a more resource-efficient economic system. It is one of the 2030 Sustainable Development Goals set by the UN.
3. Material footprint	To measure the environmental pressure on materials actually exerted by a region, all the raw materials used to cater to a country's end consumption must be taken into account, i.e. the materials directly contained in the products consumed, as well as the materials needed to manufacture them, whether domestic or imported. This is the aim of the material footprint. Expressed as "raw material equivalents", this indicator is one of the 2030 Sustainable Development Goals set by the UN. In the context of increased consumption of materials worldwide, the implementation and monitoring of circular economy policies require better knowledge of the flows generated by national economies. The material footprint takes into account all the raw materials used to cover a country's final consumption, both those extracted from the national territory and those used directly or indirectly abroad to produce and transport imported products.
4. Share of public procurement incorporating circularity requirements	This indicator is linked to the inclusion of circular and green criteria in the purchasing of goods, services and works by government. It can be the volume of public procurement that includes circular and/or ecological criteria (measured as a percentage of total procurement, number of tenders or total amount in rupees). Public procurement accounts for a large share of consumption and can drive the circular economy.
5. Generation of municipal solid waste per capita	The generation of MSW is a notable effect of the linear economy. In a circular economy waste generation is minimised. Reducing MSW largely depends on the production and distribution decisions of the firms that design, produce and market products, which decide how much effort to make sure that the products they put on the market are durable, or what kind of packaging is used to sell them, among many other things. But it also depends crucially on the lifestyle

	choices and consumption decisions of citizens, who must constantly decide how to spend their resources, and can integrate the environmental dimension into their purchasing decisions
6. Total waste generation per GDP output	Total waste generated is the total amount of waste (both hazardous and non-hazardous) generated in the country during the year. It includes municipal solid waste, non-hazardous industrial waste and hazardous waste and excludes construction waste, agricultural waste and quarrying and mining waste. For a circular economy, it is essential to decouple economic growth from waste generation. The achievement of this objective should translate into a decrease in the total generation of waste in the country for each unit of gross domestic product generated (i.e. total waste/ GDP).
7. Food waste	Food waste: This can be defined as “any food intended for human consumption which, at any stage of the food chain, is lost, discarded or spoiled”. Discarding food has negative environmental, climate and economic impacts. Food waste is a sign of a linear economy and represents a loss of direct and indirect resources (raw materials, water, energy). It is one of the 2030 Sustainable Development Goals set by the UN.
8. Household spending on product maintenance and repair (excluding vehicle maintenance)	Household spending on product maintenance and repair (excluding vehicle maintenance): Household spending is increasingly driven by the consumption of goods that consume resources and generate CO2 emissions in their manufacture, transport and distribution. Extending the product lifespan is a means of reducing the environmental impact of consumption by optimising product use. Favouring repair over renewal makes it possible to extend their lifespan and thus limit their replacement, which consumes resources. Monitoring per capita consumption expenditure on the maintenance and repair of household goods is a way of analysing changes in household practices in this area.
9. % of MSW diverted from landfilling	In the waste treatment ranking disposal processes, such as landfill or incineration without energy recovery, are the least environmentally friendly. They are a waste of resources that evade recycling and hamper the development of a circular economy.
10. National Recycling rate	While reducing the waste generation is essential, it is also important to ensure that the residues generated are kept in the economy for as long as possible. The recycling rates of a country are a fundamental indicator to measure progress in this area. Increasing recycling is part of the transition to a circular economy. It is recommended to adopt the SDG 12.5.1 indicator for calculating the national recycling rate.
11. % recycling of plastic packaging	Increasing the recycling rate of plastic packaging waste has strong public support and needs to be demonstrated. This reflects the progress in recycling key waste streams.
12. Use of secondary raw materials in production processes	Secondary raw materials are waste materials which, after a material recycling process, can be reintroduced into production systems as a total or partial replacement for virgin raw materials. They therefore save natural resources. In a circular economy, secondary raw materials are commonly used to make new products.
13. Number of industrial symbiosis initiatives	Industrial symbiosis is one of the strategies that can be used to optimise production methods, thereby reducing the pressure on resources. Industrial symbiosis is a form of inter-company organisation based on the exchange or substitution of resources or the pooling of resources and services. It refers to voluntary collective initiatives carried

	out on a region to save resources (water, energy, waste) or improve their productivity. This may involve sharing infrastructure, equipment (heating networks, production tools or spaces, etc.), services (collective waste management, inter-company mobility plans, etc.), materials (waste from one business becomes a resource for another) or jobs (pooling).
14. Number of companies and organizations that have benefited from a support mechanism on the functional economy	The functional economy is a new business model aiming to replace the sale of a traditional material product or service by instead selling the use of the product and its useful effects (benefits to customers). It is no longer a matter of basing sales on the volume of goods sold but rather on how much they are used. For example, this could entail replacing the sale of tyres to road hauliers with a system of payment by the number of kilometres travelled, with a complete service (training of road hauliers in fuel-efficient driving, adjustment of tyre pressure, maintenance, etc.) leading to substantial gains in fuel consumption and longer tyre service. The functional Economy fits squarely into the transition to a green economy. It consists of replacing the concept of selling the product with that of selling the use of the product and useful effects (benefits to customers), which leads to the decoupling of value added from the consumption of energy and raw materials. Support mechanisms include training, skilling up stakeholders, support, advice, regional events, financing, etc.)
15. Jobs in the repair of goods and recycling of materials	This indicator aims to quantify the number of jobs associated with economic activities in the circular economy. It thereby helps to measure the transition to a more resource-efficient economic system. Only activities related to ‘extending the product lifespan’ and ‘recycling’ are considered here, i.e. re-use of goods, repair, waste collection and material recovery. These activities require more jobs per unit produced than for the economy as a whole. With a low risk of relocation, they contribute to the development of the production base and employment at the local level. This reflects the contribution of the circular economy to the creation of jobs and growth.

8. ROADMAP IMPLEMENTATION

8.1 Costing of the actions and implementation matrix

In order to provide an indication of the necessary budget that has to be mobilised to enable the implementation of the action plan, each action has been costed. **The costing is based on professional estimations but also the consideration of similar actions that have been implemented previously.** It is to be noted that the roadmap has identified actions mainly to be undertaken by government within the competence of individual ministries in order to create the appropriate framework for the transition to a CE in Mauritius (See

Figure 3.2). **The 80 actions concern mainly consultancy and feasibility studies to devise policy and legislative frameworks; investments in education, capacity building and awareness raising, physical and digital infrastructures and in research and innovation; and administrative and governance requirements for implementation.**

Table 8.1 summarises the costs per action. **In total, about Rs. 1.2 billion (or about 26 million USD) have to be mobilized to implement the Action Plan through the next 10 years.** The categorization of the costs is given in Table 8.2. A description of the cost assumption per action is given in Annex 2. Table 8.1 also displays the implementation tracking matrix. It serves the purpose to keep track of the correct and timely implementation of each action in the next 10 years until 2033. **The majority of the interventions and their activities have been scheduled for the short- and medium-term.** This means that most staff and financial resources have to be mobilised in the beginning of the Action Plan's implementation, thus starting from this year itself. Depending on the mobilisation of funds, the activities can be postponed marginally. However, it is suggested that short-term interventions are implemented as soon as possible as they are key enabling elements to bring fast change on the ground.

It is strongly recommended to prioritize the implementation of actions for the creation of an open governance that promotes active involvement of stakeholders, for education and awareness raising of CE in the public and private sector and for devising a fiscal framework to de-risks circular economy investments.

Table 8.1: Summary of Costing and Implementation Matrix

Focus Area	Actions	Estimated Costs (Rs million)	Time Horizon until 2033		
			Short-term (1-3 years)	Medium-term (4- 6 years)	Long-term (7-10 years)
Agri-Food	P1: Create a platform on Circular Economy in the Agri-Food sector	1.2			
	P2: Mandatory registration of farmers and creation of an electronic farmer registry	1.0			
	P3: Develop a National Strategy and Action Plan on (1) food loss and (2) on food waste	12.2			
	P4: Develop an Integrated Nutrient Management strategy and action plan	2.6			
	P5: Develop a National Biogas strategy and action plan	2.4			
	P6: Expand land access to farmers using sustainable/regenerative agriculture practices	1.0			
	P7: Review criteria of import permits for responsible sustainable sourcing of imported food	-			
	P8: Devise a policy on abandoned agricultural lands to contribute to CE objectives	-			
	KP9: Implement a Voluntary Agreement on Food Waste reduction	1.0			
	KP10: Develop national guidelines for farmers that provide guidance on how to set up a crop and/or animal farm in the most sustainable and circular way	0.8			
	KP11: Circular Public Procurement of products from sustainable agriculture in hospitals and government canteens	0.8			
	KP12: Develop a Country-of-Origin Food Labelling Information Standard	1.3			
	KP13: Enhance equipment, labour, infrastructure and resource sharing platforms to support farmers across the supply chain.	1.7			
	KP14: Feasibility studies on thermal sludge processing and on co-digestion of organic wastes	10			
Construction and Real Estate	P15: Create a platform on Circular Economy in the Built Environment.	1.2			
	P16: Develop a strategy, action plan and regulatory framework on Construction and Demolition Wastes (CDW)	5.6			
	P17: Develop national building codes incorporating green and circularity principles	6.5			
	P18: Develop minimum environmental criteria for circular procurement in public buildings and infrastructure	0.8			
	P19: Create a digital platform for increased sharing of government buildings and spaces	1.9			
	P20: Elaborate technical standards to facilitate the use of recycled construction materials	2.3			

	P21: Create a Materials Passport and a related database to register materials used in construction projects	1.6			
	KP22: Education and Awareness raising on Circular Built Environment	15			
	KP23: Develop a strategy and action plan for adoption of Building Information Modelling (BIM) in the construction value chain.	2.1			
	KP24: Develop national guidelines on how to characterize and valorize CDW.	0.7			
	KP25: Enhance an online marketplace through a CDW online platform for materials recovery and secondary material exchange.	1.5			
	KP26: Remove CDW from illegal dumping sites and sites rehabilitation	100			
Consumer Goods	P27: Create a platform on Circular Economy for Consumer Goods	1.2			
	P28: Develop a legal framework for social enterprises	1.7			
	P29: Revise the consumer law to ensure consumers receive trustworthy and relevant information on reparability of products at the point of sale and to set minimum warranty periods for household electrical and electronic appliances	1.7			
	P30: Mandatory display on electrical and electronic equipment of simple information on reparability.	1.8			
	P31: Include the mapping of repair and reuse services into the specifications of Producer Responsibility Organisations (PROs) and introduce eco modulation of EPR fees	2.0			
	P32: Create a policy and regulatory framework to support the transition to packaging reuse and refill	2.0			
	P33: Feasibility study of a policy and legislative framework for prohibiting the destruction of unsold goods.	1.4			
	KP34: Develop circular supplies for businesses	0.3			
	KP35: Develop and scale initiatives that enable people to repair/reuse consumer goods or donate unwanted items	12			
	KP 36: Promote the development and implementation of circular economy strategies or action plans in specific sectors	Led by Private sector			
	P37: Create a platform on Circular Economy in Mobility and Logistics	1.2			
	P38: Develop policy instruments and incentives to accelerate a change towards a more service-based transport system	4.7			
	P39: Feasibility study to optimise forward logistics	3.4			

Mobility and Logistics	P40: Devise efficient waste management schemes for end-of-life vehicle, waste batteries and waste tyres	2.2			
	KP41: Leverage existing and under-used logistics network capacities to enable collection and transport of sorted waste in shopping malls and supermarkets to recycling companies	1.4			
Waste Management	P42: Create a platform on Circular Waste Management	1.2			
	P43: Expand the range of products subject to EPR and carry out a feasibility study of a mandatory EPR on packaging in the short term	3.2			
	P44: Institutional strengthening of the Department of Solid Waste and of Local Authorities for integrated waste management	180			
	P45: Development of a waste reporting mechanism for shopping malls, large hotels and convention and exhibition centres	0.3			
	P46: Set up a strategic watch on the recycling industry	1.7			
	P47: Ensure that there is clear and accessible information about contents of packaging and how they can be recycled or taken care of	1.2			
	P48: Define End of Waste criteria for specific secondary raw materials.	2.2			
	P49: Develop technical standards for secondary raw materials and recycled content measures	1.7			
	P50: Support the development of markets for secondary materials through circular public procurement, mandatory recycled content, interactive platforms and market development workshops.	2.0			
	KP51: Introduce simple waste sorting processes and develop communication campaigns about importance and value of waste sorting and recycling in collaboration with NGOs	57			
	KP52: Provide a network of fixed and mobile Civic Amenity Centres	100			
	KP53: Feasibility study on separate collection of households hazardous waste	1.6			
	KP54: Implement a National Waste Management Information System.	1.7			
	KP55: Implement a National Industrial Symbiosis Programme (NISP)	6.1			
Cross-Cutting Actions					
Governance	P56: Create an open governance that promotes active involvement of stakeholders	3.0			
	P57: Coordinate and assess public policies for circularity	-			
	P58: Monitor progress towards a circular economy	-			
	P59: Mainstream the principles of Circular Economy in all EIAs and PERs	0.7			
	P60: Feasibility of a comprehensive legislation on Circular Economy	2.1			
	P61: Enhance regional and international cooperation on the circular economy	10			

Education and Awareness Raising	P62: Identify circular economy initiatives and disseminate widely through a government information platform successful local case of circular economy	1.7			
	P63: Mandatory circular economy education in schools	5			
	P64: Enhance Circular Economy in the School Community	55			
	KP65: Mandatory circular economy education in TVET courses	2.5			
	KP66: Develop knowledge related to the circular economy through curricula and research strategies of Higher Education Institutions (HEIs)	125			
	KP67: Education and Awareness raising on Circular Economy in Public and Private sector	10			
	KP68: Dissemination of circular habits and practices	150			
Research and Development	P69: Promote the development of a line of R&D+i projects on circular economy	100			
	KP70: Launch a circular economy accelerator and incubator programme	37.5			
	KP71: Develop national databases of life cycle inventory	2.8			
Business Support	KP72: Create a Business Support Institution that will act as a Circular Economy Hub	25			
	KP73: Set up a working group on transforming business models	0.3			
	KP74: Promote the development and use of tools for the diagnosis and measurement of circularity at the organizational level	0.6			
	KP75: Promote the development of a community of practice around the theme of eco-design in product development	2.4			
Public Procurement	P76: Create a national policy on circular public procurement, build internal capacity, develop circular criteria, pilot circular tender processes and mainstream circular procurement	3.0			
	P77: Review financial Instructions for Disposal of Public Assets in accordance with circular economy principles	-			
Greening of fiscal policies and Financing	P78: Adapt taxation for a circular economy	1.5			
	P79: Introduce economic incentives for increasing circularity in economic sectors	-			
	P80: Expand access to financing of Circular Business Models	32			
Total		1148			

Table 8.2: Categories of costs for implementation of the Action Plan

Category	Approximate Cost
Consultancy/feasibility studies for establishing policies and regulatory frameworks.	Rs 105 million (2.3 million USD)
Education/Capacity Building/ Awareness raising	Rs 337 million (7.3 million USD)
Research and Incubator programmes	Rs 263 million (5.7 million USD)
Administrative and governance requirements	Rs 233 million (5.1 million USD) (Includes Rs 180 million for strengthening of Local Authorities on waste management)
Removal of CDW from illegal dumps and provision of fixed and mobile CACs	Rs 200 million (4.3 million USD)
Creation of digital platforms	Rs 10 million (220 000 USD)

8.2 Institutional arrangements for implementation

For a transition to a circular economy, it is fundamental to create an open governance that promotes active involvement of stakeholders, the coordination of agendas and the evaluation of progress made. Also, for a successful and sustainable implementation of the Action Plan, it is crucial to clearly define the roles and responsibilities of key institutions. Given the strategic and transversal nature of this transition, it is important that the governance model consists of components which convey (i) a political commitment to the theme; and (ii) effective support and action on transition progress. The governance model covers the following levels, as depicted in **Error! Reference source not found.:**

- **An Inter-Ministerial Committee:** This is the decision-making body at the political level responsible for aligning the circular economy in government policies. The committee is formed by representatives of those Ministries whose policies have a direct impact in the transition towards a circular economy and will be chaired by the Minister of Environment. This Committee must hold a meeting at least once a year with the following main objectives:
 - (i) enhancing Whole-of-Government coordination on CE policies, including any structural change within government agencies to facilitate better co-ordination.
 - (ii) undertaking a periodic, high-level review of implementation of the action plan and consider recommendations from the Steering Committee
- **A Steering Committee or Monitoring and Evaluation Committee** which is the main body which monitors and evaluates the implementation of the action plan and which will meet at least 3 times yearly. This committee, consisting of key stakeholders, will be co-chaired by the Department of Environment and Business Mauritius and will have the following objectives:
 - (i) Advisory body on CE initiatives and facilitate the implementation of the action plan.

- (ii) Monitoring and Evaluation of the Action Plan which will be submitted to the inter-ministerial committee. This would enhance the accountability of the different institutions responsible for implementation.
- (iii) Audit all public policies to assess their circularity, analyze consistency of instruments, identify contradictions and propose ways of adaptation.
- (iv) Promote collaboration between public and private sectors so as to speed up the transition.
- (v) Organize the annual conference on circular economy. This is a dedicated event to discover initiatives at national level and progress on CE. It will be a space for discussion and collective reflection and promote the emergence of projects through meetings/discussion sessions. It can also include capacity building sessions with international experts on CE.
- **Circular Economy platforms** that enhance dialogue and cooperation among stakeholders in specific focus areas to discuss regulatory provisions, barriers, new opportunities and share information/best practices and review road map progress in their area. The platform will include government, private sector, academic and research institutions, civil society, and other actors in the value chain. The platform, an extension of the focus group set up during the preparation of the roadmap, is intended to be a forum for debate and consultation designed to assess the circularity of policies in the focus area, provide concrete solutions to the challenges identified and make recommendations to the steering committee. In order to take advantage of shared resources and make sure that each mandate is balanced, it is recommended to set up and run these platforms as a public-private partnership (PPP) and that they be co-chaired by the public and private sector. These platforms will also play a key role at the annual conference on circular economy.
- **A Committee on Cross-Cutting areas** (education and awareness raising, research and development, business support, public procurement, and greening of fiscal policies and financing) under the chair of Ministry of Environment, Solid Waste Management and Climate Change.
- The implementation of individual actions provided in the action plan will be carried out by the entities indicated in the tables of actions. In implementing the actions, the relevant responsible ministry or department will ensure that it develops departmental annual operating plans which integrate the actions that the department will either lead or support.

The Ministry of Environment, Solid Wastes and Climate Change (MOESWMCC) will lead the overall coordination, monitoring and evaluation as well as to collate national reports with all relevant performances related to the circular economy. In this position, MOESWMCC can ensure the mainstreaming of circular economy in all priority sectors of the economy. The MOESWMCC will provide overall policy oversight, guidance in the preparation and implementation of planning, budgeting, reporting and resource mobilisation processes. Accordingly, it will play the lead role in facilitating coordination of the priority sectors and their responsible ministries as well as key local governments, development partners, civil society, private sector, and academic and research institution partners. The MOESWMCC will ensure that the actions are tracked by responsible parties in accordance with the Monitoring and Evaluation (M&E) framework. The Ministry will use the existing national coordination mechanism of the National Environment Commission and of the National Network on Sustainable Development to present the progress of the action plan to stakeholders. Furthermore, MOESWMCC will coordinate international processes ensuring Mauritius' commitments are met in relation to circular economy.

8.3 Monitoring and Evaluation framework

The monitoring and evaluation of this action plan is a critical step. It demonstrates accountability of stakeholders concerned and demonstrates achievements and worthiness of the roadmap and action plan. Monitoring is the routine tracking and reporting of priority information about a project or program: its inputs, activities, outputs, outcomes, and impacts. Evaluation is the systematic collection of information about the activities, characteristics, and outcomes of a specific program to determine its merit or worth. If a program is judged to be of merit, it is also important to determine whether it is worth its cost. Evaluation provides credible information for improving programs, identifying lessons learned, and informing decisions about future resource allocation. Monitoring of CE is a major challenge due to the complexity of the CE concept itself, which includes policies covering multiple areas and the interdependence between them, and due to the multidimensional impact of the transition to CE on the socioeconomic development of the country. In order to track and assess the implementation and impact of this Roadmap and Action Plan a comprehensive Monitoring and Evaluation (M&E) framework has been developed. It serves to measure the progress-making against the vision and long term goals of the roadmap that may confirm policy-making or inform about potentially necessary adjustments or interventions.

In order to make full use of the M&E framework, the indicators have to be measured periodically. **Two sets of indicators have been developed to support the M&E of the Roadmap and Action Plan.**

- 1. Macro indicators to measure the long term goals ;**
- 2. Micro indicators that evaluate the implementation of the different actions.**

Table 7.2 gives the recommended Circular Economy macro-indicators for Mauritius. Action P58 (Monitor progress towards a circular economy) will help to develop the framework and mobilize resources for data collection for these macro-indicators. This set of indicators should be reported every 5 years (i.e a baseline next year, in 2029 and in 2033). Relevant indicators that may define the impacts of each action have been defined in order to reflect the implementation progress from a more micro-level perspective. These are given in Table 8.3. This set should be measured every year by the organization leading the particular action and reported to the Ministry of Environment. Thus, the first evaluation round through the micro indicators shall happen next year. The monitoring and reporting methodology and formats will be standardized to ensure consistent application to accurately observe progress and ensure meaningful adaptations are implemented where required. The reports presenting monitoring results will be incorporated in relevant national reports and key recommendations implemented as part of adopting adaptive management strategies.

The implementation for the CE Roadmap and Action Plan spans a 10-year period from 2023. Within this time span, **the CE Strategy and Action Plan will be reviewed initially after one year, identifying any initial challenges and adjustments, then subsequently every 3 years to evaluate progress and implement corrections as required to ensure the Roadmap and Action Plan remains on track.**

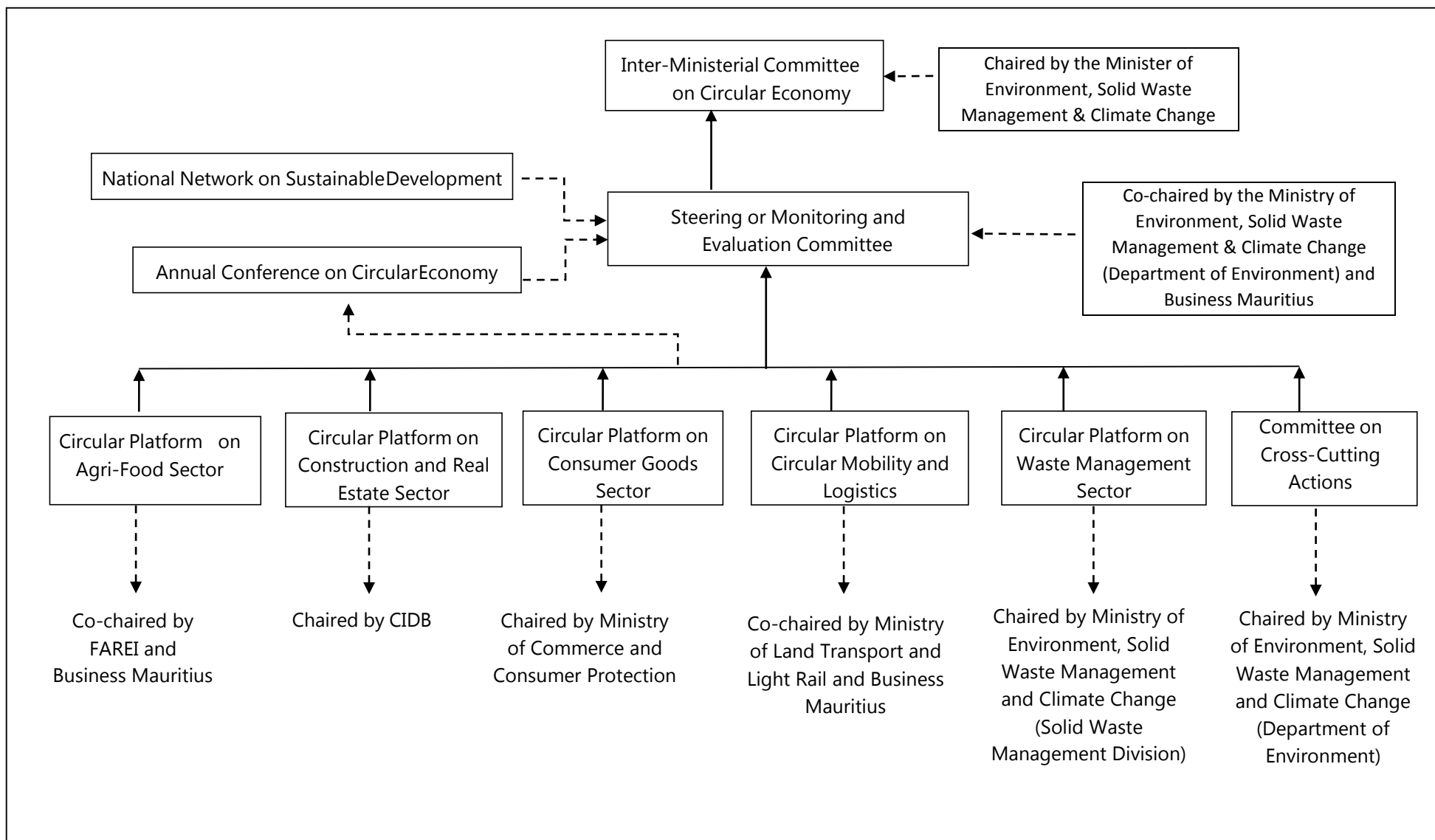


Figure 8.1: Government Structure for the Implementation of the Action Plan

Table 8.3: Indicators for Monitoring and Evaluation

Action #	Action	Indicators
Agri-Food System		
P1	Create a platform on Circular Economy in the Agri-Food Sector	No. of meetings held on a yearly basis and participation of stakeholders
P2	Mandatory registration of farmers and creation of an electronic farmer registry	- Number of new farmers registered. - On-line registry operational
P3	Develop a National Strategy, Action Plan and legislative framework on (1) food loss and (2) food waste	- Amount of food loss and food waste - No of food waste reduction projects - Amount of food donations % of food waste in waste characterization studies
P4	Develop a Nutrient recycling strategy and action plan	- Number of farmers or businesses engaging in the production of organic fertiliser - Proportion of farmers using organic fertiliser - Amount of financial disbursements by Government in terms of incentives to promote the use of organic-recycled nutrients - Amount of imports of synthetic fertilizers
P5	Implementation of bio-wastes management	- Volume of biogas plants constructed - Amount of bioelectricity produced from biogas
P6	Expand land access to farmers using sustainable/regenerative agriculture practices	Area of land granted by government to farmers for sustainable/regenerative agriculture
P7	Review criteria of import permits for responsible sustainable sourcing of imported food	- No. of permits delivered for food imports % of FFV imported
P8	Devise a policy on abandoned agricultural lands to contribute to circular economy objectives	Area of abandoned land reused and contributing to circular economy objectives
KP9	Implement a Voluntary Agreement on Food Waste reduction	- No. of companies/organisations who have signed the Voluntary Agreement - Amount of food waste reduced through the Voluntary Agreement
KP10	Develop national guidelines for farmers that provide guidance on how to set up a crop and/or	- No. of farmers that accessed and applied the guideline - No. of farms set-up meeting sustainable and circularity principles

	animal farm in the most sustainable and circular way	• Output (produce and secondary products from organic waste) from circular farms
KP11	Circular Public Procurement of products from sustainable agriculture in hospitals and government canteens	• No. of public procurements in hospitals and government canteens that considered sustainable agricultural practices
KP12	Develop a Country-of-Origin Food Labelling Information Standard	• Country of origin information label developed for food products • No. of food products having the Country-of-origin label
KP13	Enhance equipment, labour, infrastructure and resource sharing platforms to support farmers across the supply chain.	• Digital sharing platform developed • No. of farmers engaged in resource sharing
KP14	Feasibility studies on thermal sludge processing and on co-digestion of organic wastes	• Practical recommendations made on thermal sludge processing and on co-digestion of organic wastes
Construction and Real Estate Sector		
P15	Creation of a platform on Circular Economy in the built environment.	• No. of meetings (or workshops) held and participation of stakeholders
P16	Develop a strategy and regulatory framework on Construction and Demolition Wastes (CDW)	• No. of regulations developed for better management of CDW • No. of guidelines developed on management of CDW • Amount of CDW reused and recycled
P17	Develop national building codes incorporating green and circularity principles	• No. of participants in workshops to develop the National Building Code • Enactment of the National Building Code • Number of buildings constructed using green building principles
P18	Develop minimum environmental criteria for circular procurement in public buildings and infrastructure	• Number of public procurements for buildings incorporating circular construction criteria • Floor area of public buildings renovated
P19	Create a digital platform for increased sharing of government buildings and spaces	• Digital platform for sharing government buildings and spaces available • No of government meetings scheduled through the platform • Number of government buildings optimized through sharing/renting
P20	Elaborate technical standards to facilitate the use of recycled construction materials	• Standards for recycled aggregates developed • Amount of recycled construction materials used in the construction industry

P21	Create a Materials Passport and a related database to register materials used in construction projects	• Elaboration of a basic version of a material passport and of the database • No. of new constructions with a material passport registered on the database
KP22	Education and awareness raising on Circular Built Environment	• No. of participants in trainings, workshops and sensitization and awareness-raising campaigns carried out on circular construction
KP23	Develop a strategy for adoption of Building Information Modelling (BIM) in the construction value chain	• No. of people trained on BIM • No of construction projects using BIM
KP24	Develop national guidelines on how to characterize and valorize CDW.	• No of construction workers trained on CDW identification and treatment • No of companies complying to the guideline • Amount of CDW valorized
KP25	Enhance an online marketplace through a CDW online platform for materials recovery and secondary material exchange	• No. of waste exchanges created via the online platform • Amount of construction materials reused/recycled via the platform
KP26	Remove CDW from illegal dumping sites	• Amount of CDW cleared from illegal dumping sites • No of dumping sites for CDW rehabilitated
Consumer Goods Sector		
P27	Create a platform for dialogue on circular economy for consumer goods	• No. of meetings (or workshops) held and participation of stakeholders
P28	Develop a legal framework for social enterprises	• Specific regulation on social enterprises enacted • No. of social enterprises registered
P29	Revise the consumer law to ensure consumers receive trustworthy and relevant information on repairability of products at the point of sale and to set minimum warranty periods for household electrical and electronic appliances	• Regulations on consumer information about repairability and on minimum warranty periods enacted • No of operational repair shops on electrical and electronic appliances
P30	Mandatory display on electrical and electronic equipment of simple information on reparability	• Regulation on mandatory display of simple information on repairability enacted

P31	Include the mapping of repair and reuse services into the specifications of Producer Responsibility Organisations (PROs) and introduce eco modulation of EPR fees	• Inclusion of repair and reuse services in TORs of PROs • Quantity of E-goods sent for repair (and reuse) through the EPR system
P32	Create a policy and regulatory framework to support the transition to packaging reuse	• No. of retail shops offering reusable containers for bulk purchase • % of plastic packaging recycled • % of plastic wastes in wastes landfilled through characterization studies
P33	Feasibility study of a policy and legislative framework for prohibiting the destruction of unsold goods	• Clear recommendations on a legal framework for prohibiting the destruction of unsold goods • A regulatory framework on the prohibition of the destruction of unsold goods if feasible
KP34	Develop circular supplies for businesses	• No of imported products distinguished by labels recognized worldwide. • No. of sustainable purchasing and sourcing guides developed for businesses. • Amount of local products/materials in B2B procurements
KP35	Develop and scale initiatives that enable people to repair/reuse consumer goods or donate unwanted items	• No. of sensitization and awareness-raising campaigns carried out on the benefits of products and services that integrate circular principles and on the benefits of reuse, repair and recycling • No. of operational reuse and repair shops • No. of repair events held • No. of lending libraries operational
KP36	Promote the development and implementation of circular economy strategies or action plans in specific sectors	• No. of sector-specific circular economy strategies and action plans
Circular Mobility and Logistics		
P37	Create a platform on Circular Economy in Mobility and Logistics	• No. of meetings (or workshops) held and participation of stakeholders
P38	Develop policy instruments and incentives to accelerate a change towards a more service-based transport system	• Number of shared mobility operators • No. of end-users utilizing an MaaS online application
P39	Feasibility study to optimise forward logistics	• Amount of night-time deliveries

		• Regulation on a mandatory container depot in the centre of the island for shipping lines enacted • No. of companies accessing an online trip exchange platform for shared logistics
P40	Devise efficient waste management schemes for end-of-life vehicle, waste batteries and waste tyres	• Amount of used tyres collected for recycling • No. of end-of-life vehicles dismantled for recycling • Amount of waste batteries collected for recycling
KP41	Leverage existing and under-used logistics network capacities to enable collection and transport of sorted waste in shopping malls and supermarkets to recycling companies	• Amount of wastes collected at the premises of shopping malls that are sent to recycling companies
Waste Management Sector		
P42	Create a platform on circular waste management	• No. of meetings (or workshops) held and participation of stakeholders
P43	Expand the range of products subject to EPR and feasibility study of a mandatory EPR on packaging as from 2025	• No of products subject to an EPR policy • Recycling rate of packaging following implementation of the EPR system
P44	Institutional strengthening of the Department of Solid Waste and of Local Authorities for integrated waste management	• No. of staffs recruited for the Department of Solid Waste and for sustainability/waste management department in Local Authorities • No. of capacity-building sessions/workshops for waste management officers • Yearly budget allocated to the sustainability/waste management department
P45	Mandatory waste audits and reporting for shopping malls, large hotels and convention and exhibition centres	• Regulation for mandatory waste audits for shopping malls, hotels and convention centres • No. of companies submitting their waste audit reports
P46	Set up a strategic watch on the recycling industry	• No. of visits to recyclers • No of consultation meetings held with recyclers
P47	Ensure that there is clear and accessible information about contents of packaging and how they can be recycled or taken care of	• Regulation on mandatory information on contents of packaging enacted • No. of packaging products put on the Mauritian market having information about the product's content, origin, environmental impact and disposal means.
P48	Define End of Waste criteria for specific secondary raw materials	• No. of waste streams for which end-of-waste criteria have been defined • No. of trainings/meetings held to define/establish end-of-waste criteria

P49	Develop technical standards for secondary raw materials and recycled content measures and regulate the use of recycled materials in packaging in contact with food	• No. of standards developed for secondary raw materials • No. of procedures developed for determining the recycled content for various materials
P50	Support the demand for recycled products and materials through circular public procurement, mandatory recycled content and market development workshops	• No. of market development workshops organized • No of public procurements incorporating recycled content criteria • Volume of organic waste used for fertilisers, biogas or animal feed production
KP51	Introduce simple waste sorting processes and develop communication campaigns about importance and value of waste sorting and recycling in collaboration with NGOs	• % of the population provided with a waste sorting system and waste collection • No. of awareness-raising campaigns carried out on waste sorting at source • No. of educational materials prepared and distributed • % of waste sorted correctly • Share of population participating in waste separation
KP52	Provide a network of fixed and mobile Civic Amenity Centres	• No. of fixed civic amenity centres constructed • No of contracts awarded for mobile civic amenity centres • Amount of wastes received at civic amenity centres
KP53	Feasibility study on separate collection of households hazardous waste	• Policy and regulatory framework for HHW available • Amount of household hazardous waste collected
KP54	Implement a National Waste Management Information System.	• Digital platform for the national waste information system developed • No. of organisations/institutions submitting information on waste generation and recycling
KP55	Implement a National Industrial Symbiosis Programme (NISP)	• No. of participants in workshops on industrial symbiosis • No of industrial symbiosis projects implemented • Amount of wastes reused/recycled as part of the programme
Cross-cutting Actions		
Governance		
P56	Create an open governance that promotes active involvement of stakeholders	• No of circles of interests/platforms on circular economy • No. of participants in annual conference on circular economy
P57	Coordinate public policies for circularity	• No of public policies incorporating circular principles

		No. of meetings of inter-ministerial committee
P58	Monitor progress towards a circular economy	No of circular economy long-term indicators for which data are collected and reported
P59	Mainstream the principles of Circular Economy in all EIAs and PERs	- Guidelines for incorporating principles of circular economy in EIAs and PERs available - No. of EIAs and PERs licences granted whereby the proposed development include principles of the CE
P60	Feasibility of a comprehensive legislation on Circular Economy	- Clear recommendations on the feasibility of a comprehensive circular economy legislation - Comprehensive legislation on circular economy enacted if found feasible
P61	Enhance regional and international cooperation on the circular economy	No of regional and international initiatives on circular economy with active participation of Mauritius
Education and Awareness Sector		
P62	Identify circular economy initiatives and disseminate widely through a government information platform successful local case of circular economy	- No. of circular economy initiatives identified - Digital platform on circular economy created - Website performance and traffic using Google analytics
P63	Mandatory circular economy education in schools	- No. of teacher trainers trained on circular economy - No. of topics/sectors taught in relation to CE - No of teachers trained on circular economy
P64	Enhance Circular Economy in the School Community	- No. of sensitization and awareness-raising campaigns carried out in schools on circular economy and the 7Rs - No. of competitions organized on CE - No. of school extra-curricular activities organized on circular economy - No of talks on CE by NGOs in schools
KP65	Mandatory circular economy education in TVET courses	- No of trainers at TVETs trained on CE - No of topics/sectors taught in relation to CE in TVETs - No of participants enrolled at TVETs for CE courses - No of CE related initiatives developed after course attendance

KP66	Develop knowledge related to the circular economy through curricula and research strategies of Higher Education Institutions (HEIs)	- No. of courses/modules in HEIs in relation to CE - No of graduates educated in circular economy - Amount of research funding for HEIs related to CE - No. of articles on circular economy published in international scientific journals
KP67	Education and Awareness raising on Circular Economy in Public and Private sector	- No. of government officials trained on circular economy - No. of awareness-raising/training sessions organized on circular economy by the private Sector
KP68	Dissemination of circular habits and practices	- No. of sensitization and awareness-raising campaigns carried out on circular economy topics - Impact of awareness campaigns
Research and Development		
P69	Promote the development of a line of R&D+i projects on circular economy	- No. of MRIC-funded research projects on circular economy - Amount of funding for circular economy research projects from MRIC and private sector - No of patents related to circular economy
KP70	Launch a circular economy accelerator and incubator programme	- No. of projects funded by MRIC under the National SME Incubator Scheme - No of accelerator and incubator programmes on CE funded by private sector - No of CE related initiatives and no of jobs created after attendance of the programme
KP71	Develop national databases of life cycle inventory	- Database on life cycle inventories for common products/materials available - No. of products listed in the database having life cycle related information - No of people trained on Life Cycle Assessment
Business Support		
KP72	Create a Business Support Institution for the Circular Economy	- Business support institution set up - No of businesses seeking support from the institution - No in-plant assessments, training, information dissemination and policy advice given by the institution
KP73	Set up a working group on transforming business models	No. of meetings held by the working group and participation of stakeholders
KP74	Promote the development and set of tools for the diagnosis and measurement of circularity at the organizational level	- No of professionals trained on circularity measurement - No. of organizations using tools for the diagnosis and measurement and reporting of circularity

KP75	Promote the development of a community of practice around the theme of eco-design in product development	- No of professionals trained in eco-design - No. of products locally manufactured based on an eco-design concept
Public Procurement and Ecolabelling Sector		
P76	Create a national policy on circular public procurement, build internal capacity, develop circular criteria, pilot circular tender processes and mainstream circular procurement	- Clear policy available on circular public procurement - No. of procurement officers trained on circular public procurement - No. of sector-based guidance materials/manuals on circular public procurement developed - No. of tenders incorporating CE principles
P77	Review financial Instructions for Disposal of Public Assets in accordance with circular economy principles	Quantity/Value of public assets reused by other public or private entities
Greening of fiscal policies		
KP78	Adapt taxation for a circular economy	- Fiscal policy assessment carried out to assess the contribution of fiscal measures to the circular economy - Proportion of yearly revenues from environmental taxes used to fund CE projects
KP79	Introduce economic incentives for increasing circularity in economic sectors	- Amount of financial support granted for a circular built environment - Amount of subsidies provided on freight for importation of spare parts - Amount of financial support provided for increasing circularity in waste management sector
KP80	Expand access to financing of Circular Business Models	- No of financial institutions trained on circular economy - Amount of financing earmarked for circular economy by financial institutions - Amount of government's budget earmarked for circular economy projects - No of SMEs trained on preparing bankable project proposals on CE - No of SMEs co-financing consultancy projects on circular economy

8.4 Financing of Projects

A circular economy is a mechanism that offers vast potential for businesses to mitigate the various risks they face in a linear economy, such as the depletion and scarcity of raw materials and a changing regulatory environment and consumer preferences. These risks mean that for businesses to survive, be sustainable, and be resilient, they need to shift from business-as-usual and adopt circular economy principles. As this awareness and the adoption of the different business opportunities in this economy grows, **financial institutions have a key role in scaling up the funding needed to accelerate the shift to a circular economy.** The circular economy also offers a major opportunity for the financial sector to deliver on climate commitments and other ESG objectives, whilst tapping into sources of new and better growth and long-term value creation. For example, investment into plastics circularity or food waste reduction can help reach climate goals faster.

However, **circular economy finance and spending remains small-scale in comparison both with other green finance and with spending in the linear economy. Current investment levels are too low to drive a circular economy transition at scale.** Circular business models and initiatives require different production and implementation approaches than their linear counterparts. Hence, financial innovation is required to catalyse adequate capital to finance the acquisition of required technology, R&D, product prototyping, and market development for circular business models and initiatives. Financing such as seed and growth capital to grow and scale new and existing circular economy business models is limited and is predominantly provided by governments, NGOs, and a few DFIs. This is because these business models are relatively unknown and are therefore deemed as riskier and more complex than linear economy business models.

The following instruments are typically relevant for three stages of development of circular business models⁶⁵

- Proof of Concept⁶⁶ (PoC) for innovative projects, R&D, new technologies, products, or services: grants and venture capital⁶⁷
- Commercialisation: a combination of grants, equity financing and loans
- Scale-up: equity and debt financing (potentially with preferential conditions)

Access to finance includes the following instruments:

Equity: Equity investments have the potential for high returns but are associated with higher risks. Private equity funds invest generally in existing companies, particularly in firms with more mature technology that need an equity injection to realise a specific (sustainable) project, introduce new products/product types or expand their production. These investors look for a positive return on investment in the double-digit range. This implies that private equity

⁶⁵ GIZ (2022) Financing Circular Economy – Insights for Practitioners

⁶⁶ Proof of concept (POC) is evidence obtained from a pilot project, which is executed to demonstrate that a product idea, business plan, or project plan is feasible.

⁶⁷ Venture capital is a form of private equity financing that is provided by venture capital firms or funds to startups, early-stage, and emerging companies that have been deemed to have high growth potential or which have demonstrated high growth.

investors are also ready to absorb higher risks. Venture capital (and angel investors⁶⁸) may also target interventions at the PoC stage, focus on companies at a (very) early stage of development at which new technologies are developed, or new markets are explored. This involves a high risk of failure, which consequently leads to highest return expectations. The return expectations must be seen in light of the fact that only a small fraction of the start-ups will actually succeed, and that the number of failed investments is high. The typical investment horizon is less than 10 years which are not in favour of circular activities, given their naturally long-term materialization of revenues. The amounts invested are typically smaller than for private equity funds. Business models with no track records and limited profitability may benefit from equity injections to bridge the gap from pilot to growth stage.

Debt (loans): Debt finance instruments⁶⁹ (e.g. lending) typically consist of loans provided by banks/financial institutions. In general, lenders are more risk-averse than equity investors. While commercial loans tend to focus on more conservative risk/return calculations, concessional loans with more favourable terms (e.g. longer-term maturity, longer grace period) offer opportunities for circular business models. Concessional loans represent a subsidised financing for investors. For instance, traditional finance methods typically calculate the financing costs based on pure future cash-flows which is naturally not in favour of progressive circular activities, as it requires a more complex (e.g. considering full-cost accounting for the product life cycle and EPR and broader consideration (e.g. public good character). Currently, very few dedicated circular credit lines or lending products with underlying CE metrics are available. For the scaling of viable CE concepts via lending, either CE metrics and principles should be built into existing (efficiency) actions and credit lines, or new CE credit lines or lending products should be developed.

Debt (bonds): When a bank loan is insufficient to finance corporates, bonds can provide an alternative to attract capital. Bonds are debt securities sold to investors. Some thematic bonds are specifically earmarked to be used for thematic sustainable/social projects. Thus, ‘green’ is a bonus feature to the bond where the ‘greenness’ of a bond is defined by the projects the proceeds are financing and not by the issuer. Notably, with the development of sustainable finance and the increasing integration of climate-related risks into portfolio management, green bonds⁷⁰ are highly attractive as an investment opportunity. To guarantee the ‘greenness’ of green bonds, several policy initiatives have been set up to support their issuance and development. Green Bond Principles cover elements of the CE, including energy efficiency, sustainable waste management, sustainable land use (including sustainable forestry and agriculture), clean transportation, and clean water.

Leasing: Leasing options can be seen as precursor of the large ‘as-a-service’ movement (esp. in digital services). The leasing commodity industry has been established in recent decades and is in the most favourable position to support circular activities. As-a-service models focus on

⁶⁸ An angel investor provides initial seed money for startup businesses, usually in exchange for ownership equity in the company. Angel investors aren't usually in the loan business. They're putting money into an idea they like, with the expectation of a reward only if and when the business takes off.

⁶⁹ They are tools an individual, government entity, or business entity can use for the purpose of obtaining capital, which must be repaid over time. Lines of credit, loans, and bonds can all be types of debt instrument.

⁷⁰ Borrowers issue these securities to secure financing for projects that will have a positive environmental impact, such as ecosystem restoration or reducing pollution. Investors who purchase these bonds can expect to make a profit as the bond matures. In addition, there are often tax benefits for investing in green bonds.

allowing customers to efficiently access the equipment they need to run their business, rather than owning it. A crucial characteristic is the point of ownership in leasing models, as the lessors retain ownership of an asset throughout its lifecycle. This momentum is essential in more circular thinking, as it maximises the EPR principle. The lessors take the responsibility for extending its usable life, recovering it for reuse and remanufacturing. In doing so it maximises its economic utility while minimising its environmental impact. Sharing models are a variation of leasing, but the usage is typically shorter, and the pool of users is larger (e.g. for vehicle ride sharing, tools and equipment). Certain enabling factors are needed for leasing options. It is essential to allow secondary use of exempt assets for leasing. In addition, innovative thinking and applicability of best practices how to deal with financial risk insurance are needed. A strong political commitment in the development of secondary markets for equipment by introducing standards and codes spurs the development of leasing options. To facilitate the leasing concept, it needs to be considered during product design and for the end-of-life cycle (incl. proper dismantling, and reuse or recycling of valuable parts or general refurbishment). Technical assistance for the development of a legislative environment that facilitates the development of leasing services and promotes leasing in financial institutions is needed.

Guarantees: Guarantees are not direct financing as such but offer protection against associated risks (loan defaults) and can help to access funding sources with improved financial terms and conditions. Public guarantees (endorsed by public authorities) are especially powerful in mobilising private financing for sustainable (but not yet commercially viable) activities. Guarantees can compensate for limited collateral from circular business models and strongly activate traditional debt and equity investors. In the case of a government-backed guarantee, a government agency guarantees that it will purchase the debt from the lending financial institution and take on responsibility for the loan.

Public private partnerships (PPPs): Partnerships among governments, private sector, and civil society organisations (CSOs) are often useful to explore new business models and/or co-ordinate different economic activities. Core criteria are formalised partnership, risk-sharing mechanism, and financial incentives for private parties. As the principles of the CE become increasingly relevant, as well as the corresponding benefits, government can take the opportunity to combine benefits of the CE with the procurement of major infrastructure and utilities through partnerships with private sector actors. PPP models could be considered to structure public and private contributions and to balance the early-stage (risky) character of projects as well as the limited risk appetite of the private sector. PPP procurement for circular projects can provide an ‘ideal contractual environment’ which embeds circular economic principles in infrastructure and utilities projects.

To increase access to financing for circular business models, there is a need to support financial innovation and entrepreneurial skills development. The following initiatives are recommended:

- (i) **Develop widely acceptable metrics that both private and public financial institutions can use to assess the circularity of businesses,** providing innovative tailored financing mechanisms for circular businesses. The development and adoption of a circular economy taxonomy will help investors understand and assess what is circular and what is not. Integrating circularity metrics such as those that underpin the Ellen MacArthur Foundation’s Circulytics or other dedicated circularity measurement

- methodologies into reporting and disclosure frameworks, can support finance and investment decision making.
- (ii) **Provide capacity development for private commercial banks** to integrate circular economy principles in their revenue/capital mobilization and lending policies and procedures and to manage and disburse funding for circular economy solutions. Develop circular criteria relevant to the national context that banks should use in assessing funding applications.
 - (iii) **Capacity building of businesses, especially of SMEs, to ensure that they have the skillset and documentation required to develop bankable projects** in the area of circular economy. A business support institution is essential for this capacity building.
 - (iv) **Integrate circularity principles in green bonds.** Green bonds are increasingly being issued to increase funding for nature-related and sustainable projects. The majority of existing green bonds, however, do not integrate circularity principles. Still, the requirement that green bonds have a clearly defined ‘use of proceeds’ is valuable to circular economy finance, precisely because green bonds have entered the mainstream in the finance sector and because they can integrate circularity in the set-up.
 - (v) **Engage multilateral DFIs to establish innovative financing products and adopt proactive circular economy credit policies and lending strategies.** These DFIs can issue green bonds and/or loans to fund circular business models.
 - (vi) **Integrate circular economy into the national budgeting and fund allocation processes** to ensure that a portion of the national budget is allocated for specific and prioritized circular economy initiatives to channel funds towards solutions. Public-sector based financing instruments include seed capital, innovation grants, credit facilities with differentiated rates for circular businesses, challenge or innovation funds. Grants can be provided for early-stage innovations and project preparation.
 - (vii) **Establish a national Green Fund** that is independent but government-mandated to prioritise green financing. The Green Fund can build on global best practices and draw from prominent examples in Africa, such as the Rwanda Green Fund (FONERWA) and South Africa's Green Fund. The fund should be jointly capitalised by public and private funding and be able to provide flexible capital, which is a significant need for SMEs, and meet a range of other market needs.
 - (viii) **Conduct studies on the return on investment of transitioning to a circular economy** to showcase its viability as an approach to sustainable business and investment.
 - (ix) **Official overseas development assistance, public funds, impact investments and philanthropic giving can leverage private investments and de-risk early-stage investment.** Impact investments are made into companies and funds with the intention of generating positive societal and environmental impacts alongside a financial return. Circular economy solutions contributing to SDGs need to be linked up with impact investment and SDG finance mechanisms.
 - (x) **Enhance corporate-driven CSR financing.** Most circular SMEs are solving most of the externalities from corporates. The latter should be encouraged to establish partnerships with SMEs tackling their externalities through different support mechanisms: finance, infrastructure development or capacity building (accelerators/incubators programmes)
 - (xi) The government should coordinate the **establishment of angel investors networks** that can be interested in green/circular businesses.

- (xii) The CE strategies identified in the focus areas will help in delivering climate change mitigation and adaptation efforts and CE can thus potentially contribute to the implementation of the Nationally Determined Contributions (NDC). **NDC targets and CE strategies are complementary.** Incorporating CE strategies outlined in this roadmap in the NDC will increase the level of ambition of national climate action by looking beyond the classical mitigation sectors and will help to mobilize finance for the transition to a CE.

9. ACTIONS FOR RODRIGUES

9.1 Introduction

Located about 560 kilometers northeast of Mauritius, in the Indian Ocean, Rodrigues Island with an area of about 104 km² and population of 44,427 inhabitants in 2021 (population density of about 404 inhabitants per km²) prides itself on being the most authentic of the Mascarene Islands, its population living mainly from fishing, crafts, agriculture, livestock and tourism. Rodrigues is part of the Republic of Mauritius and has enjoyed autonomous status since October 12, 2002. The Rodrigues Regional Assembly (RRA) Act 2001 makes provision for a decentralised form of government in Rodrigues with the setting up of a Regional Assembly. An Executive Council of 6 Commissioners headed by a Chief Commissioner has also been established to carry out the functions of the Rodrigues Regional Assembly. The Executive Council is responsible to develop and implement policy on matters relating to the socio-economic development of Rodrigues. The budget is dependent mainly on the Government Budget from Mauritius and external and developing partners.

The vision of the current Executive Council of the RRA is to work towards the objective of making Rodrigues the first ecological destination within the Republic of Mauritius – or even in the Indian Ocean. The RRA has officially started the consultations and targeted actions regarding the certification of Rodrigues as a “Green Destination” by the Global Sustainable Tourism Council. To be successful in this endeavor, relevant strategies has already started in the tourism and environmental sector and much more to undertake to ensure the alignment of any on-going and future development in Rodrigues to this vision. The RRA is presently reviewing and updating the Sustainable and Integrated Development Plan for Rodrigues (SIDPR), which dates back to 2009. The new Plan will be guided by the United Nations 2030 Sustainable Development Agenda and provide a holistic, realistic and clear long-term (10 years) strategy, for the period 2023-2033. While there is no sector-specific circular economy policy in place, this overarching national policy and strategy makes the strongest connection to the circular economy.

Furthermore, RRA is presently working in collaboration with the AFD on the project ‘FEXTE: Rodrigues île Verte’ which aims defining energy planning for Rodrigues so as to achieve an energy mix based 100% on renewable energies by 2050. A Master Plan for the development of sustainable tourism in Rodrigues is also under preparation which aims to encourage all tourism operators to work to meet the expectations of the new generation of travelers so that the tourism sector of Rodrigues reaches a new level while preserving the authenticity and charm of the island.

The actions proposed in this chapter aims to give a clear direction to the RRA on how the transition towards a more circular economy can be approached and streamlined in the next 10 years, until 2033. Besides desk research, another and very crucial step under data collection was the engagement with different stakeholders. However, due to the time limitations for this assignment, this engagement was rather limited. It was realised mainly through a meeting with the relevant commissions, one workshop with relevant stakeholders and one on-line session to discuss potential actions. The information gathered have been processed and combined to tailor actions addressing local challenges and opportunities in the circular economy.

9.2 Why a Circular Economy for Rodrigues?

9.2.1 Because the linear economy model is vulnerable

As it is the case for all small islands, Rodrigues is ecologically fragile and economically vulnerable. It has limited natural resources, a small area with sensitive ecosystems, small domestic market, do not benefit from the economies of scale, a heavy dependence on imports especially for food and energy, a heavy reliance on tourism, and the cost of provision of energy, infrastructure, transport and communication are high. The combination of small size and remoteness leads to high production and trade costs and exposure to commodity price volatility. The island is also particularly vulnerable to climate change and natural disasters. Historically circular by its agricultural and organic nature, Rodrigues's economy has progressively become a linear one that extracts, imports and rejects flows of materials. The society has transitioned from a frugal agricultural society, dependent on island resources and the cycles of nature, to a society whose lifestyles and the satisfaction of needs are more and more oriented towards the consumption of manufactured products, and which is dependent on fossil fuels and on imports. While Rodrigues has achieved economic and social progress, the development model results in deepening dependencies and vulnerabilities.

9.2.2 Because the island faces urgencies with respect to waste management

The management of solid waste is one of the major environmental challenges facing Rodrigues, in part due to unsustainable production and consumption patterns, and to the traditional linear business model of 'take-make-use'. Heavy reliance on imported goods and tourism without much control on upstream processes generally tend to make solid waste generation rates higher in SIDS. The increase in imports translates downstream into marked growth the production of residues and discharges. From an environmental point of view, the circular economy eliminates the notion of waste, now seen as resources. It makes it possible to decouple the development of activities from their footprint environmentally friendly, by reducing withdrawals and discharges.

9.2.3 Because the circular economy allows Rodrigues to face the global challenges of the 21st Century

Another major source of vulnerability stems from the global ecological crisis that will lead in the years to come to a reduction in the production and global circulation of natural resources, exacerbated by strong growth in the world population which is expected to reach 8.5 billion inhabitants in 2030. Global resources extraction will increase from the current 92 billion tons to 190 billion tons by 2060 and finite resources will become ever scarcer and more expensive with the current linear model. The circular economy has the potential to be an enormous contribution to the response that the island must give to these and other associated trends. The potential of the circular economy is not limited to resource efficiency and mitigation and adaptation to climate change. In this sense, it should be noted that, of the 17 Sustainable Development Goals, at least 10 would be directly and positively impacted by the transition to a circular economy: zero hunger (SDG 2); clean water and sanitation (SDG 6); affordable and clean energy (SDG 7); decent work and economic growth (SDG 8); industry, innovation and infrastructure (SDG 9); sustainable cities and communities (SDG 11); responsible production and consumption (SDG 12); climate action (SDG 13); life below water (SDG 14); and life on land (SDG 15).

9.2.4 Because the circular economy presents economic opportunities

One of the greatest attractions of the circular economy is that it offers ways to overcome the

dilemma between economic development and environmental protection, allowing for synergies between these two objectives. For example, despite the fact that all the virgin plastic resin used is imported, the vast majority of plastic residues generated on the island are not recycled; and, the importation of a large amount of synthetic fertilizers, without taking advantage of the natural fertilizers that could be obtained from the recovery of organic waste; and the reduction of imports in materials that a circular built environment would result in. From an economic point of view, it offers the opportunity to secure and reduce the costs of company production by limiting the consumption of natural resources and thereby the reliance on intermediaries and price volatility. The circular economy also reduces the exposure of companies to the application of taxation on polluting activities. It stimulates the innovation capacities of companies, by encouraging the invention of solutions to rethink the design products (in an eco-design logic) or adapt production processes, which can become so many competitive advantages and sources of value. Finally, the circular economy develops new business models, such as the functional economy which favors the rental of a service, from use to sale of a good.

From a social point of view, the circular economy is a great opportunity to stimulate the development of activities and jobs such as in the repair sector. According to the United States Environmental Protection Agency, while landfilling where incineration generates 1 job per 10,000 tons of waste treated, repair and recycling create more than 30. In a logic of short circuits, it encourages also exchanges between local producers. It thus makes it possible to improve the living environment, to strengthen solidarity and to live together. The circular economy also contributes to the reduction of energy and material dependence and thus to the import bill. More so, it makes it possible to transform this dependence and an apparent constraint – the management of waste in a context of saturation of dumpsites or landfills – into an opportunity to transform the model of development and create a shared ambition, a unifying goal: a Zero Waste Island.

9.3 Current Status of the Circular Economy in Rodrigues

The Circular Economy (CE) is a holistic approach to socio-economic growth that maximises resource efficiency through promoting sustainable production and consumption practices. It aims to generate economic growth by maintaining the value of products, materials, and resources in the economy as long as possible, thereby minimising the social and environmental damage caused by a linear economic approach. A CE requires a complete rethinking of value creation and is not just additional recycling.

Current initiatives on CE in Rodrigues are taking place in isolation and lacking a holistic and strategic framework. It is evident from the analysis undertaken for this study and discussions with stakeholders that there is a need for systemic change and a more holistic approach to adopting a CE in Rodrigues which reflects opportunities in all sectors beyond waste management. The holistic understanding of a CE as a system transformation is still new in Rodrigues and CE continues to be understood by many stakeholders primarily as a waste management strategy, but the economic opportunities are far broader and more diverse.

Rodrigues is at an early adoption stage of the CE, but interest is growing with several activities already underway albeit often in an ad hoc way- and some policy initiatives taken by the RRA. Since 2014, the island has banned the use of plastic bags, in order to protect its marine and terrestrial biodiversity. In the process, and with the support of its inhabitants, the island took the decision four years later to ban single-use polystyrene food containers; a measure that has been welcomed by both the local population and the rest of the world. These efforts are now combined with other initiatives aimed at protecting the environment. During the financial year 2022 – 2023 about 300 young people were recruited in order to raise awareness across the island regarding the sorting of waste and the concept of eco-responsibility. In the same line, Rodclean

a fully owned company by the RRA working under the aegis of the commission for environment has set up a team dedicated for the segregation and collecting of recycled waste. A key feature that makes the circular economy an innovative, yet grounded opportunity is the principle of natural regeneration. This entails ‘the promotion of the self-renewal capacity of natural systems with the aim of reactivating ecological processes damaged or over-exploited by human action’. Healthy ecosystems provide a range of ecosystem services that support communities and broader society. It is therefore important that these ecosystems are protected and restored. In a circular economy, various biodiversity conservation initiatives are considered key components of the economy. The establishment of reserves all around Rodrigues has contributed to the conservation of plants and animals’ endemic to the island. These efforts have been further intensified during the COVID-19 pandemic development agenda in recent years. Rodrigues generally has a well-developed governance system for the management of fisheries and marine resources, as well as existing networks of marine protected areas.

Across the different economic sectors analysed, there are many different, but small, initiatives that have circular economy at their core without mentioning it. In summary and overall, the current state of the circular economy in Rodrigues can be assessed to be on a low-medium level. On the one hand, in some sectors the circular economy is well supported through policies such as on plastic waste and on waste sorting, which however still hold improvement potentials. On the other hand, in other sectors with large circular economy potentials, such as the construction sector or the organic waste stream, there is a lack of concrete efforts. In addition to this, the level of awareness and skills needed for applying the circular economy across sectors is still lacking. However, Rodrigues has shown strong commitment to advance the sustainable development agenda in recent years and can show the same commitment in incorporating circularity principles in policy and decision making.

9.4 Summary of the Sector Assessment and Prioritization

The following three main criteria have been used to prioritize the sectors:

- (i) **Economic potential:** This measures the importance of the sector for Rodrigues’s economic development, including GDP and jobs;
- (ii) **Circularity potential:** This measures the potential of the sector to benefit from a circular economy approach. It considers factors such as sustainability, the material intensity of production, the waste volumes, the unrecovered waste, and whether there are international examples of successful circular approaches in that sector; and
- (iii) **Level of stakeholder support:** This measures the degree of policy makers and private sector support for a circular approach in that sector.

In addition to Waste Management, which is commonly seen as the entry point to adopting CE principles, the following two economic sectors have been identified as having high potential for circularity in Rodrigues: Agri-food and Tourism (which incorporates the built environment for accommodation and can drive circular construction on the island).

9.5 Priority Sectors, Gaps and Opportunities

This section provides an overview of Rodrigues's priority sectors as well as a derivation of their major gaps and opportunities in relation to circular economy, which will be addressed through the policy interventions suggested in this Action Plan.

9.5.1 Agri-food

Agriculture and Agro-Industry are the engines of sustainable development in Rodrigues. In the 70's, Rodrigues had a vibrant agricultural and livestock sector. The island was self-sufficient in vegetables and livestock and exported the surplus to Mauritius. Over 5 decades the situation has evolved to its current situation of Rodrigues having to import a large portion of its food supply. The following factors have led to this situation:

On the supply side-Climate change leading to documented changes in rainfall patterns leading to rainfed agriculture becoming unfeasible; An ageing workforce and a lack of interest of younger generations to adopt agriculture as a career. On the demand side-Improved logistics connections with Mauritius with imports of frozen, processed and ready to eat foods, cold storage facilities and retailing through supermarkets; Over the last decade, the rise of tourism when food production was already declining, has triggered demand for imported food and more ready-to-eat food products.

The disintegration of the food production sector has created a downward spiral which is being compensated for by imports of food products. The lack of economic opportunities has led to an increase in the number of livestock, which are allowed to graze freely on open spaces. The foot and mouth disease and the ban on exports of live cattle has prompted the livestock owners to switch to goats and sheep which can graze closer to the ground and represent a more serious threat to overgrazing and hence soil erosion. In order to improve food security, boost local economies and strengthen the resilience of the community, production methods need to be reviewed as well as be able to exploit the vast potential of the blue economy. Investments need to be made in modern sustainable agriculture to increase production and also take concrete steps to address issues related to climatic changes climatic and other environmental factors that pose a great risk to the agricultural sector. To achieve self-sufficiency in agricultural production, agricultural practices need to be modernized, innovation need to be stimulated and more young entrepreneurs need to be attracted. Rodrigues has an established reputation for its traditional agro-processed products and the agro-processing sector is viewed as an important sector for the Rodriguan economy as it contributes to employment creation and has linkages with the economy, especially the agriculture and fisheries sector. The small agro-processing sector is mainly dominated by women. Most of the products require low-cost technology and a few specific ingredients. With time the processes have been innovated in terms of packaging, product presentation and new products.

Even though the agricultural sector is a priority sector for the RRA, there are still many unexploited opportunities in the agricultural sector with regards to circular economy. As the majority of farmers still use imported chemical fertiliser, there is a large opportunity to address this gap by promoting organic fertiliser and providing guidance on its application. Regenerative agricultural practices like agro-ecology and agroforestry need to be promoted. A key challenge occurring in the agricultural sector is land fragmentation with a dominance of small-scale farms, limiting their potential and employment opportunities by being disconnected from each other or unable to scale up. This challenge could be addressed with better connections to be able to leverage knowledge, resources and equipment.

The extension of the runway and an increase in direct flights from Reunion will trigger the next level of expansion of the hospitality industry in Rodrigues in terms of volume and quality of tourists as rising demand for accommodation tend to inflate prices which in turn will drive an upward spiral attracting tourist with higher spending capacity. While the hospitality industry will lead to a higher demand for food products, a large portion of this demand is expected to be supplied through imports. In the do-nothing scenario, the positive cycle of higher spending tourists with more sophisticated gastronomy expectations will lead to higher and higher volume and value of food products to be imported. In terms of economic cycles, this constitutes a leakage which does not benefit the local economy. There is a need for interventions to capture the opportunities of reinforcing the linkages between the hospitality industry and the agri-food supply chain. The close coupling between a higher end Eco Tourism and a local food supply chain represents the most significant economic opportunity in Rodrigues.

Table 9.1: Examples of the circular economy opportunities and benefits in the agri-food sector

#	Circular opportunities	5Rs	Brief description
1	Reduce inputs of chemical fertilizers	Recycle	Increase the use of organic fertilisers.
2	Regenerative agriculture practices	Reduce	Integration of more circular principles into farms, including closed-loop systems, and the consideration of other supportive concepts, such as agroecology ⁷¹ and agro-forestry.
3	Sharing of Resources	Reuse	Promote the concept of community farms and a better connection of small-scale farms.
4	Reduce post-harvest food loss	Reduce	Overcoming wastage due to poor storage facilities and insufficient infrastructure, particularly for smallholders.
5	Reduce supply chain food loss	Reduce	Reducing food loss and waste during processing, packaging, and distribution of food. Example levers to reduce waste include affordable cold storage transportation systems and new packaging films.
6	Reduce consumer food waste	Reduce	Reducing food waste at the point of consumption. Example levers include better information on “use by” labelling, trayless dining. etc.
7	Process food loss and waste	Recycle	Finding more productive uses of food waste, such as energy, composting and nutrient extraction. This includes bio-refineries that capture the full value of by-product and waste streams by extracting several different products

⁷¹ Agroecology is the application of ecological concepts and principals in farming. Agroforestry is a great example of agroecology. It's the practice of combining trees and farming; it demonstrates how food production and nature can co-exist.

9.5.2 Waste

The waste sector plays an enabling role for the circular economy. Proper waste management is a prerequisite for ensuring high-quality waste valorisation. Due to the large amounts of organic waste that is not properly separated and collected, there is a large opportunity to enhance awareness of waste valorisation and to improve these practices to avoid contamination of other waste streams that hinder their recycling; and instead, to create value through fertiliser, biogas or animal feed production.

Waste management remains one of the major issues in Rodrigues. Waste segregation, collection, transportation and management on 3 (three) dumping site Oyster Bay for green waste, Grenade for recycle waste and at Roche Bon Dieu for commercial and residential waste are carried out by RodClean, which is a government owned company. In 2020 roughly 4472 tons were dumped at the dumpsite which is improperly managed. The waste production is 0.28 kg /capita/day compared to about 1.12 kg/capita/day in Mauritius, but the amount of waste disposed at Baie aux Huitres and Montagne Plate are not available and hence this figure does not reflect the true waste generation in Rodrigues. On the other hand, Construction and Demolition (C & D) wastes are sent to fill a rock quarry area at Montagne Plate which is managed by a private company. Due to lack of control at the access road, most of the wastes disposed are non-inert. Recycling of waste is mostly limited to collection and exportation of PET bottles, can and aluminium based cans, used oil and metallic wastes to Mauritius. The exportation cost is a limiting factor. With the economic development of Rodrigues, increase in population and tourists' arrival, the amount of solid waste will increase and needs to be managed sustainably with a circular model. Waste is viewed as a resource and should be valorised as far as possible, while acknowledging that the amount of waste generated in Rodrigues is relatively small to develop a viable recycling industry for all materials.

Table 9.2: Summary table of CE opportunities and gaps in the waste sector

Opportunities	Gaps
Valorise organic waste, incl. better waste collection and production of fertiliser, biogas or animal feed.	No guidelines, law or incentives supporting the valorisation of waste (through mandatory separation or treatment); lack of infrastructure and enforcement of separation, collection and treatment still a dumping site rather than a sanitary landfill)); lack of know-how and awareness of the importance of circularity (consumer level) and business case for circularity (business level).
Reduce food losses	Lack of technical equipment and knowledge of farmers; lack of infrastructure.
Improve waste collection and transfer to increase the quality of recycling input flows.	No waste collection centers for e-waste or hazardous waste exist; lack of infrastructure (facilities and transport/distribution) and know-how about proper and safe separation of different waste streams.
Systematically gather data on waste to enhance collection and policy-making.	No data collection system and infrastructure; no legal obligation to collect data.
Scale-up local recycling (and reuse and repair) initiatives for organics, plastic and e-waste.	Lack of leadership and financial support; lack of access to recyclable materials; insufficient waste separation.

9.5.3 Tourism

Compared to the difficulties faced by the other economic sectors, the tourism sector has been the one encountering significant development over the last decades with an increased number of tourists from about 39,000 tourists in 2000 to some 77, 831 arrivals as at end of 2019. There are about 220 registered tourism enterprises with the Rodrigues Tourism Office.

There is a symbiosis between the tourism sector and the other economic pillars of the Rodriguan society, such as agriculture, livestock rearing, lagoon fishing and local handicraft industry. The tourism industry has important indirect impact on other sectors due to its multiplier effect. Therefore, tourism is acknowledged as cross-cutting economic sector. Tourism, however, also contributes significantly to waste generation, as well as to high levels of consumption of resources such as water and energy. Tourism has an important role to play in the Circular Economy transition, as the industry is deeply interlinked with and dependent on multiple other value chains – including agriculture and food, construction, transport, manufacturing and waste management. The transition towards a more circular tourism economy depends strongly on the integration and collaboration of a higher degree of circularity in all these sectors. A circular tourism sector acts as an enabler of transition by making circular consumption choices and supporting resource recovery. A CE transition will be beneficial to the tourism sector. As a service sector tourism is built on a range of other sectors such as food and agriculture, buildings, consumer goods and mobility. It is dependent on the health and resiliency of these sectors and on natural systems themselves. If these sectors transition to a CE model, tourists can benefit from a cleaner and healthier environment.

Table 9.3: Examples of circular economy opportunities and benefits in the tourism sector

Circular opportunities	5Rs	Brief Description
Generate less C&D waste through existing processes	Reduce	Optimise existing construction practices and processes to reduce wastage in construction yards.
Use more sustainable materials	Rethink/Redesign	Switching to more sustainable and longer life materials to reduce environmental footprint of construction.
Reuse and recycle materials	Recycle, Reuse	Tighter 'looping' of building components through either reuse or high-quality recycling.
Optimise building usage	Reuse, Repair/Refurbish	Increase utility of existing buildings through sharing, multi-purposing and repurposing.
Design and build more resource-efficient buildings	Rethink/Redesign	Improve the energy efficiency of buildings.
Reuse products	Reuse, Refurbish/Repair	Aims to alter the consumer value proposition (e.g. “servitisation” models that encourage leasing/repairs).

Reduce food waste	Reduce, Reuse and Recycle	Reduce food waste in restaurants, share edible food and find more productive uses of food waste, such as composting and fertilizer production.
Reduce and reuse plastic packaging	Reduce, reuse	Reducing plastic packaging waste by eliminating non-essential plastic packaging, maximising reuse of plastic packaging and by creating new delivery models that avoid single-use plastics.

9.6 Actions under the priority sectors

Based on the sector assessment and the identified opportunities and gaps, concrete actions (policy interventions and projects) have been derived for each priority sector to exploit the opportunities and mitigate the gaps. In addition, cross-cutting policy interventions aiming to strengthen the capacity building across all sectors on a policy, business and civil society level have also been considered. Together, the following 30 actions represent the steps towards embedding circular economy in Rodrigues in the next 10 years. In addition, the Annex gives pilot ideas identified during consultations which are phase one development trials that further the circular economy and which can be implemented rapidly. Pilots make it possible to disseminate existing innovations and best practices.

Table 9.4: Actions in Focus Areas

#	Cross-Cutting Actions	ST/MT/LT	Leading Actor	Key Actors
1	Create an open governance that promotes active involvement of stakeholders around the major challenges of the transition to a circular economy in Rodrigues and the evaluation of policy results. A Circular Economy platform will be launched to enhance dialogue and cooperation among stakeholders to discuss policies and regulatory provisions, barriers, new opportunities and share information/best practices and review road map progress. The platform will include RRA, private sector, Rodclean, academic and research institutions, civil society and donors. Such a platform, which will meet at least twice yearly, will contribute to building bridges between policy makers and stakeholders and encourage collective efforts on circular economy.	ST	Deputy Chief Commissioner's office and Commission for Environment	• Private Sector • NGOs • Donor Organizations
2	Include a requirement for a Circular Economy statement in all new projects intended to cover the whole life cycle of development to help consultants/architects/designers embed circular economy principles. Circular Economy Statements are intended to demonstrate how a development (especially construction projects) will incorporate circular economy measures into all aspects of the design, construction and operation, maintenance and demolition processes. This will help to ensure that applicants seeking planning permission for major schemes demonstrate circularity principles have been incorporated in the design and operation of the project. A guidance document will explain how to prepare this Circular Economy Statement.	ST to MT	Commission for Environment	• Professional Associations • Consultants
3	Identify all ongoing circular economy initiatives in Rodrigues and disseminate widely through an on-line information platform successful local case of circular economy.	ST	Commission for Environment	• Private sector • NGOs

	The platform will enable the wide dissemination of successful local cases of circular economy, narrating its genesis and development trajectories, and characterizing its business models and positive impacts, in order to generate a demonstration effect that encourages others. This platform can be linked to the one being created by the Ministry of Environment.			
4	Disseminate circular habits and practices. Encourage the development of a culture that highlights efforts to avoid the impacts of the linear economy and raises awareness about different ways to avoid them, promoting the dissemination of circular habits, and practices and more sustainable lifestyles. Invest in communication campaigns to mobilize citizens in particular regarding sustainable consumption, reuse, repair, recycling, the environmental impact of dumping waste and the sorting of waste at source. • Develop a communication campaign to raise awareness about food loss and waste. This will include a communication campaign on the date labeling law. • Develop a communication campaign to promote the reuse of plastic containers and the repair and reconditioning of home appliances. • Develop a communication campaign to raise awareness about the impacts of plastic pollution. • Develop a communication campaign on waste sorting. A system of circular economy ambassadors can be deployed to inform the public more effectively and improve the mobilization of citizens on the circular economy, responsible consumption and waste prevention and management.	ST	Commission for Environment	• Private Sector • NGOs • Rodclean
5	Enhance Circular Economy in the School Community.	ST to MT	Commission for Education.	Teachers

	The objective of this action is to spread knowledge about circular economy and circular habits and practices in the school community through initiatives such as: • Mandatory circular economy education in schools. Integrating the circular economy concept in the curricula is a fundamental step to introduce children to the concept of circular economy. Education modules must impart a renewed level of awareness, such as the use of everyday goods and consumer items (with less plastic), everyday electrical appliances (energy saving), judicious shopping (with minimum wastage of items like food), reuse, repair and recycle of goods (upcycling and raw material savings), responsible transport (lower emissions), waste segregation and rational management of resources like water. Children must be introduced to the various frameworks of circular economy (7Rs) and explore how these principles may be attributed to the daily experiences. By teaching circularity, this would ideally also contribute to making educational institutions inherently more circular in the long-term; • Awareness campaigns in schools (and in the community) on circular economy and the 7Rs and publishing content and pedagogical resources on topics related to the circular economy on a specific platform; • Promoting the implementation of science, technology, and innovation contest and activities on circular economy, where groups of students develop applied projects on the subject and practical learning; • Promoting the reuse of school supplies such as books, uniforms, etc and promoting the use of free hours of educational establishments for the implementation of participatory activities on circular economy issues, for example, workshops on repairing things, development of school gardens, or the implementation of recycling and composting systems. This can be done through science clubs in schools and support from PTAs.		(Note: This action is being implemented in Mauritius and Rodrigues will form part of the working groups)	
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	- Promote the use of digital books and make provision in procurement exercises of textbooks for addendums every year instead of replacing with new editions. - Partnering with NGOs for awareness campaigns in schools on specific topics for ex awareness campaign on food waste, plastic pollution and on waste sorting and recycling			
6	Circular economy vocational training courses for closing material loops. The increasing importance of the circular economy will have a significant impact on the shape of jobs and competencies. TVET has a critical role to play in the evolution of circular approaches to extend the service life of goods and close the loop. First and foremost, it must meet the demand for higher technical skills and provide crucial support for lifelong learning through upskilling as well as continuous and in-work learning. In addition, TVET needs to equip young people with the relevant entrepreneurial skills and STEM (science, technology, engineering and mathematics) competencies for green jobs in emerging sectors. Sustainability must also become a mandatory cross-over topic in vocational education and training qualifications frameworks. This project will develop the capacities of TVET teachers and training staff to implement green and circular economy approaches to skills for employment and entrepreneurship.	ST to MT	MITD (Note: This action is being implemented in Mauritius and Rodrigues will be invited form part of the working groups)	
7	Education and Awareness raising on Circular Economy in Public and Private sector Lack of knowledge of the issues and benefits is identified as one of the main obstacles to the transition to a circular economy. The challenge is to create adhesion from policy makers and business leaders while building their capacity to carry out the required transformations. Training workshops for heads of organizations who can intervene at the policy level and during its implementation and specific courses on CE for government employees will be offered by the Civil Service college and/or the NPCC or by consultants.	ST	Commission for Environment	All Commissions Private sector

	Government employees will also be given incentives to follow already available online courses on the topic. A portal hosted by the Commission of Environment will be created/enhanced with a communication structure that can convey the concept to different audiences using robust examples. In order to encourage as many companies as possible to embark on the path of the circular economy, a network of business leaders on the circular economy will be constituted. This network will ensure the construction of awareness and training action plans for companies.			
8	Promote the creation of lines of research, development, and applied innovation (R&D+i) with potential to accelerate the transition to the circular economy in Rodrigues. As a priority, promote the development of a line of R&D+i projects for the generation of byproducts from organic residues from the food system.	ST	MRIC	All Commissions Private Sector
9	Launch a circular economy accelerator and incubator programme that enables individuals and startups to prototype and develop innovative solutions contributing to accelerate the transition towards Circular Economy in Rodrigues. During the program, the selected entrepreneurs work on implementing their solutions and validating their business models, with the support from high-level mentors, experts and network of impact investors.	ST to MT	Commission for Environment	Private sector
10	Create a policy and strategy on circular public procurement and review financial instructions for disposal of public assets in accordance with circular economy principles. It is important to set and communicate the level of ambition by creating a circular procurement policy and strategy incorporating circular economy principles into existing public procurement policy. This will ensure it is visible as a priority. A working group comprising experienced procurement officers in different fields will be set up and will be trained as trainers by experts on green/circular public procurement. They will be the champions for circular public procurement and advise on future tender exercises. The	ST to MT	Commission for Environment	

	disposal of assets after their end-of-use is often considered the end-stage in the procurement cycle. Assets disposal in a public organization is its capacity to attach reusable value to its assets at their end of life. It is an area where significant improvements can be made to the public procurement process and has the most potential for sustainable procurement practice.			
Initiative	Circular Agri-Food sector	ST/MT/LT	Leading Actor	Key Actors
11	Mandatory registration of farmers and creation of an electronic farmer registry. One of the key tenants of a circular food system and food security is the ability to track both the supply and demand sides of the agri-food system. Key to the supply side of the equation is the need to have a registry of all the food producers. This includes the ability to not only have the name and address but also the need, through regular surveys, to have a clear understanding of the land they hold, what they produce and how much they can produce and provide a viable forecast of produce for a season or a year. Farm registration provides for managed access to programs by farm businesses and collection of farm information to develop agricultural policy. The information, besides improving agriculture policy can be digitalized and the digital platform can transmit accurate market information relevant to food producers and connect those producers more closely with their customers. It will help also in keeping records of farmers practicing sustainable agricultural methods. It can also help in setting up sharing programs for the agricultural communities.	ST to MT	Commission of Agriculture	Farmers Associations
12	Develop a Strategy and Action Plan on Food Loss and on Food Waste Food losses occur during the production and processing stages up to the retail level. Food waste refers to food not eaten due to the decrease in the quantity or quality of food resulting from decisions and actions by retailers, food service providers and consumers. Examples include the disposal of	ST to MT	Deputy Chief Commissioner's office Commission for Environment	Private Sector NGOs

	food due to ‘best-before’ labels or abnormal aesthetic features such as size, shape, or colour. A consultancy study will develop a national strategy on food loss and food waste (FLW) that will provide overarching guidance to consumers and businesses on the objectives of policy makers and will complement other policies. The goal will be to reduce both food loss and waste by 50% by 2030 in alignment with SDG 12.3. The strategy will be anchored by three broad objectives: (i) prevent food loss and food waste from occurring in the first place (ii) recover safe and nutritious food for people and food scraps for animals and (iii) commonly wasted resources are used productively such as recycling energy and nutrients. The consultancy study will also (i) establish a standard food loss and waste methodology and determine the 2023 food loss and waste baseline for Rodrigues against which progress towards SDG 12.3 can be monitored; (ii) establish an anti-food waste action hierarchy; (iii) clarify guidance on food safety for donations; (iv) recommend measures for liability protection for food donations; (v) develop a regulatory framework to regulate donation of surplus food, forbidding the destruction of unsold food products still fit for consumption and obligation for some actors in the food industry and mass catering sector to make publicly available their commitment to reduce food waste; (vi) recommend fiscal incentives for donors; and (vii) recommend incentives for the use of digital technologies in reducing consumer food waste.			
13	Organize training on regenerative agricultural practices such as agroecology or agroforestry This training aims to helping professional farmers, individuals and companies to master the practices of agroecology and agroforestry, a model of sustainable agriculture which is attracting more and more interest	ST	Commission for Agriculture	Farmers Associations

	worldwide. The products from such agricultural practices can be integrated on an online sales platform and given preference in procurement exercises.			
14	Develop a strategy and action plan to create a market for organic recycled nutrients The agricultural system is predominantly linear, as nutrient flows are not closed loops. Most nutrients in food waste, food industry side streams, animal manure, sewage sludge, and treated wastewater are not recovered. Significantly reducing agriculture's dependence on continuous inputs of synthetic fertilisers would require recovering and reusing nutrients at scale, as well as rethinking source separation and investing in better collection, treatment, and recovery of solid waste, human waste, animal manure, and wastewater. Efficient nutrient recycling plays an important role in transforming the economy into a circular one. Besides increasing biomass, it reduces the amount of nutrients entering water bodies causing eutrophication. The demand of recycled and organic fertilizers is growing, and the market potential is high. However, the market for recycled nutrients and fertilizers is underdeveloped. This policy intervention includes the development of targeted promotion of organic fertiliser to farmers as well as encouragement to businesses to start exploring the theme which offers a clear business opportunity. A strategy and action plan will be developed to create a market for organic recycled nutrients and reduce chemical fertilizer use. The study will also look at the feasibility of the use of food waste in the production of value-added biochar products in a local pyrolysis plant. Biochar is a potent fertilizer which can reduce costs as fewer fertilizers need to be purchased while enhancing the capacity of the soil to absorb carbon.	ST to MT	Commission for Agriculture	Farmers Associations Tourism associations and operators

15	Develop guidelines for farmers that provide guidance on how to set up a crop and/or animal farm in the most sustainable and circular way. Compiling all necessary information in a comprehensive but simple way would be of significant support for people who decide to develop a farm based on sustainable and circular principles or farmers who want to shift from conventional to sustainable agriculture. The publicly available national guideline could for example contain: (i) An introduction to circular and sustainable farming principles as well as their practical application in the context of Rodrigues; (ii) Information about the relevance of integrating polyculture and agro-forestry elements into farming; (iii) Instructions on where to get technical equipment and how to install it; (iv) International best practices with the potential to be replicated to Rodrigues; (v) financial support means; and (vi) Instructions on more recent topics, such as how to shift from chemical to organic fertilizer.	ST	Commission for Agriculture	FAREI Farmers Associations
16	Enhance equipment, labour, infrastructure and resource sharing platforms to support farmers across the supply chain. In line with CE, the sharing economy becomes a possibility for farmers to access means of production without acquiring their ownership, using different practices, such as sharing machinery and equipment from other farmers. The sharing of agricultural equipment and tools support circular strategies by reducing assets that sit underutilized. Digital platforms offer opportunities for sharing infrastructure (ex-cold rooms), machinery and labour so that farmers can benefit from economies of scale. Leveraging the aggregated knowledge of many farmers, other digital platforms can be used to share best practices in regenerative agriculture. This action will look into the setting up of farm equipment hiring centres and creation of digital	ST	Commission for Agriculture	Farmers Associations

	platforms to facilitate infrastructure, equipment and labour and knowledge sharing.			
#	Circular Waste Management	ST/MT/LT	Leading Actor	Key Actors
17	Carry out a new waste characterization exercise to devise waste management policies. A proper waste characterisation is very important to better manage. The assistance of the University of Mauritius or other international organisations who has experience in such exercise and who can train the technical personnel as well should be sought.	ST	Commission for Environment	Rodclean
18	Implement a composting plant for the treatment of green and food wastes and support the demand for compost through subsidies, regulations and sustainable procurement.	ST to MT	Commission for Environment	Commission for Agriculture Rodclean
19	Introduce the necessary regulations for the separate collection of waste from the 2 bins given to each household for the implementation of waste segregation at source. In parallel, develop communication campaigns about importance and value of waste sorting and recycling in collaboration with NGOs and ambassadors. A uniform labelling has to be provided on household and street bins and at public events and festivals. It is recommended to have extensive consultations with NGOs and manufacturers of waste bins before finalizing the labelling and instructions etc. By providing clear signage and instructions on bins and reception points, stakeholders can reduce the impurities from collected waste. In parallel, messaging and educational materials will have to be developed about the importance and value of recycling (env, social and economic benefits) and make sure the public understands the consequences of contamination and how to recycle properly.	ST	Commission for Environment	NGOs RCSS Rodclean

20	Distribute Home Composter Bins to household with guidelines on how to use them and ambassadors to provide advice. This home composting scheme consists of the provision of composter bins to households to encourage source segregation of wastes that will be clean and promote the practice of compost production and usage. Another objective of this scheme is to reduce the amount of wastes going to the dumpsite and thus diversion of waste from the dumpsite.	ST	Commission for Environment	Commission for Agriculture NGOs RCSS
21	Upgrade the existing dumping ground at Roche Bon Dieu and plan for a sanitary landfill in the medium term at Grenade	ST to MT	Commission for Environment	
22	Implement a Hazardous waste Management Plan An inventory should be carried out in all Educational, Commercial , Industrial , Medical , Agricultural institutions (chemicals from colleges, hospitals, pharmaceutical wastes, agricultural pesticides and other places where most probably dangerous wastes are generated like garages, including gas cylinders – chlorine ammonia etc) . These hazardous wastes will then be inspected, tested, collected, labeled, packaged and sent to Mauritius for onwards treatment. In parallel, all E- Wastes will be collected and sent to Mauritius for recycling/ exportation	ST to MT	Commission for Environment	Rodclean Business operators
23	Institutional strengthening of the Commission for Environment. The Commission for Environment should recruit more officers and they should be trained regularly on the different aspects of waste and hazardous waste management.	ST	Commission for Environment	Rodclean
24	Create a policy and regulatory framework to support the transition to packaging reuse and refill.	ST to MT	Commission for Environment	Business Associations Rodclean

	Banning plastic doesn't change the reliance on throw-away products – it shifts consumption to other disposable materials that impact the planet and human health in other ways, resulting in “regrettable substitution.” As shown by several life cycle assessment studies, trading disposable plastic for single-use paper, aluminum, or plant-based fibers can result in greater climate impacts, water and air pollution, loss of biodiversity, and the use of different sets of toxic chemicals, depending on the specific products involved. Better solutions lie in focusing on Reduce and Reuse. Circularising packaging and disposables will immediately manifest the circular economy among consumers. The feasibility of the following measures will be studied: (i) targets for reusable packaging-for ex targets of 5% reused packaging by 2025 and 25% by 2030. The law can mandate that specific beverage categories provide a minimum reusable packaging quota ranging from 10% to 25% by a deadline. (ii) definition of bulk selling as selling products in reusable packaging. (iii) all food products can be served in bulk unless hygiene reasons warrant otherwise for specific products. (iv) Consumers' right to be served in their own containers, with them being responsible for the container's hygiene. (v) Beverage sellers must provide a preferential price for consumers who bring their own containers. (vi) Retail spaces above a minimum floor area must provide reusable containers for products sold in bulk - whether free of charge or through a deposit-return scheme. (vii) On-site food services have to provide food and beverages in reusable containers by a deadline. (viii) Any restaurant, cafe, or shop selling food or drinks to consume on the go should be obliged to offer refillable options and to take back the containers.			
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25	Develop and scale initiatives that enable people to repair/reuse consumer goods or donate unwanted items. The consumer goods with the greatest need and potential for repair are durable (medium to long-life) goods such as smartphones, laptops and other personal electrical items, household appliances, furniture and furnishings, as well as clothes and textiles. This action focuses on mapping and building partnerships with the existing local repair and reuse industry to cultivate this sector and foster a local culture of reuse and repair. The local reuse and repair industry can be supported by: (i) Promoting repair as attractive and aspirational through informed educational and communications campaigns. This can be done by partnering with NGOs to raise consumer awareness about the benefits of products and services that integrate circular principles and on the benefits of reuse, repair and recycling. Public advertising can be used to promote circular economy initiatives such as ‘libraries of things’, secondhand stores, repair events, etc. (ii) Developing a directory of local businesses and non-profits to raise awareness of their services. This can be done by partnering with a social enterprise to map the country’s reuse and repair shops and services in an online directory (iii) Establishing or support recurring repair events in the community. These events provide repair services and/or teach people to perform their own repairs at no or low cost. Repair events should be hosted in accessible locations, such as cafés, public libraries, community centres and business storefronts, and held monthly, quarterly or another regular schedule. They are often staffed, at least initially, by a network of skilled volunteers, including staff from local businesses and non-profits that can benefit from the publicity. Repaired items can be donated to local people in need or sold at low prices. (iv) Organizing an annual major repair event such as a Repair Week to deliver repair workshops and share advice.	ST	Commission for Environment	NGOs Private Sector Rodclean
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	(v) Establishing lending libraries to reduce the need to buy tools and other goods. ‘Lending libraries’ enable people to borrow a wide range of goods that they only need infrequently, including tools for repair. They can be located in lower-income neighborhoods to maximize accessibility for those who can benefit most, and ensure the selection of tools and goods responds to local needs and interests. (vi) Incentivising residents to donate their unwanted items to (i) charities or social enterprises through online platforms , (ii) Civic Amenity Centres or (iii) through community centers that can arrange for a ‘donation space’ for people who are in need. This can be done with the collaboration of NGOs.			
Initiative	Circular Tourism Sector	ST/MT/LT	Leading Actor	Key Actors
26	Promote circular procurement in the tourism sector The tourism hotel and restaurant industry could make a real contribution to circular economy through the procurement of food produced sustainably, materials that can be easily returned into the recovery process and procurement focused on leasing services rather than on procurement of a product. This can be done through the following initiatives: • Develop a voluntary charter or agreement for the accommodation sector with pledges to reduce energy consumption and waste generation and to adopt sustainable procurement policies. In particular increase the value of nature-regenerative food production to farmers. • Undertake a market readiness analysis looking at both demand and supply in the local market, so as to establish relevant sustainable procurement criteria. Implement a program of circular economy business rounds that generate direct connections and collaborations among different actors of the local tourism value chain, agri-food value chain, handicrafts value chain, etc. • Deliver sector-wide training on - sustainable procurement to encourage businesses to include sustainability criteria in their purchasing policies	ST to MT	Commission for Tourism	• Tourism Associations and operators • Suppliers of goods and services

	• Conduct a sector-level feasibility study on implementing a collective purchasing system for accommodation providers for sustainable products and services (particularly SMEs) to enable economies of scale to be achieved. Circular construction...with regards to accommodation, the hospitality sector can serve as an important platform for circular products, e.g.by procuring refurbished furniture or making use of architectural designs that promote the use of locally available materials.			
27	Implement a Voluntary Agreement on Food Waste reduction. Voluntary Agreements (VAs) are self-determined commitments with qualitative and quantitative objectives, developed by private entities and/or other stakeholders in consultation with their signatories. They are used as alternative courses of action to traditional legislation. A voluntary agreement approach – bringing together a group of committed businesses and stakeholders to collaborate across the supply chain with the aim of cutting food waste rapidly and cost-effectively is a proven method for tackling food waste. Critical success factors identified by international experience relevant to such a VA include the need for firm VA targets owned by its signatories, dedicated staff within a strong lead organization to coordinate and monitor, sponsored by government, secure and long-term funding, using local knowledge and expertise and the need to engage all stakeholders from farm to fork through joint actions between food businesses, NGOs, government and consumers. The objectives of the VA are to be collectively designed in consultation with all signatories to ensure that each actor's needs and specificities are represented, which facilitates the development of relevant and attainable targets. A General Agreement on the Reduction of Food Loss and Food Waste is to be signed between the Executive Council of Rodrigues and the	ST	Commission for Tourism	Hotels and Restaurants

	tourism, with the objective to reduce edible food waste by 50 per cent by 2030. By signing this Agreement, the executive council and the tourism sector will show their shared responsibility in achieving specific goals.			
28	Set up a working group on transforming business models in the tourism industry to circular business models. The transition to the circular economy of companies does not only involve changes in processes or techniques, but also by redefining business models; that is, how these organizations produce, deliver and capture value. There are novel circular business models in companies in the tourism sector such as: • Circular Supplies: e.g. using ecological materials for buildings or by applying alternative, biodegradable packaging materials. There are many examples of companies that are trying to substitute the plastic they used in favor of biodegradable materials (paper, agricultural waste, or similar). • Product life extension- the reuse of specific resources or repair of goods to extend their useful life. For instance, hotels are partnering with local organizations to recondition used soaps, giving them a second life and providing additional local jobs. • Product as a service: providing access to services rather than ownership of products. For instance, in a particular hotel, all fitness equipment, company cars, computer equipment, coffee machines in rooms, seminars, restaurants and bars are under a lease agreement, or ‘on loan for use’ contract. This lowers the total cost of ownership by enabling, at the end of leasing, either re-use or buy-back/resale, recycling or donation. Linen (sheets, towels, tablecloths and napkins) can be rented, and serviced by an eco-labeled laundry. The functional Economy fits squarely into the transition to a green economy. It consists of replacing the concept of selling the product with that of selling the use of the product and useful effects (benefits	St to MT	Commission for Tourism	Tourism operators

	to customers), which leads to the decoupling of value added from the consumption of energy and raw materials. • Resource Recovery: creating value from waste by recycling specific resources. For instance, some hotels are collecting bio waste from hotel facilities and restaurant to have it transformed into compost, biogas or biochar. Other hotels focus on using recycled materials for upcycled furniture. • Use of sharing platforms – accommodation, transportation (e.g. leasing of recycled bicycles for tourists), etc. However, the transformation of business models can encounter significant obstacles such as (i) a lack of knowledge makes them undesirable in the face of a model established and known; (ii) the need to thoroughly rethink the organization of the company's activity, which may be costly in terms of time and resources, and uncertain in its effects; (iii) consumer reluctance or inappropriate behavior that damages shared goods and (iv) the obligation to develop new know-how, for example in terms of eco-design, logistics or repair. To remove these obstacles and support the transformation of existing companies, this action sets up a working group dedicated to circular business models led by an expert in circular business models. Bringing together entrepreneurs, trainers and policy makers, this group will act as a coordinating body to promote and support the transition to these models, through: • the selection and provision of relevant knowledge and content: concrete examples of business models, awareness-raising and training materials, methodological guides, etc; • the training of trainers to integrate circular models into existing tools for sustainability training and build a network of consultants able of advising companies in the transition;			
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	- the organization of awareness-raising and training actions to highlight and facilitate the incorporation of circular business models; and - the development of a circular toolkit for good practice and guidance on setting CBMs.			
29	Develop an online marketplace through an online platform for (i) Construction and Demolition Wastes (CDW) from the tourism industry for materials recovery and secondary material exchange (ii) Food waste can be reduced by donating left-overs for free or for a small price. Online platforms such as Too Good To Go  can transform the food waste of restaurants or hotels into meals for interested consumers. (iii) Sharing and multi-use of spaces. The US start-up Spacious, for example, makes use of restaurants that are empty by day to provide working and meeting rooms.	ST to MT	Commission for Tourism and Commission for Infrastructure	Relevant stakeholders in the construction sector value chain
30	Education and awareness raising on Circular Built Environment in the tourism industry There is a clear need for greater dissemination of knowledge about circular economy in the built environment and the tourism sector can lead the transition to a circular built environment in Rodrigues. Workshops/ industry training programmes/CPDs tailored to the various actors along the construction value chain (architects, engineers, entrepreneurs, construction workers, etc.) on the following topics will be organized: (i) Basics of Circular Built Environment to familiarize stakeholders with the language of the circular economy in the built environment; (ii) Circular economy guidance for construction clients-how to practically apply circular principles at the project brief stage;' (iii) Design of Circular Buildings such as designing the hotel interior for modularity for example with swappable, easy to repair, upgradable,	ST to MT	Commission for Infrastructure and Commission for Tourism	Relevant stakeholders in the construction sector value chain

	customized materials and products for modular public partitioning, and flexible room partitioning solutions would allow for increased flexibility in adapting the property layout, reflecting and responding quickly to demand changes; (iv) Construction waste management; (v) Pre-demolition waste audits; (vi) Building Information Modelling (BIM); (vii) Deconstruction techniques-while industrial construction is less labour intensive than traditional construction practices, deconstruction (including reuse and recycling) is more labour intensive and entails higher skill-level requirements than demolition and landfilling. To support this, developing capacity-building programmes for construction workers can be an important way of ensuring the demand for expertise and skills can be met and new job opportunities can be opened up; and (viii) Value engineering and Quality Management Systems			
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PILOT IDEAS

- Agro ecology and Agroforestry projects
- Smartphone apps enabling food-sharing and redistribution (sharing for money, sharing for charity, sharing for the community)
- In supermarkets: (i) discounting soon to expire food items or imperfect fruits/vegetables or food with damaged packaging...thus opening an alternative sales channel that ensures that a smaller amount of edible foods ends up as waste. At the same time, it helps people from vulnerable groups to be able to afford more favourable purchases of quality food (ii) Offer of unique, healthy and nutritional juices/dishes that are prepared for consumers in supermarkets restaurants, using imperfect products (iii) - Eliminate packaging waste. Customers bring reusable containers to the store which they can fill with the exact quantity of goods they wish to purchase
- Industrial symbiosis projects such as (i) recovery of organic food waste for pet food production; (ii) producing omega oil from sea food waste
- Production of insect meal from food waste for aquaculture, nutritional supplements for livestock and fertilizer
- Transforming fish byproducts into fertilizers
- Digitally enabled business models to facilitate equipment and labour sharing or on-demand services
- Promote the articulation between key actors linked to the gastronomic and tourism sector in order to spread through the media the use of local ingredients, products and preparations produced with sustainable practices
- On farm processing and transforming perishable fruits and vegetables into long lasting higher value products using solar drying technologies etc.
- Mobile or digital applications that create better connections between producers and consumers. Digital platform of farmers practicing sustainable agricultural methods.
- Develop platforms or specific mechanisms to better involve people in environmental monitoring, for example, generating distributed, geo-referenced, and real-time data on environmental problems such as illegal waste dumps
- Government can introduce a 3Rs award to recognize organizations for their leadership in waste prevention and diversion
- Pilot projects on use of CDW recycled aggregates in construction
- Pilot project on the introduction of a take back system on specific unused construction materials such as blocks, tiles and ceramics, cement, bitumen, paint, etc.
- Pilots on circular public procurement and disposal of assets in government departments
- Develop an online directory of businesses and non-profits in repairs, reuse, etc to raise awareness of their services to the public.
- Conduct of repairs workshops by MITD for the public
- Repair cafes... hands-on learning events at which people are helped to fix their own electronics – and then help others to do the same
- On-line and physical “libraries of things”
- Sharing platforms/product as a service business models ex rental and resale business models for clothing
- Design competitions and awards on circular products or business models.
- Zero waste grocery stores. Customers bring reusable containers to the retail store which they can fill with the exact quantity of goods they wish to purchase.
- To address costs and shift customer, businesses can pilot pricing schemes that encourage consumers to choose reusables for example for disposable cups
- Dismantling of spare parts in used Electrical and Electronics equipment by BEM recycling for resale at discounted prices through a digital platform
- Civil society can raise consumer awareness about the necessity of plastic reuse, and provide information on how to make the shift in a practical way in the local context

9.7 Costing of the Actions

Table 9.5: Summary of Costing and Implementation Matrix

Focus Area	Actions	Estimated Costs (Rs million)	Time Horizon until 2033		
			Short-term (1-3 years)	Medium Term (4-6 years)	Long-term (7-10 years)
Cross-Cutting Actions	1. Create an open governance that promotes active involvement of stakeholders around the major challenges of the transition to a circular economy in Rodrigues and the evaluation of policy results.	1.0			
	2. Include a requirement for a Circular Economy statement in all new projects intended to cover the whole life cycle of development to help consultants/architects/designers embed circular economy principles.	0.2			
	3. Identify all ongoing circular economy initiatives in Rodrigues and disseminate widely through an on-line information platform successful local case of circular economy.	0.80			
	4. Disseminate circular habits and practices	50			
	5. Enhance Circular Economy in the School Community.	9.3			
	6. Circular economy vocational training courses for closing material loops.	0.20			
	7. Education and Awareness raising on Circular Economy in Public and Private sector.	2.0			
	8. Promote the creation of lines of research, development, and applied innovation (R&D+i) with potential to accelerate the transition to the circular economy in Rodrigues.	20			
	9. Launch a circular economy accelerator and incubator programme that enables individuals and startups to prototype and develop innovative solutions contributing to accelerate the transition towards Circular Economy in Rodrigues.	15			
	10. Create a policy and strategy on circular public procurement and review financial instructions for disposal of public assets in accordance with circular economy principles.	0.1			
Agri-Food sector	11. Mandatory registration of farmers and creation of an electronic farmer registry.	0.6			
	12. Develop a Strategy and Action Plan on Food Loss and on Food Waste.	2.5			
	13. Organize training on regenerative agricultural practices such as agroecology or agroforestry.	2.0			

	14. Develop a strategy and action plan to create a market for organic recycled nutrients.	0.9			
	15. Develop guidelines for farmers that provide guidance on how to set up a crop and/or animal farm in the most sustainable and circular way.	0.2			
	16. Enhance equipment, labour, infrastructure and resource sharing platforms to support farmers across the supply chain.	0.6			
Circular Waste Management	17. Carry out a new waste characterization exercise to devise waste management policies.	0.5			
	18. Feasibility study for a composting plant for the treatment of green and food wastes and support the demand for compost through subsidies, regulations and sustainable procurement.	1.2			
	19. Introduce the necessary regulations for the separate collection of waste from the 2 bins given to each household for the implementation of waste segregation at source.	0.2			
	20. Distribute Home Composter Bins to household with guidelines on how to use them and ambassadors to provide advice.	20			
	21. Upgrade the existing dumping ground at Roche Bon Dieu and plan for a sanitary landfill in the medium term at Grenade	8.5			
	22. Implement a Hazardous waste Management Plan	0.4			
	23. Institutional strengthening of the Commission for Environment.	10			
	24. Create a policy and regulatory framework to support the transition to packaging reuse and refill.	0.2			
	25. Develop and scale initiatives that enable people to repair/reuse consumer goods or donate unwanted items.	4			
Circular Tourism	26. Promote circular procurement in the tourism sector	1.5			
	27. Implement a Voluntary Agreement on Food Waste reduction.	0.3			
	28. Set up a working group on transforming business models in the tourism industry to circular business models.	0.3			
	29. Develop an online marketplace through online platforms	0.8			
	30. Education and awareness raising on Circular Built Environment in tourism industry	3.0			
	Total	156.3			

ANNEX 1: LIST OF STAKEHOLDERS CONSULTED

Members of Steering Committee		
Organization	Representative	Designation
Ministry of Environment, Solid Waste Management and Climate Change	Mrs Nathoo (Chairperson) / Mr Sonea	Permanent Secretary
	J.Seewoobaduth (Mr)	Director of Environment
	N.Manic (Mrs)	Ag Divisional Environment Officer
	R.Mokool (Mrs)	Environment Officer
	M.Outim	Environment Officer
Ministry of Environment, Solid Waste Management and Climate Change (SWM)	D.Dookee (Mr)	Deputy Director
Ministry of Tourism	Firm member Seetaram .A (Mr)	Director Tourism
	Alternate: Narayanan .S (Mrs)	Principal Tourism Planning Executive
Ministry of Energy and Public Utilities	A.. Beetun (Mr)	Lead Engineer
Business Mauritius	A.Hardowar De Rosnay (Mrs)	Head of Sustainability and Inclusive Growth Head of SUNREF technical assistance
UN Resident Coordinator's Office (UNRCO)	F. Appavou (Mr)	Coordinator
MRIC	K. Tatoree (Mr)	Research Assistant
Attorney General's Office	Jheelan (Mr)	Principal State Counsel
Ministry of Finance, Economic Planning and Development	Doomun E.W	Lead Analyst
Ministry of Industrial Development, SMEs and Cooperatives (SMEs Division)	Labonne J.D.P (Mr)	Deputy Permanent Secretary
Ministry of Blue Economy, Marine Resources, Fisheries and Shipping	P.Daby (Mr)	Principal Technical Officer
European Union Delegation to Republic of Mauritius	R.Parboteeah (Mr)	Project Manager
Ministry of Education, Tertiary Education, Science and Technology	G.J.N Genevieve (Mr)	Administrator
FAREI	R.Shimadry	Principal Extension officer
Ministry of National infrastructure	Dashwanyl Jhuboo D.Seebundhun	Director
		Lead Architect
Ministry of Industrial Development, SMEs and Cooperatives (Industrial Development Division)	Kalyanee Manna	Ag Principal Industrial Analyst

Ministry of Commerce and Consumer Affairs	V. Daumoo	Analyst
Mauritius Standards Bureau	Deputy Director of Mauritius Standards Bureau	
Mauritius Chamber of Commerce and Industry	Nishta Surajbali Rushaa Badaloo	Economist
Economic Development Board	Mr Mungur Deujen	Manager
HRDC	Dr Neeliah	
Members of Focus Group on Agri-Food sector		
Organisation	Representative	Designation
Business Mauritius	A. De Rosnay	Head of Sustainability and Inclusive Growth
Eclosia	H. Poonith	Head of Operational Excellence
Food Wise	Z. Kareemun	Head of Operations
IBL Seafood	C. Davy	Business Development Manager
Just Natural Veg	N. Venis	Director
Le Vélo Vert	B. Dubarry	President and Team Leader
Maurilait	S. Thomas	
Mauritius Chamber of Agriculture	J. Sauzier	Secretary General
Mauritius Manufacturers Association	S. Koawing	Director
Mauritius Research and Innovation Council	Dr. P. Veer-Ramjeawon	Research Coordinator
Medine	N. Theeroovengadum	Senior Agronomist
Ministry of Agro Industry and Food Security (FAREI)	I. Ramma	Principal Research Analyst
Ministry of Agro Industry and Food Security (FAREI)	Dr. Saddul	Research Scientist (livestock Research Dept)
Ministry of Tourism	J. Gopaul	Tourism Planning Executive
Ministry of Tourism	T. Auckloo	Tourism Planning Executive
Omnican	R. Ramlugon	
Proxi Fresh	Y. Mayer	Managing Director
Rogers & Co	C. Nanon	Sustainability Manager
Scott & Co Ltd	F. Perpetu	Sustainability Manager
Super U	Pascal Tsin	Chief Executive Officer
Terra	J. Anthony	Area Manager
Tourism Authority	D. Moodely	Project Coordinator
University of Mauritius	Prof. D. Goburdhun	Associate Professor (Food Science & Technology)
Members of Focus Group on Construction and Real Estate sector		
Organisation	Representative	Designation
Building and Civil Engineering Contractors Association	M. Naggea	Commercial Manager, Gamma Construction Ltd

Business Mauritius	A. De Rosnay	Head Sustainability and Inclusive Growth
Cap Tamarin Smart City	Y. Louison	Managing Director – Real Estate Cluster
Construction Industry Development Board	R. Bahadoor	Executive Director
Economic Development Board	D. Mungur	Manager
Ecosis Ltd	T. Lee Luen Len	
ENL Property Ltd	R. Moonosamy	Head of Operations
ENL Property Ltd	A. Carver	Sustainability Coordinator
Gamma Materials Ltd	Dr. M. Conhyea	Head Technical and Product Development
La Decheteque	S. Bouloc	Fondatrice
Mauritius Association of Architects	V. Luckoo	MAA President/ Architect
Mauritius Research and Innovation Council	Hashite Joyram	Research Assistant
Ministry of National Infrastructure and Community Development	D. Jhuboo	Director of Engineering
Ministry of Tourism	N. Boodhun	Tourism Planning Executive
Road Development Authority	M. G. Gukhool	Manager Civil Engineering
SOFAP Ltd	E. Adam	Managing Director
The United Basalt Products Ltd	E. Ellapen	Development and Sustainability Manager
Transinvest Construction	V. Munbodh	Quality Manager
University of Mauritius	Dr. M. Gooroochurn	Head of Mechanical Department
Members of Focus Group on Consumer Goods sector		
Organisation	Representative	Designation
Association of Mauritian Manufacturers (AMM)	S. Maujean	Head of Organisation
B.E.M Recycling	T. Malabar	Project Manager
Baz Zero Gaspiyaz	N. Vadamootoo	Administrator
Business Mauritius	A Hardowar De Rosnay	Head of Sustainability and Inclusive Growth
Courts Mammouth Ltd	A. Bhanjan	Manager – Buying
Eclosia Group	H. Poonith	Head Operational Excellence
Eclosia Group (Panagora Marketing Co Ltd)	N. Coothoopermal	Quality Manager
Interactive Graphics Studios (IGFX)	F. Mark	Managing Director
Mauritius Chamber of Commerce and Industry	R. Badaloo	Analyst
Mauritius Chamber of Commerce and Industry	R. Narrainen	Head of Advocacy
Mauritius Institute of Training and Development (MITD)	V. Seenauth	Assistant Manager

Mauritius Standard Bureau	M. L. Elaheebocus	Quality Officer Standard Development Unit
Mauritius Standard Bureau	D. Reebye	Quality Officer Standard Development Unit
Ministry of Commerce and Consumer Protection	R. Jaguessur	Senior Consumer Affairs Officer
Ministry of Energy and Public Utilities (MEPU)	H. Multra	
Ministry of Environment, Solid Waste Management and Climate Change (SWM Division)	A. Armoogum	Project Officer
Ministry of Industrial Development, SMEs and Cooperatives (SMEs Division)	V. Veeramah- Ramiah	Business and Enterprise Analyst
Ministry of Information Technology, Communication and Innovation (MITCI)	R. Jeetoo	Programme Manager, MITCI
Ministry of Tourism	T. Auckloo	Tourism Planning Executive
Scott & Co Ltd	F. Perpetu	Sustainability Manager
SOFAP Ltd	O. Sahodree	Sustainability Coordinator
SOFAP Ltd	E. Adam	Managing Director
The Good Shop	V. Fauve Desvaux	Sustainability and Collaboration Lead
Winners	D. Chui Chun Lam	Sustainability Executive
Members of Focus Group on Public Procurement		
Organisation	Representative	Designation
Procurement Policy Office	W. F. Kwong Waye	Manager Procurement and Supply
Mauritius Standard Bureau (MSB)	Darshan Reebye	Quality Officer Standard Development Unit
Ministry of Environment, Solid Waste Management and Climate Change	K. Pem	Assistant Manager Procurement and Supply
Ministry of Environment, Solid Waste Management and Climate Change	A. Armoogum	Project Officer
Members of Focus Group on Education		
Organisation	Representative	Designation
Human Resources Development Council	K. Googoolye	SRDO
Mauritius Institute of Education	M. Cyparsade	Associate Professor
Mauritius Institute of Training and Development	T. Permall	Head of Section/ Training Officer
Ministry of Education, Tertiary Education, Science and Technology	Dr. G. J. N. Geneviève	Administrator
Ministry of Education, Tertiary Education, Science and Technology	G. D. Philippe	Administrator
National Productivity and Competitiveness Council	S. Mathaven	Lead Productivity and Competitiveness Academy

Polytechnics Mauritius	K. Emerit	Ag. Programme Leader Engineering Cluster
Rajiv Gandhi Science Centre	Dr. A. K. Maulloo	Director
Members of Focus Group on Waste Management sector		
Organisation	Representative	Designation
BEM Enterprises Ltd.	T. Malabar	Project Manager
Business Mauritius	A. De Rosnay	Head of Sustainability and Inclusive Growth
CAP	M Apaya	Chargé de Mission
District Council of Flacq	K. Ramessur	Chief Health Inspector
District Council of Grand Port	S. K. Domun	Chief Health Inspector
District Council of Pamplemousses	R. K. Bheekharry	Chief Health Inspector
Eclosia Group	H. Poonith	Head of Operational Excellence
Eclosia Group (Avipro)	C. Avrillon	Sustainability Officer
Ecofuel Ltd	J. Y. G. Thomas	Director
Ecofuel Ltd	N. Boodhoo	Environmental Manager
Gamma Materials	Dr. M. Conhyea	Head Technical & Product Development
Green Impact	G. Koenig	Director
La Decheteque	S. Boulloc	Director
Maurilait	S. Thomas	QSE and Food Safety Manager
Mauritius Chamber of Commerce & Industry (MCCI)	N. Surajbali	Economist
Mauritius Chamber of Commerce and Industry (MCCI)	R. Badaloo	Analyst
Ministry of Environment, Solid Waste Management and Climate Change (SWM Division)	D. Dookee	Deputy Director
Ministry of Environment, Solid Waste Management and Climate Change (SWM Division)	Dr. Bundhoo	PO/ SPO
Ministry of Finance, Economic Planning and Development	P. Ujhooda	Analyst/ SA
Ministry of Industrial Development, SMEs and Cooperatives (Industrial Development)	V. Jaypaul	Industrial Analyst
Mission Verte	R. Salehmohamed	
Mission Verte	S. Raffray	Manager
Panagora Marketing Ltd	N. Coothoopermal	Quality Manager
PIM Ltd	E. Corson	Managing Director

Plankton Recycling	C. Descombes	General Manager – Glass bottles recycling
Région Réunion	G. Martin	Chargé de Mission
Zero Waste Mauritius	L. Espitalier Noel	Founder
Zero Waste Mauritius	N. Sanchez	Economie Circulaire
Members of Focus Group on Mobility and Logistics		
Organisation	Representative	Designation
CRSE	G.Thomas	Director
Eclosia Group	H. Poonith	Head Operational Excellence
ENL	A. Carver	Sustainability Coordinator
ENL Property	O. Boullé	Business Development
Freelance Consultant	P. Juddoo	Freelance Environment Consultant
IBL Logistics	S.Peerbocus	Business Development Manager
Mauritius Chamber of Commerce and Industry	R. Badaloo	Analyst
Metro Express Ltd	A. Coantic	Project Manager
Ministry of Environment, Solid Waste Management and Climate Change	R. Teemul	Environment Officer (Climate Change Division)
Ministry of Environment, Solid Waste Management and Climate Change	J.Hurhangee	Environment Officer
Ministry of Environment, Solid Waste Management and Climate Change	R. Mokool	Environment Officer
Ministry of Environment, Solid Waste Management and Climate Change	D.Boodhun	Environment Officer
Ministry of National Infrastructure and Community Development	D.Jhuboo	Director Civil Engineering
Ministry of National Infrastructure and Community Development	O.Capery	Engineer / Senior Engineer
Ministry of Tourism	V. Sedembarum	Tourism Planning Executive
National Land Transport Authority	M. R. Mohemoodally	PVE
Panagora Marketing Co. Ltd	J. Bathfield	Head of Panagora Logistics
Traffic Management Road Safety Unit	J. Aukhez	Lead Engineer
Velogic Ltd	V. Nunkoo	Chief Executive Officer
Velogic Ltd	D.Raghoobar	Sustainability Officer

ANNEX 2: LIST OF PERSONS INTERVIEWED DURING THE SCOPING STUDY

Group	Stakeholder	
Government	Ministry of Environment, Solid Wastes Management and Climate Change	Mr J. Seewoobaduth-Director, Department of Environment
		Mr B. Beerachee, Director Solid Waste Management Division
		Mr P.Kowlessur-Senior Adviser
	Ministry of Finance, Economic Planning and Development	Mr R. Sokappadu, Director
		Ms W. Elahee Doomun, Lead Analyst
		Ms P. Ujoodha, Analyst/Senior Analyst
	Construction and Industry Development Board (CIDB)	Mr J. Tangman, Analyst/Senior Analyst
		Mr Ram Bahadoor, Executive Director
	Mauritius Renewable Energy Authority (MARENA)	Ms. M Mungra, Chief Executive Officer
	Food and Agricultural Research Institute(FAREI)	Ms I. Ramma, Principal Research Scientist
Private Sector	Ministry of Industrial Development, SMEs & Cooperatives	Dr B R Doomun, Principal Analyst
		Ms K. Manna, Senior Analyst
		Ms V Joypaul, Analyst
	Business Mauritius	Ms Amandine Hardowar de Rosnay, Head of Sustainability and Inclusive Growth
		<i>Comments received in writing</i>
	MCCI	
	La Decheteque	Ms Stéphanie Bouloc, Fondatrice
	PIM Ltd	Mr Eric Corson Managing Director
	Omnican Management & Consultancy Limited	Mr Rajiv Ramlugon, Group Chief Sustainability Officer
	Gamma Materials Ltd	Mr Bernard Lan, General Manager
		Dr Mahen Conhyea, Head Technical & Product Development
	BEM Recycling Ltd	Mr Berty Malabar, Director
		Mr Thierry Malabar, Project Managers
	ENL Property Ltd	Ms Anielle Carver, Sustainability Coordinator

Civil Society/Social Enterprises	The Good Shop	Ms Victoria Desvaux, Environmentalist
	Foodwise	Ms Rebecca Espitalier-Noel Managing Director
	Zero Waste Mauritius	Ms Nathalie Sanchez
	ACIM	Mr Jayen Chellum, General Secretary
	Mission Verte	Mr Sebastien Raffray (<i>comments received in writing</i>)
Academia/Research Institutions	University of Mauritius	Ms Daya Goburdhun, Associate Professor Dr M Gooroochurn, Senior Lecturer
Regional Organizations	Regional Council of Reunion island - Office of Mauritius	Mr Grégory Martin, Project Manager
	Cap Business Ocean Indien	Mr Mickael Appaya, Project Manager

ANNEX 3: DESCRIPTION OF ASSUMPTIONS FOR COSTING THE ACTIONS FOR MAURITIUS

General cost assumptions

- For Technical Assistance/Consultancy studies
 - International Consultant
 - Rate (Technical Consultant) : USD 750/day
 - Ticket : USD 1500/mission
 - Daily subsistence allowance : USD 300/day
 - Local Consultant : USD 500/day

A 5% annual inflation rate is applied to fees and expenses for consultancies.

1 USD was taken as MUR 46.

- Workshops/Conference attendee costs : MUR 2,000/person
- Participation in meetings : Average of MUR 2000 per meeting per person, including secretarial services
- Sensitisation and awareness-raising campaigns-costing was done based on previous projects.
- Research and Innovation
 - National SME Incubator Scheme : MUR 750,000/project
 - Research Projects : MUR 10 M/year

Detailed assumptions per action.

Policy P1 - Create a platform on Circular Economy in the Agri-Food Sector: This action assumes a committee of 20 members meeting 3 times yearly with a secretariat provided by the facilitating institution.

Policy P2 - Mandatory registration of farmers and creation of an electronic farmer registry: One local IT consultant and one technical expert for data collection will be recruited for development of the electronic farmer registry for an estimated 15 man-days each. A dissemination workshop is included in the costing.

Policy P3 - Develop a National Strategy, Action Plan and legislative framework on (1) food loss and (2) food waste: For each consultancy, three consultants will be recruited namely an international technical expert (60 man-days), an international legal Expert (20 man-days) and a local technical expert (100 man-days). The local technical expert will help in establishing the methodology and in field data collection through surveys etc. Three missions will be required for the international technical expert and 1 mission for the international legal expert. A consultative workshop is included in the costing.

Policy P4 - Develop an Integrated Nutrient Management strategy and action plan: Two consultants will be recruited for this assignment namely an international technical expert in INM (40 man-days) and a local technical expert (30 man-days). One mission will be required for the international technical expert. A consultative workshop is included in the costing.

Policy P5 – Implementation of bio-wastes management: Two consultants will be recruited for this assignment namely an international technical expert (40 man-days) and a local technical expert (30 man-days). 1 mission will be required for the international technical expert. A consultative workshop is included in the costing.

Policy P6 - Expand land access to farmers using sustainable/regenerative agriculture practices: FAREI will develop the guideline and 500 farmers will be trained on regenerative agriculture practices through a series of workshops in the short term.

Policy P7 - Review criteria of import permit for responsible sustainable sourcing of imported food: A committee of 10 members will review the criteria, which will meet once monthly over a period of six months.

Policy P8 – Devise a policy on abandoned agricultural lands to contribute to circular economy objectives. A committee of ten members will devise the policy, which will meet once monthly over a period of six months,

Key Project KP9 – Implement Voluntary Agreement on Food Waste reduction: Government will give a seed money of MUR 1,000,000 over 3 years to the institution that will coordinate the implementation of the voluntary agreement. The private sector will provide additional funding for implementation of the agreement.

Key Project KP10 - Develop national guidelines for farmers that provide guidance on how to set up a crop and/or animal farm in the most sustainable and circular way. One local technical consultant will be recruited for this assignment with an estimated 30 man-days. A consultative workshop is included in the costing.

Key Project KP11 - Circular Public Procurement of products from sustainable agriculture in hospitals and government canteens. One local technical consultant will be recruited to develop tender criteria (after supplier engagement), bidding documents and evaluation method. The total no. of man-days is 30.

Key Project KP12 - Develop a Country-of-Origin Food Labelling Information Standard. Recruitment of an international consultant and one local consultant to develop the standard for 20 man days and 10 man-days respectively. A consultative workshop is included in the costing.

Key Project KP13 - Enhance equipment, labour, infrastructure and resource sharing platforms to support farmers across the supply chain. A local technical expert for data collection and a local IT expert will be recruited for the development of the digital platform. The no. of man-days for the technical expert is 30 while for the IT expert, it is 25. A consultative workshop is included in the costing.

Key Project KP14 - Feasibility studies on thermal sludge processing and on co-digestion of organic wastes. Two international consultants with the required expertise will be recruited, each for 30-man days. Two missions will be required for each consultant.

Policy P15 - Creation of a platform on Circular Economy in the built environment. This action assumes a committee of 20 members meeting 3 times yearly with a secretariat provided by the facilitating institution.

Policy P16 - Develop a strategy and regulatory framework on Construction and Demolition Wastes (CDW). Three consultants will be recruited for this assignment namely an international technical expert, an international legal expert and a local technical expert with for 50 man-days. There will be two missions to Mauritius for each of the two international consultants. A consultative workshop is included in the costing.

Policy P17 - Develop and enact national building codes incorporating green and circularity principles. One international technical consultant for 90 man-days and one local technical consultant for 90 man-days will be recruited for this assignment. Three missions will be required for the international Consultant. Three consultative workshops (inception, intermediate and validation) will be organized.

Policy P18 - Introduce mandatory circular public procurement minimum environmental criteria for public buildings and infrastructure. One local technical consultant will be recruited to develop tender criteria (including supplier engagement), bidding documents and evaluation method for a total of 30 man-days.

Policy P19 - Create a digital platform for increased sharing of government buildings and spaces . One local IT consultant (30-man days) and one local expert (30-man days) will be recruited for development of the on-line platform. A committee of 10 members will oversee the project and discuss the policy and regulatory framework for sharing government assets. A consultative workshop is included in the costing.

Policy P20 - Elaborate technical standards to facilitate the use of recycled construction materials. Two consultants namely an international and a local technical consultant will be recruited for this assignment with no. of man-days set at 40 and 30 respectively. There will be one mission for the international consultant.

Policy P21 - Create a Materials Passport and a related database to register materials used in construction projects. Two consultants namely an international technical consultant (20-man days) and a local technical consultant (15 man days) will be recruited to develop the format of the Materials Passport. Two missions are being catered for under this assignment. A consultative workshop is included in the costing.

Key Project KP22 – Education and awareness raising on Circular Built Environment. An average of 10 training workshops will be organized every year with 30 persons trained per workshop. One local consultant will be recruited for each training workshop for 5 man-days.

Key Project KP23 - Develop a strategy for adoption of Building Information Modelling (BIM) in the construction value chain. Two consultants will be recruited for this assignment namely an international and a local technical expert with 30 man-days each. Two missions are also planned for the international consultant.

Key Project KP24 - Develop national guidelines on how to characterize and valorize CDW. One local consultant will be recruited for 20 man-days. A consultative workshop is included in the costing.

Key Project KP25 - Enhance an online marketplace through a CDW online platform for materials recovery and secondary material exchange. A local technical expert (30-man days) and a local IT expert (30 man days) will be recruited for the development of the online platform for materials available from Civic Amenity Centres.

Key Project KP26 - Remove CDW from illegal dumping sites and sites rehabilitation: MUR 100 million for removal of 135 000 tonnes of CDW (based on estimated costs from Gamma Materials Ltd.)

Policy P27 - Create a platform for dialogue on circular economy for consumer goods. This action assumes a committee of 20 members meeting 3 times yearly with a secretariat provided by the facilitating institution.

Policy P28 - Develop a legal framework for social enterprises. Two consultants will be required for this assignment namely an international legal expert (30-man days) and a local technical expert (20 man-days). One mission will be required for the international legal expert.

Policy P29 - Revise the consumer law (i) to ensure consumers receive trustworthy and relevant information on products at the point of sale; (ii) to set minimum warranty periods for household electrical and electronic appliances and (iii) to legislate the consumer right to repair: Two Consultants will be required for this assignment namely an International Legal

Expert (30 man days) and a Local Technical Expert (20 man days). One mission will be required for the international legal expert.

Policy P30 - Mandatory display on electrical and electronic equipment of simple information on reparability. Two Consultants will be required for this assignment namely an International Technical Expert (30 man days) and a Local Technical Expert (20 man days). One mission will be required for the international technical expert. A consultative workshop is included in the costing.

Policy P31 - Include the mapping of repair and reuse services into the specifications of Producer Responsibility Organisations (PROs) and introduce eco modulation of EPR fees. Two consultants will be required for this assignment namely an International Technical Expert on EPR policies (30 man days) and a local financial expert (30 man days). One mission will be required for the international technical expert.

Policy P32 - Create a policy and regulatory framework to support the transition to packaging reuse Two consultants will be required for this assignment namely an International Legal Expert (30 man days) and a local technical expert (30 man days). One mission will be required for the international legal expert.

Policy P33 - Feasibility study of a policy and legislative framework for prohibiting the destruction of unsold goods. Two consultants will be required for this assignment namely an International Legal Expert (20-man days) and a Local Technical Expert (20 man days). One mission will be required for the international legal expert.

Key Project KP34 – Develop circular supplies for businesses. A committee of 10 members will meet once monthly over one year to discuss the initiatives needed to develop sustainable sourcing.

Key Project KP35 - Develop and scale initiatives that enable people to repair/reuse consumer goods or donate unwanted items. Each local Authority to host 1 annual event on local reuse and repair in their catchment areas. The cost is for rental of venue and for payment to repair technicians.

Key Project KP36 - Promote the development and implementation of circular economy strategies or action plans for specific sectors e.g. furniture, textiles, tourism, etc. No budget is being allocated for this action. Each sector (private) will have to develop its own action plan.

Policy P37 – Create a platform on circular economy in mobility and logistics. This action assumes a committee of 20 members meeting 3 times yearly with a secretariat provided by the facilitating institution.

Policy P38 - Develop policy instruments and incentives to accelerate a change towards a more service-based transport system. Three consultants will be required for this assignment namely an International Technical Expert (30 man days), an International Legal Expert (20 man days) and a Local Technical Expert (30 man days). A consultative workshop will also be organized. One mission will be required for the international technical and legal expert. For the feasibility study on mobility as a service concept for Mauritius, one International Consultant (20-man days) will be recruited. A consultative workshop is included in the costing. One mission will be required for the international consultant. One local technical consultant will be recruited for the development of sustainable procurement criteria and bidding documents.

Policy P39 – Feasibility study to optimise forward logistics: Three consultants will be required for this assignment namely an International Technical Expert (30-man days), an International Legal Expert (30-man days) and a Local Technical Expert (30-man days). A

consultative workshop is included in the costing. One mission will be required for the international technical and legal experts.

Policy P40 – Devise efficient waste management schemes for end-of-life vehicle, waste batteries and waste tyres. Two consultants will be required for this assignment namely an International Technical Expert (30-man days) and a Local Technical Expert (30 man days). A consultative workshop is included in the costing. One mission will be required for the international technical expert.

Key Project KP41 - Leverage existing and under-used logistics network capacities to enable collection and transport of sorted waste in shopping malls and supermarkets to recycling companies. Two Consultants will be required for this assignment namely an International Legal Expert (20 man days) and a Local Technical Expert (15 man days). A consultative workshop is included in the costing. One mission will be required for the international legal expert.

Policy P42 - Create a platform on circular waste management. This action assumes a committee of 20 members meeting 3 times yearly with a secretariat provided by the facilitating institution.

Policy P43 – Expand the range of products subject to EPR and feasibility study of a mandatory EPR on packaging as from 2025. One International Technical Expert, one local technical expert and one local financial expert will be recruited for this assignment. The no. of man-days for each consultant will be 30. One mission will be required for the international expert. There will be a national conference for 100 participants organized at the end of the year and in which foreign experts on EPR will act as resource persons.

Policy P44 - Institutional strengthening of Department of Solid Waste and of Local Authorities for integrated waste management. It is assumed that the budget for the institutional strengthening of the Department of Solid Waste has already been earmarked with the creation of the Department in the new legislation. The costing concerns only the institutional strengthening of Local Authorities. The Department will have 1 Chief Waste Management Officer, 2 Waste Management Officers (may be variable depending on Local Authority) and 2 support staffs.

Policy P45 - Development of a waste reporting mechanism for shopping malls, large hotels and convention and exhibition centres. This action assumes a committee of 10 members meeting twice monthly over a period of six months.

Policy P46 - Set up a strategic watch on the recycling industry. Recruitment of one local consultant with expertise in the recycling industry. No. of man-days required: 60 (visits to recyclers required). One workshop of maximum 100 participants (inc. NGOs, Private Organisations and Recyclers)

Policy P47 - Ensure that there is clear and accessible information about contents of packaging and how they can be recycled or taken care of. Two consultants namely an international technical consultant (20-man days) and a local technical consultant (15 man days) will be recruited to look at best practices internationally and what can be adapted for the Mauritian context. One mission is catered for the international consultant.

Policy P48 - Define End of Waste criteria for specific secondary raw materials. One International Technical Expert will be recruited for 50 man-days. One mission will be organized and one workshop with a maximum of 100 participants will be carried out.

Policy P49 - Develop technical standards for secondary raw materials and recycled content measures and regulate the use of recycled materials in packaging in contact with

food. One international technical expert on standards for raw materials and expertise to determine recycled content measures (30 man days). Two missions will be organized.

Policy P50 - Support the demand for recycled products and materials through circular public procurement, mandatory recycled content and market development workshops. The cost assumes only the organisation of one market development workshop every year with 100 participants per workshop.

Key Project KP51 - Introduce simple waste sorting processes and develop communication campaigns about importance and value of waste sorting and recycling in collaboration with NGOs. Based on estimates obtained from the Solid Waste Management Division, the waste segregation sensitization and awareness-raising campaign is estimated to cost MUR 57 million over a period of 3 years.

Key Project KP52 - Provide a network of fixed and mobile Civic Amenity Centres. The estimated cost of construction 1 civic amenity centre is MUR 3 Million. It is being proposed to set-up a network of fixed mobile civic amenity centres as well as contract out services for mobile CACs in high population density areas.

Key Project KP53 - Feasibility study on separate collection of households' hazardous waste. One International Technical Expert (20-man days), one Local Technical Expert (20 man days) and one Local Financial Expert (10 man days) will be required for this assignment. One mission will be required for the international expert.

Key Project KP54 - Implement a National Waste Management Information System. A local technical expert (30-man days) and a local IT expert (30 man days) will be recruited for the development of the national waste management information system. There will be one dissemination workshop with a maximum of 100 participants.

Key Project KP55 - Implement a National Industrial Symbiosis Programme (NISP). 1 international technical consultant (10-man days) will be recruited every year to act as resource person during one workshop. One mission will be organized every year for the consultant. 50 businesses will participate in each workshop to identify opportunities for symbiosis.

Policy P56 - Create an open governance that promotes active involvement of stakeholders. An annual conference on circular economy will be organized with about 150 participants.

Policy P57 - Coordinate public policies for circularity. An inter-ministerial Committee will be set up with representatives of all Ministries and officers from the Ministry of Environment and will meet at least once every year. A total of 50 participants is estimated.

Policy P58 - Monitor progress towards a circular economy. This action assumes a committee of 12 members meeting once monthly over a period of one year to put in place the monitoring mechanism and data collection for indicators.

Policy P59 - Mainstream the principles of Circular Economy in all EIAs and PERs . An international/national consultant (10 man-days) will be recruited to develop the guidance document. It will include one mission for any international consultant recruited. It is viewed that the guidance document should be prepared to guide and advise proponent on the possible measures and actions to be adopted, geared towards a circular economy in various key sectors such as medical/pharmaceutical, hotel, manufacturing, animal husbandry, residential development and the construction sector, amongst others.

Policy P60 - Feasibility of a comprehensive legislation on Circular Economy. Two consultants will be recruited for this assignment namely an International Legal Expert (30 man-days) and a Local Technical Expert (30 man-days). Two missions will be required for the international legal expert.

Policy P61: Enhance regional and international cooperation on the circular economy. A sum of Rs 1 million/year is earmarked for Mauritius to play an active role in regional and international initiatives to promote the circular economy.

Policy P62 – Identify circular economy initiatives and disseminate widely through a government information platform successful local case of circular economy. One local IT consultant will be recruited for development of the platform. The no. of man-days estimated for this assignment is 20. A dissemination workshop with a maximum of 100 participants is also proposed.

Policy P63 - Mandatory circular economy education in schools. Two international Consultants and two local consultants will be required for this assignment. The number of man-days for each consultant is 30. 2 missions will be required for each international expert. The team of consultants will work with a team of school teachers for a period of 5-6 months in order to come up with localized content adapted to the Mauritian context for embedding it in the national curriculum for primary and secondary schools. After the initial module design, the experts will engage with about 25 teachers through a series of 4 workshops to adapt modules to grade levels and local context. Two training of trainer's workshop will then be organized with a maximum number of teachers set at 50.

Policy P64 - Enhance Circular Economy in the School Community

The budget includes cost for 50 awareness raising events in schools and two innovation contests every year on the topic of Circular Economy.

Key Project KP65 - Mandatory circular economy education in TVET courses

One international Consultants and one local consultant will be required for this assignment. The number of man-days for each consultant is 30. 1 mission will be required for the international expert. The team of consultants will work with a team of trainers for a period of 5-6 months in order to come up with localized content adapted to the Mauritian context for embedding it in the curriculum for TVET courses. After the initial module design, the experts will engage with about 20 trainers through a series of workshops to adapt modules to grade levels and local context. A training of trainers will then be organized with a maximum number of trainers set at 25.

Key Project KP66- Develop knowledge related to the circular economy through curricula and research strategies of Higher Education Institutions (HEIs). MUR 3 million will be provided to develop course content and HEIs will be required to bid for the best proposal to incorporate CE in courses. **Research Projects:** MUR 5 million/year through HEC for circular economy projects. **Chair on circular economy:** One Professor will be recruited internationally for a Chair on Circular Economy at one of the HEIs and will be provided with two Research Assistants and a research funding. The funding for the chair will be through public and private sector funding.

Key Project KP67 - Education and Awareness raising on Circular Economy in Public and Private sector Training Workshop for Heads. An average of 100 government employees will be trained every year in the public sector on circular economy. Training can be done through online courses or through local institutions.

Key Project KP68 – Dissemination of circular habits and practices A total of 5 awareness campaigns on various CE topics will be organized in the short to medium term

Policy P69- Promote the development of a line of R&D+i projects on circular economy. Projects funded by MRIC specifically on Circular Economy for MUR 10 million per year.

Key Project KP70 - Launch a circular economy accelerator and incubator programme. It is assumed that MRIC funds a total of 50 projects(5 projects/year) under the National SME Incubator Scheme.

Key Project KP71 - Develop national databases of life cycle inventory. One international technical expert(30 man days) and one local technical expert(30 man days) will be recruited for the development of the database and a national framework. Two missions will be required for the international expert. Necessary softwares will be purchased and capacity building on Life Cycle Assessment will be organized.

Key Project KP72 - Create a Business Support Institution for the Circular Economy Based on previous estimates for a study on the setting-up of resource efficient and cleaner production (RECP), an amount of MUR 25 million over a period of 3 years will be required

Key Project KP73: Set up a working group on transforming business models. This action assumes a committee of 10 members meeting once monthly over a period of one year and led by the private sector.

Key Project KP74 - Promote the development and use of tools for the diagnosis and measurement of circularity at the organizational level. A local technical expert (20-man days) will be recruited for the dissemination of the use of the diagnosis and measurement tool. A workshop with a maximum of 50 persons will be organized to explain how to use the tool.

Key Project KP75 - Promote the development of a community of practice around the theme of eco-design in product development. One international technical expert (30 man days) and a local technical expert (30 man days) will be recruited. 75 local designers will be trained.

Policy P76 - Create a national policy on circular public procurement, build internal capacity, develop circular criteria, pilot circular tender processes and mainstream circular procurement Two international consultants (30 man days each) with experience on circular public procurement will be required for this assignment . Two missions will be required for each international expert. A working group of 20 procurement officers will be set up to be trained as trainers by the consultants.

Policy P77– Review financial Instructions for Disposal of Public Assets in accordance with circular economy principles. This action assumes a committee of 25 members meeting once monthly over a period of one year

Policy P78 - Adapt taxation for a circular economy. 1 international expert (30 man days) and 1 local expert(10 man days) will be recruited for this assignment. The no. of man-days for the international technical expert is 30 while for the local expert, it is 10. One mission is planned for the international technical expert.

Policy P79 - Introduce economic incentives for increasing circularity in economic sectors. No budget is being proposed as the incentives and the products to be incentivized are still unknown at this stage and will depend on the Ministry of Finance.

Policy P80 - Expand access to financing of Circular Business Models. An amount of MUR 10 million/year will be provided in the budget for the next 3 years to subsidise consultancies on circular economy for SMEs until the business support institution becomes operational. One international technical expert will be recruited to train financial institutions on circular business model and to develop taxonomy of circular business models.

ANNEX 4: DESCRIPTION OF ASSUMPTIONS FOR COSTING THE ACTIONS FOR RODRIGUES

1. Create an open governance that promotes active involvement of stakeholders around the major challenges of the transition to a circular economy in Rodrigues and the evaluation of policy results. This action assumes a committee of 25 members meeting at least twice yearly with a secretariat provided by the facilitating institution.

2. Include a requirement for a Circular Economy statement in all new projects intended to cover the whole life cycle of development to help consultants/architects/designers embed circular economy principles. The international consultant that will be recruited to prepare the statement for Mauritius will spend an additional 3 man days to adapt the statement for Rodrigues. The cost also includes a two-days mission to Rodrigues.

3. Identify all ongoing circular economy initiatives in Rodrigues and disseminate widely through an on-line information platform successful local case of circular economy. One local IT consultant and one local technical expert will be recruited for the development of the platform. The no. of man-days for both consultants is estimated at 30. A dissemination workshop with a maximum of 50 participants is also included in the costs.

4. Disseminate circular habits and practices. MUR 10 million per topic (based on previous sensitization and awareness-raising campaigns). A total of 5 awareness campaigns on various CE topics will be organized in the short to medium term.

5. Enhance Circular Economy in the School Community.

(i) For mandatory circular economy education in schools, international and local consultants will be recruited for the assignment in Mauritius. The costing caters for the participation of 3 teachers from Rodrigues in the 4 workshops and the two train the trainers workshops that will be organized in Mauritius.

(ii) Awareness raising in schools. Cost of awareness raising on 9Rs: Rs 50 000/event (including cost of flyers). Total no of awareness raising events yearly: 10

(iii) Innovation contests. Two innovation contests on circular economy will be organized yearly. A sum of Rs 200 000 per contest is earmarked.

6. Circular economy vocational training courses for closing material loops. Two trainers from Rodrigues will attend the training workshops in Mauritius.

7. Education and Awareness raising on Circular Economy in Public and Private sector.

- No. of stakeholders to be trained over a period of ten years: 200
- Rate per stakeholder trained: MUR 10,000

8. Promote the creation of lines of research, development, and applied innovation (R&D+i) with potential to accelerate the transition to the circular economy in Rodrigues. Projects funded by MRIC specifically on Circular Economy for MUR 2 million per year.

9. Launch a circular economy accelerator and incubator programme that enables individuals and startups to prototype and develop innovative solutions contributing to accelerate the transition towards Circular Economy in Rodrigues. It is assumed that MRIC funds a total of 20 projects (2 projects/year) under the National SME Incubator Scheme.

10. Create a policy and strategy on circular public procurement and review financial instructions for disposal of public assets in accordance with circular economy principles. This action concerns mainly the training of two public procurement officers from Rodrigues in the workshops to be organized in Mauritius.

11. Mandatory registration of farmers and creation of an electronic farmer registry. One local IT consultant and one technical expert for data collection will be recruited for development of the electronic farmer registry for an estimated 10 man-days each. A dissemination workshop for 50 participants is included in the costing.

12. Develop a Strategy and Action Plan on Food Loss and on Food Waste

The costing assumes an additional 10-man days each for the international technical expert, the international legal Expert and for the local technical expert that will be recruited for the consultancy work in Mauritius. There will be a 3-day mission to Rodrigues for the international technical expert and the international legal expert and a 10 days mission for the local consultant for the field surveys. A consultative workshop with 50 participants is included in the cost.

13. Organize training on regenerative agricultural practices such as agroecology or agroforestry. Training of 100 planters over a period of 5 days with a cost of Rs 20000 per planter which include the cost for the logistics and for the trainers.

14. Develop a strategy and action plan to create a market for organic recycled nutrients. The costing assumes as additional 10 man days each for the international technical expert and the local technical expert that will be recruited for the consultancy in Mauritius. There will be one mission of 5 days to Rodrigues. A consultative workshop with 50 participants is included in the cost.

15. Develop guidelines for farmers that provide guidance on how to set up a crop and/or animal farm in the most sustainable and circular way. The guideline that will be developed in Mauritius will be adapted for Rodrigues with an estimated 5 man days for the local consultant.

16. Enhance equipment, labour, infrastructure and resource sharing platforms to support farmers across the supply chain. A local technical expert for data collection and a local IT expert will be recruited for the development of the digital platform. The no. of man-days is 10 for both the technical expert and the IT expert. A consultative workshop with 50 participants is included in the cost.

17. Carry out a new waste characterization exercise to devise waste management policies. Based on the cost of characterization studies done in Mauritius, a characterization study done over one year, including all tests will cost about Rs 500 000. The cost also includes missions to Rodrigues for the sampling exercises.

18. Feasibility study for a composting plant for the treatment of green and food wastes and support the demand for compost through subsidies, regulations and sustainable procurement. Services Include mobilization, Site investigation, , Topographical survey, Trial pits , Design and Prepare bidding Documents & Drawings , Cost Estimate for works, two missions of 3 days each.

19. Introduce the necessary regulations for the separate collection of waste from the 2 bins given to each household for the implementation of waste segregation at source. The regulations that will soon be devised for Mauritius for the sorting of wastes will be adapted for Rodrigues by a technical committee.

20. Distribute Home Composter Bins to household with guidelines on how to use them and ambassadors to provide advice. The cost assumes the distribution of 2000 home composter bins at Rs 10 000 per bin.

21. Upgrade the existing dumping ground at Roche Bon Dieu and plan for a sanitary landfill in the medium term at Grenade. Feasibility for Upgrading of the Roche Bon Dieu

dumpsite : Rs 2 million. Services Include mobilization, Topographical survey, geotechnical survey, Hydrogeological survey preliminary Design and Cost Estimate for works.

Feasibility for New landfill at Grenade: Rs 6million . Services Include mobilization , Topographical survey, geotechnical survey, Hydrogeological survey , EIA, preliminary Design and Cost Estimate for works. Cost of missions : Rs 500,000

22. Implement a Hazardous waste Management Plan. Feasibility study by a Local Technical Expert for 15 man-days. 1 mission of 5 days is included.

23. Institutional strengthening of the Commission for Environment. The Commission will have two additional Waste Management Officers and 1 support staff. An annual capacity-building workshop will also be organized for staff.

24. Create a policy and regulatory framework to support the transition to packaging reuse and refill. The policy and regulatory that will be devised for Mauritius will be adapted for Rodrigues by a technical committee.

25. Develop and scale initiatives that enable people to repair/reuse consumer goods or donate unwanted items. Two annual events on local reuse and repair will be organized. Venue rental for event and payment to repair technicians and advertising of event is estimated at Rs. 200,000 per event

26. Promote circular procurement in the tourism sector. Recruitment of an international consultant in circular procurement for a total of 30 man-days and two missions of 5 days each to Rodrigues. The costing also includes two training workshops with 50 participants.

27. Implement a Voluntary Agreement on Food Waste reduction. Government/RRA will give a seed money of MUR 300,000 over 3 years to the institution that will coordinate the implementation of the voluntary agreement. The private sector will provide additional funding for implementation of the agreement.

28. Set up a working group on transforming business models in the tourism industry to circular business models. This action assumes a committee of 10 members meeting once monthly over a period of one year and led by the private sector.

29. Develop an online marketplace through online platforms. One local IT consultant (15-man days) and one local expert (15-man days) will be recruited for development of the on-line platform for dissemination of information on materials available in construction sites/ Civic Amenity Centres etc.

30. Education and awareness raising on Circular Built Environment in the tourism industry

- No of training workshops over a period of 10 years: 20
- No of participants per workshop: 25
- Cost per workshop, including consultancy fees for trainers: Rs 100,000
- . Cost of 2 missions of 3 days each per year: Rs 100,000
- Total cost: Rs 3 million.