Republic of Mauritius

Mauritius' First Biennial Transparency Report

Draft

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Executive Summary

Chapter 1 National inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gases

The Republic of Mauritius (RoM) submitted its first inventory of Greenhouse Gas (GHG) as part of its Initial National Communication in April 1999. An improved national GHG inventory was developed by RoM during the preparation of the Second and Third National Communications.

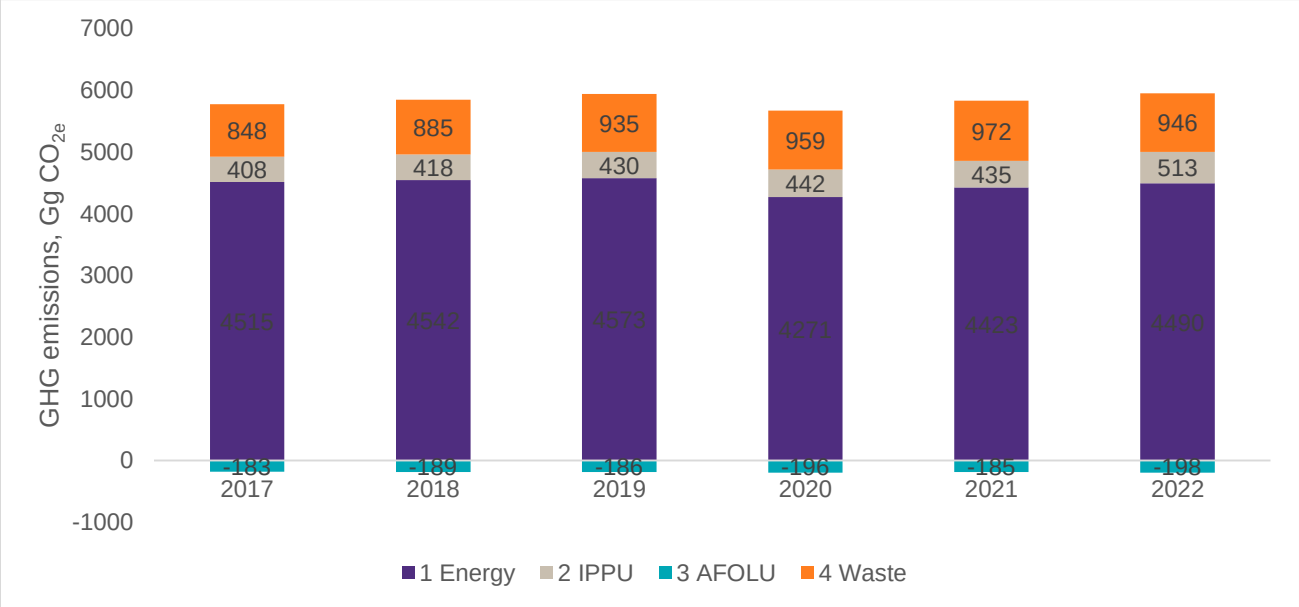
The Republic of Mauritius has obligation to submit its national inventory of Green House Gases emissions for the period 2017 to 2022 and its First Biennial Transparency Report (BTR) to the UNFCCC Secretariat. As SIDS, RoM can submit the National Inventory and BTR at its own pace, however, RoM intended to submit the BTR by 31st December 2024.

The methodology followed for the development of the national inventory is recommended by Intergovernmental Panel on Climate Change (IPCC) in their 2006 Guidelines for National Greenhouse Gas Inventories as well as the Good Practices Guidance.

The National GHG Emission Inventory has been developed for the time period 2017 – 2022. The trend of the carbon dioxide equivalent (CO_{2e}) emissions has remained almost constant for the last 6 years, from 2017 to 2022. Total GHG emissions (excluding LULUCF) of RoM in 2022 was 6178 Gg CO_2 equivalent and net GHG emissions were 5750 Gg CO_2 equivalent. Considering the total emissions excluding LULUCF sector, the biggest emitter is the ***Energy sector***, which represents the **72.7%** of the total emissions of the country in 2022 [**4,490** Gigagram carbon dioxide equivalent (**Gg CO_{2e}**)], followed by the ***Waste sector*** with **15.3% (946 Gg CO_{2e})** of the emissions, the ***IPPU sector*** with the **8.3% (513 Gg CO_{2e})** of the total emissions and the ***Agriculture Sector*** with the **3.7%** of total emissions in 2022 (**229 Gg CO_{2e}**).

The ***total amount of GHG*** emissions (excluding the LULUCF sector) increased by **2.7%** from 2017 to 2022 (**6015 Gg CO_{2e}** to **6178 Gg CO_{2e}**) and the amount of ***net GHG emissions*** increased in **2.9%** from 2017 to 2022 (**5588 Gg CO_{2e}** to **5750 Gg CO_{2e}**).

Figure 1: GHG emission trend of RoM from 2017 to 2022



Chapter 2: Information necessary to track progress made in implementing and achieving nationally determined contributions under Article 4 of the Paris Agreement

The Republic of Mauritius has a long tradition of parliamentary democracy. The country was declared independent in 1968. The Constitution guarantees the separation of the legislative, executive and judicial powers. Since 1992, Mauritius is a Republic where the Head of State is the President of the Republic, and the Government is led by the Prime Minister. The Government is elected on a five-year basis.

The Climate Change Act of 2020 established the Department of Climate Change, along with other entities, to help Mauritius become a low-emission and climate-resilient country. A Project Steering Committee under the chair of the Permanent Secretary of the Ministry of Environment, Solid Waste Management and Climate Change (Environment and Sustainable Development Division) has been set up to provide guidance in terms of the process leading to political and stakeholder acceptance of BTR outcomes and to provide overall quality assurance for the final deliverables of the project, namely the BTR and NIR reports. The following five TWGs have been established to oversee the implementation of climate change activities in the various key sectors:

1) TWG 1: National Circumstances and Institutional Arrangement/ Integration of Climate Change consideration into social, economic and environmental policies and actions/ Gender and Climate Change
2) TWG 2: GHG Inventory/Mitigation Measures
3) TWG 3: Vulnerability Assessment & Adaptation
4) TWG 4: Climate Change Research and Systematic Observation/ Education, Training and Public Awareness/ Knowledge, Information Sharing & Networking
5) TWG 5: Constraints and Gaps, and Related Financial, Technical and Capacity Needs / Technology Transfer and Development/ Capacity Building

NDC target of Republic of Mauritius

The Republic of Mauritius aims to reduce overall GHG emissions by 40% in 2030 compared to the Business as Usual (BAU) scenario of around 6,900 ktCO2eq (including LULUCF) in 2030. This economy-wide emissions reduction target comprises sector specific mitigation targets for energy, transport, waste and Industrial Processes and Product Use (IPPU). Mauritius confirms its commitment to implement policies and measures on LULUCF and Agriculture sectors in line with its national policy and strategy documents on climate change and sustainable development.

Mauritius actions on adaptation are centred around the 2021 Updated National Climate Change Adaptation Policy Framework that focuses on the potential of nature-based solutions for adaptation and provides a new policy orientation in key adaptation sectors to build resilience. The implementation of mitigation and adaptation actions as identified in this NDC is unconditional as well as conditional on external financial support received. The total financial needs to implement the NDC targets are estimated at USD 6.5 billion. The share for the unconditional and conditional contributions for the USD 6.5 billion is as follows:

a. Unconditional amount of USD 2.3 billion (from government and private sector) representing 35%; and

b. Conditional amount of USD 4.2 billion (from international sources and donor agencies) representing 65%.

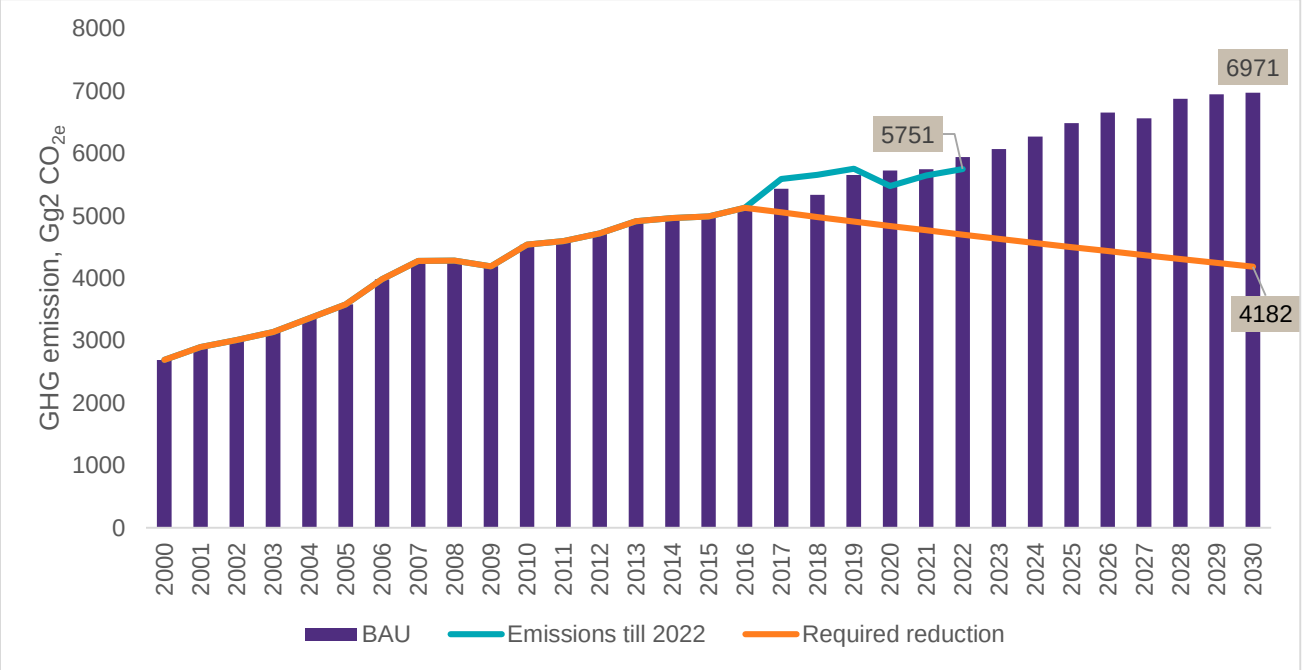
For tracking progress made in achieving NDC target, the selected indicator is the national total GHG emissions, which is calculated based on the 2006 IPCC Guidelines for National GHG Inventory. The global warming potentials (GWPs) presented in the IPCC Fifth Assessment Report (AR5) are used to calculate the national total GHG emissions in CO2 equivalent in accordance with the relevant provisions of the MPGs (18/CMA.1, Annex). The implementation and achievement of the target in Republic of Mauritius' NDC will be done by comparing the Business as Usual (BAU) emissions in 2030 with the total economy-wide GHG emissions including LULUCF

The sub-category of Lime production under IPPU category has been discontinued in the GHG inventory for 2017 to 2022, since lime production has ceased in Republic of Mauritius from 2014 onwards.

Tracking progress

Total greenhouse gas emissions (excluding LULUCF) in FY 2022 were approximately 6177 Gg CO_2 equivalent, as against a BAU projection of 6492 Gg CO_2 equivalent, which is a 5% reduction from BAU scenario. In consideration of the contribution from LULUCF activities (approximately 427 Gg CO_2), the total greenhouse gas emissions in FY 2022 were approximately 5751 Gg CO_2e. The BAU emission projections, emissions till 2022 and the required emission reduction trend till 2030 are shown in Figure 39.

Figure 2: BAU emission projections, emissions till 2022 and required emission reduction trend till 2030



Mauritius has increased the share of RE especially solar energy in the electricity generation mix from 2017 onwards. The country has achieved considerable emission reductions by reducing coal use for electricity generation. Mauritius plans to completely replace coal by 2030 to meet its NDC target. However, in the transport and waste sector, the country witnessed sharp increase in emissions mainly due to the increase in emissions from road transport and solid waste.

Various policies, actions and plans have been formulated and enacted to mitigate impacts of climate change. Some of the key interventions under each sector are provided in Chapter 2, section D.

Republic of Mauritius has applied flexibility for the following aspects in tracking progress made in achieving NDC:

Para 85 of Decision 18/CMA1: Each Party shall provide, to the extent possible, estimates of expected and achieved GHG emission reductions for its actions, policies and measures in the tabular format referred to in paragraph 82 above; those developing country Parties that need flexibility in the light of their capacities with respect to this provision are instead encouraged to report this information.

- *Republic of Mauritius is currently in the process of developing a comprehensive online Monitoring Reporting and Verification (MRV) portal to monitor the implementation of the various mitigation actions under implementation (and/or completed); measure and verify the GHG emission reduction achieved and compare the same with the BAU emissions and the intended impact of the programme.*

Para 95 of Decision 18/CMA1: Projections shall begin from the most recent year in the party's national inventory report and extend at least 15 years beyond the next year ending in zero or five; those developing country Parties that need flexibility in the light of their capacities with respect to this provision have the flexibility to instead extend their projections at least to the end point of their NDC under Article 4 of the Paris Agreement.

- *Republic of Mauritius will consider end of NDC period, 2030 as the endpoint of projections as the policies and measures in place for mitigation actions are all targeted towards 2030.*

Para 102 of Decision 18/CMA1: Those developing country Parties that need flexibility in the light of their capacities with respect to paragraphs 93-101 above can instead report using a less detailed methodology or coverage.

- *To the extent possible, detailed projections of GHG emissions for each sector of the economy for Republic of Mauritius is provided in CO_2 equivalent emissions terms till 2030. However, projections for individual greenhouse gases will be incorporated from BTR2 onwards.*
- *The IPCC 2019 Refinement of the 2006 IPCC Guidelines provides updated methodology and emission factors for estimating GHG emissions from the solid waste and wastewater subsectors within the waste sector. Republic of Mauritius seeks flexibility on the use of the new methodology and emissions factor. Mauritius intends to conduct measurement-based study to check applicability of the revised methodology and emission factors for the waste sector in the country's context. The updated methodology and emissions factors will be used for BTR3.*

Chapter 3: Information related to climate change impacts and adaptation under Article 7 of the Paris Agreement

Mauritius is part of the Small Island Developing States (SIDS) and is majorly impacted by climate change. In recent years, it faced numerous climate-related challenges and disasters cyclones, storm and tidal surges, torrential rains, floods and flash floods, landslides, tsunamis, heat stress. Mauritius recently suffered a flooding event in Port Louis in January 2024 after the passing of cyclone Belal. Similarly, in April 2024, experienced torrential rainfall and flooding. These disasters heavily impacted the country by causing widespread destruction of residential buildings and infrastructure. In financial terms, Mauritius faced economic losses of up to USD 325,000 due to the closure of banks, and agricultural losses of up to USD 7 million. It is projected that in the future the climate-related adversities and the negative impacts associated with them will increase. These would include extreme temperatures, erratic rainfalls, and sea level rise. It is also estimated Mauritius will be a water scarce region by the year 2030. Projections also indicate distortions in climatic conditions like reduced precipitation by 13 per cent by 2050. They also highlight that the island is expected to experience a major increase in hot days and nights, there will be a greater number of days exceeding the temperature of 35 degrees Celsius between November to May by 2050, which will surpass the observed values of 1986 to 2005. The World Risk Report of 2023 ranked Mauritius as 106th out of 193 countries with the highest disaster risk. Geographically as well, Mauritius is located in an active cyclone basin making it more exposed and vulnerable to hazards as compared to other regions. These would have a significant impact on the country and its people thus it is imperative for Mauritius to strengthen resilience and decrease vulnerability by developing and adopting comprehensive adaptation strategies and measures.

An overview of the climate risks and impacts in Mauritius is given in table below.

Sector	Climate Impacts	Risks to Sustainable Development
Water Resources	▪ Decrease of annual rainfall ▪ Increase in extreme precipitation ▪ Increased run-off and evapotranspiration	▪ Water scarcity: Utilizable water resource to decrease by 13% by

Sector	Climate Impacts	Risks to Sustainable Development
		2050. Mauritius to become water scarce region by 2030[1]
Agriculture	▪ Rising temperatures → shifts in agricultural zones and lower crop productivity and increases in pests and crop disease ▪ Increased rainfall variability → impact on crop development (drought and flooding damage)	▪ Decreased food security, in particular for poor household relying on subsistence farming and with low capacity for investments ▪ Decreased yield of key cash crops – e.g. projected sugar cane yield reduction of up to 48%
Fisheries/blue economy	▪ Increased sea temperature → coral bleaching, algal bloom and changed biodiversity ▪ Increased run-off and sedimentation in lagoons ▪ Increased cyclonic activity	▪ Reduced food security through: ▪ -Lower total catch size[2] ▪ - Increased toxicity of fish catch (algae related) ▪ - Cyclones preventing fishermen going to sea and destroying boats and equipment
Coastal areas	▪ Sea level rise and increased cyclonic activity →temporary coastal flooding and accelerated beach erosion.	▪ Reduced income potential from tourism (up to US$ 50 million/year by 2050)[3] ▪ Loss of coastal infrastructure
Health	▪ Extreme weather events ▪ Heat ▪ Flooding and drought	▪ Direct health impacts of extreme weather events ▪ Increases in water-borne and vector-borne diseases ▪ Nutritional impacts of food and water scarcity
Infrastructure	▪ Extreme weather events ▪ Flooding ▪ Sea level rise	▪ Loss of critical infrastructure, including housing, roads and coastal[4].

The adaptation priorities of Mauritius have been elaborated in the National Climate Change Adaptation Policy Framework (NCCAPF) which are based on the climate projections and the current climate situation. Specific policy measures have been developed for the key priority sectors and same are discussed in detail in Chapter 3.

[1] In Mauritius, approximately 50% of all potable water abstraction is from coastal aquifers, making the issue of saltwater intrusion even more pronounced

[2] During the 21st century, under high emission scenario, the habitat of tropical tuna in the Indian Ocean will gradually shift outside the equatorial regions, to the south (10°S – 30°S), compared to now (10°N - 10°S), thus decreasing the access to tuna in the Mauritius Exclusive Economic Zone.

[3] The coastal zone of the Republic of Mauritius is a valuable national asset with an estimated total annual economic value of USD 33 million (in 2010). According to the third national communication, a projected increase in the mean annual temperature increase, coupled with beach erosion, could lead to a reduction in tourist arrivals accounting for a revenue loss of at least USD 50 million/year by 2050.

[4] The Port Louis harbor, e.g., has been identified as highly vulnerable and is likely to be significantly impacted by storm surges and rising sea levels. This will have severe impact on maritime connectivity and shipping.

Chapter 4: Information on financial, technology development and transfer and capacity-building support provided and mobilized under Articles 9–11 of the Paris Agreement

Republic of Mauritius developed a Project Technical Committee under the chair of the Director of Climate Change to provide leadership to the BTR process and to deal principally with all technical aspects of the BTR/NIR and to support the work of the different Technical Working Groups (TWGs).

Five TWGs have been established to oversee the implementation of climate change activities in the various key sector. The scope of the fifth TWG is to identify constraints and gaps, and related financial, technical and capacity needs / technology transfer & development/ capacity building needs of Mauritius.

Republic of Mauritius is currently not tagging and recording information separately on finance received and technology transfer. As such, all donor support received is covered under financial support received under Article 9 of Paris Agreement.

Republic of Mauritius has received bilateral and multilateral financial support for activities related to adaptation and mitigation. From 2017 onwards, Mauritius has received 118.05 million USD both as grant and loan from various donor agencies. Of this, USD 46.3 million was for Adaptation activities and USD 71.7 million for mitigation activities under Article 9 of Paris Agreement.

In its Second NDC submitted to UNFCCC, Mauritius mentioned that total financial needs to implement the NDC targets are estimated at USD 6.5 billion. The total needs for implementing the mitigation and adaptation actions identified in the NDC are estimated respectively at USD 2 billion and USD 4.5 billion. The share for the unconditional and conditional contributions for the USD 6.5 billion is as follows:

a. Unconditional amount of USD 2.3 billion (from government and private sector) representing 35%; and
b. Conditional amount of USD 4.2 billion (from international sources and donor agencies) representing 65%.

Based on the information submitted to UNFCCC in the NDC, Republic of Mauritius requires USD 200 million per year for mitigation activities and USD 500 million per year for adaptation activities. Based on source of funding, USD 470 million is required per annum from bilateral and multilateral donor agencies. Considering the period from 2022 till 2024 (3 years considered as NDC was submitted in October 2021), financial support of USD 1.41 billion was required by Republic of Mauritius to implement adaptation and mitigation activities to meet NDC target. Of this, only USD 0.118 million, representing 8.4% of the requirement has been mobilized till December 2024.

Contribution by type of support

Republic of Mauritius received financial support of USD 118.05 million from 2017 till Dec 2024. Of this, 11% representing USD 12.44 million were loan and remaining 89% representing USD 105.6 million were grant. Loans were provided by Abu Dhabi Fund and African development Bank for renewable energy integration projects.

Contribution by channels

The donor agency wise support received by Mauritius from 2017 onwards is shown in table below.

Agency	Amount (USD mn)
Green Climate Fund	38.51
Global Environment Facility	37.35
UNEP CCC - Danish Government	0.13
Adaptation fund	4.44
Agence Française de Développement	9.20
UNDP Climate Promise	0.27
European Union	13.15
Global Climate Change Alliance (GCCA+) and European Union	2.26
United Kingdom	0.25
Southern African Development Community (SADC)	0.05
Abu Dhabi Fund	10.00 (Loan)
African Development Bank	2.44 (Loan)
Total	**118.05**

Details of the projects funded by various donor agencies are provided in Chapter 4.

Flexibility

Since Republic of Mauritius is not separately tagging technology support received and required, all information of support received is reported under financial support received and required.

Areas of improvement in relation to reporting

The following areas of improvement were identified after discussion with stakeholders:

i. Mauritius has estimated the quantum of external financial support required for meeting NDC target (conditional portion). However, there is no clarity of the support required for individual sectors where reduction targets have been established, like energy (non-transport), transport, IPPU and waste.
ii. Mauritius also needs to identify the type of technology required for meeting its NDC target for each sector.
iii. As finance requirement is key to Mauritius reducing its national GHG emissions by 40% from 2030 BAU level, it is pertinent to explore the possibility of co-operation under Article 6.2 and 6.4 of Paris Agreement.
iv. A dedicated cell can be established under the Climate Change Department of MoESWMCC to monitor and evaluate the type of financial, technology and capacity building support required and received to ensure that the process of collecting and maintaining data is streamlined.

Chapter 1

National inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gases

Mauritius's First Biennial Transparency Report

under the Paris Agreement

Chapter 1: National inventory report

Overview

The Republic of Mauritius (RoM), a Small Island Developing State (SIDS), is in the southwest of the Indian ocean. The Republic of Mauritius consists of the Islands of Mauritius (1,868.4 km^2), Rodrigues (110.1 km^2), Agalega, Tromelin, Cargados Carajos (28.7 km^2) and the Chagos Archipelago, including Diego Garcia and any other island comprised in the State of Mauritius. The Republic of Mauritius has an Exclusive Economic Zone (EEZ) of approximately 2.3 million km^2.

Republic of Mauritius is submitting its national updated inventory and BTR with the aim of submission by 31st December 2024. The key features of national inventory are as follows:

- The total net emissions of Republic of Mauritius were 5750.6 Gg CO_{2e} in 2022 showcasing an increase of 114.6% as compared to 2000 net emissions.
- The total emissions excluding LULUCF for RoM were 6177.6 Gg CO_{2e} representing an increase of 96.8% increase in 2022 as compared to the 2000 levels.
- The Net removals from the Land Use in 2022 were 427.0 Gg CO_{2e} which decreased by 6.9% in 2022 compared to 2000.
- Energy sector contributes to the largest share of GHG emissions (excluding LULUCF) with 72.7% share of emissions in 2022, followed by waste sector with 15.3% share and IPPU by 8.3% share.

A. Description of GHG emissions and removals

1. Overview of greenhouse gas inventory

Background of Greenhouse gas inventory in Republic of Mauritius

The Republic of Mauritius submitted its first inventory of GHG as part of its Initial National Communication in April 1999. Then, an improved standalone National GHG Inventory Report was developed by RoM during the preparation of the Second and Third National Communications. RoM submitted the National Inventory Report (NIR) along with the first Biennial Update Report (BUR) to UNFCCC in December 2021.

RoM also has obligation to submit its national inventory for GHG emissions for the period 2017 to 2022 and its First Biennial Transparency Report (BTR) to the UNFCCC Secretariat. As SIDS, RoM can submit the National Inventory and BTR at its own pace, however, RoM intended to submit the BTR by 31st December 2024. Thus, The National Inventory has been developed for the time period 2017 – 2022 and updated for the time period of 2000 – 2016.

Brief about the methodology

RoM is submitting the national inventory document prescribed in the *Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement* (Annex to Decision 18/CMA.1, hereinafter referred to as the "MPGs") as a stand-alone report. Therefore, this chapter provides only a summary of the information in the report.[5]

Estimation methodologies for the GHG inventories are required to be in line with the *2006 IPCC Guidelines for National Greenhouse Gas Inventories (2006 IPCC Guidelines)*, which were made by the Intergovernmental

[5] Please refer to National Inventory Report (NIR/NID) for further details

Panel on Climate Change (IPCC), and RoM's estimation methodologies are basically in line with these guidelines.

The typical methodology adopted for GHG emissions estimation consists of multiplying activity data (AD) by the relevant appropriate emission factor (EF).

Emissions (E) = Activity Data (AD) x Emission Factor (EF)

The methodology approach used for each of the sectors are outlined below, but 3 general levels of complexity and detail of methods are defined in IPCC 2006 Guidelines.

- **Tier 1**: the simplest approach and uses IPCC default values. This method is defined to be used where limited activity data is available.
- **Tier 2**: involves the simple methods but include the use of country specific emission factors
- **Tier 3**: the most complex and cover the use of models or plant specific data to generate accurate GHG emission estimates.

RoM used appropriate tier values as per the activity data and emissions factors available in line with IPCC 2006 guidelines.

Sectors

The GHG national inventory is divided into four main sectors i.e. Energy, IPPU, AFOLU and Waste. Further each sector is subdivided into sub-categories.

Energy

Emissions from the energy sector are primarily from only one section - fuel combustion (1.A). Fuel combustion (1.A) includes emissions released into the atmosphere when fossil fuels (e.g., coal, oil products, and natural gas) are combusted. The emissions from fuel combustion (1.A) are a significant emission source, accounting for nearly 74% of total GHG emissions (excluding LULUCF). In RoM, It is composed of four subcategories: Energy industries (1.A.1), including emissions from mainly public electricity and heat production; Manufacturing industries and construction (1.A.2), including emissions from the manufacturing and construction industries; Transport (1.A.3), including emissions from the transport of passengers and freight; Other sectors (1.A.4), including commercial/institutional, residential, agriculture/forestry/fishing.

Industrial Processes and Product Use (IPPU)

The Industrial Processes and Product Use (IPPU) sector deals with GHG emissions resulting from chemical and physical transformations in the industrial processes. The most significant category, in terms of GHG emissions, in the IPPU sector is the Product Use as Substitutes of Ozone Depleting Substances (ODS) (2.F), represented by stationary refrigerant and air conditioning and mobile air conditioning. The other categories include Metal industry (2.C), and Non-Energy Products from Fuels and Solvent Use (2.D).

Agriculture, Forestry and Other Land Use (AFOLU)

The AFOLU sector of Republic of Mauritius is a net sink. The AFOLU sector deals with GHG emissions resulting from agricultural and livestock activities (3.A) such as CH_4 as the result of enteric fermentation, CH_4 and N_2O generated in the treatment of manure excreted by cattle, etc. Aggregate sources and non-CO_2 emissions sources on land (3.C) is one of the other major emitters with emissions accounted from biomass burning and direct and indirect N_2O emission from managed soils and manure management. The major category for sink is Land (3.B) use of mainly forest land (3.B.1) which turns the AFOLU sector of RoM into a net sink.

Waste

In the waste sector, GHG emissions from the treatment and disposal of waste are estimated for solid waste disposal (4.A) being the major category of emissions. The other subsectors such as biological treatment of solid waste (4.B) and incineration (4.C) (waste incineration that involves the use of energy is covered in the energy sector) are also contribute to the emissions. Wastewater treatment and discharge (4.D) from domestic, commercial, and industrial wastewater accounts for typically the second largest share in the waste sector. The waste to be covered in this sector is waste as defined under the *2006 IPCC Guidelines*.

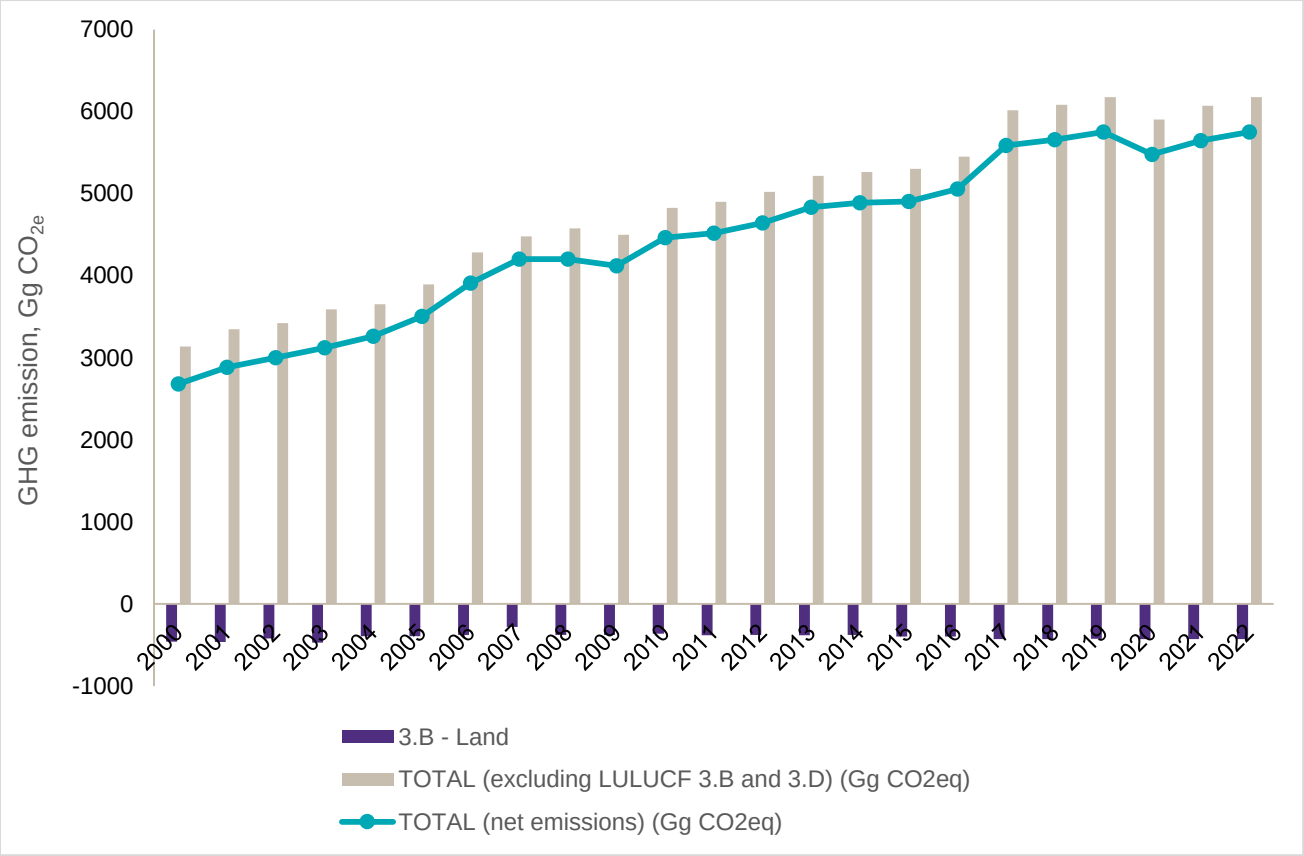
2. Trends in GHG emissions and removals

The National GHG Emission Inventory has been developed and updated for the time period 2000 – 2022. The total GHG emissions for Republic of Mauritius in 2022 (excluding LULUCF 3.B and 3.D) were ***6177.6 Gg CO_{2e}***. This represents an increase of 96.8% increase in 2022 as compared to the 2000 levels.

Net removals (including CO_2, CH_4, and N_2O emissions) from the Land Use in 2022 were ***427.0 Gg CO_{2e}*** which accounted for 6.9% of total GHG emissions. Net removals decreased by 6.9% in 2022 compared to 2000.

The net emissions were ***5750.6 Gg CO_{2e}*** in 2022 showcasing an increase of 114.6% as compared to 2000 net emissions.

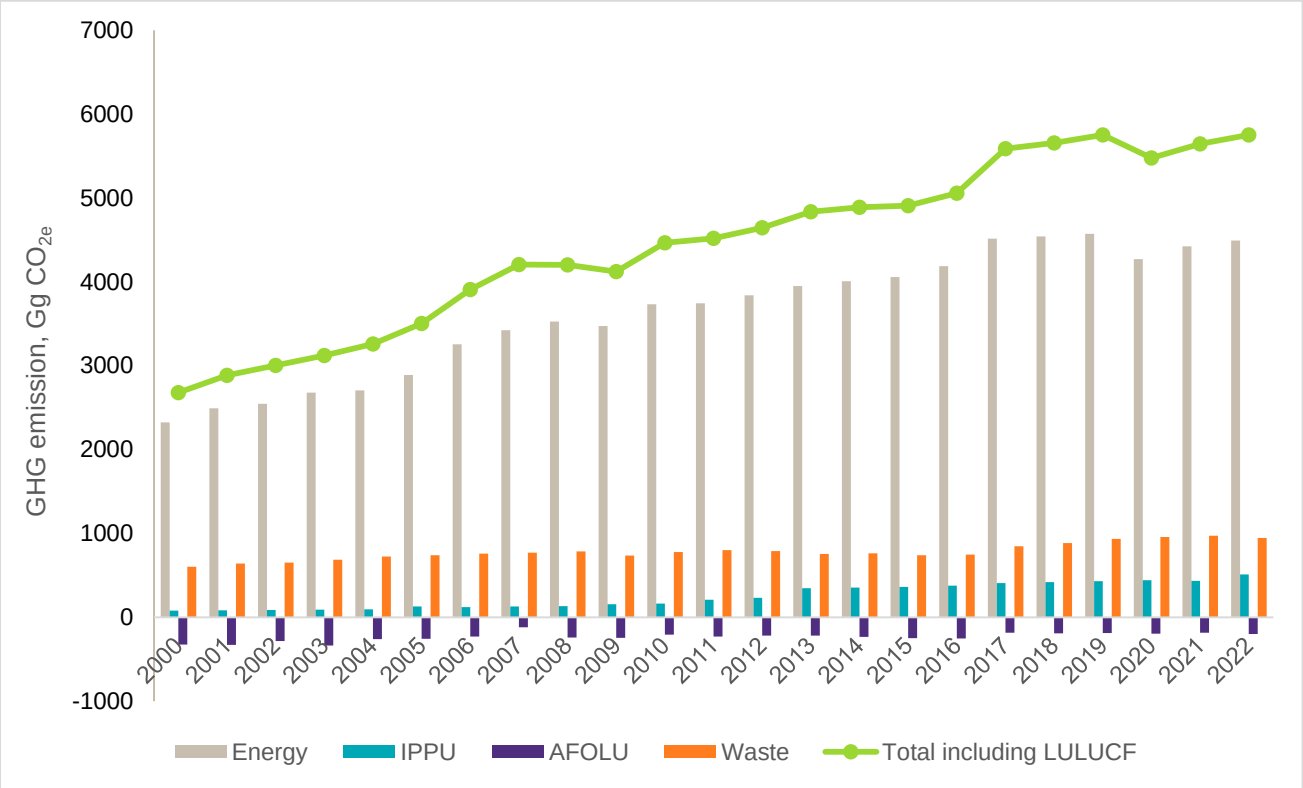
Figure 3: Trends in GHG emissions and removals in Republic of Mauritius



3. Trends in GHG emissions and removals by sector

The sector wise emissions trends are showcased in Figure 4.

Figure 4: GHG emission trends in RoM from 2000 to 2022 by sector



Energy Sector

The trend of CO_{2e} emissions from energy sector has been on a constant upwards trend from 2000 to 2022. The total emissions in 2022 from energy sector were ***4490 GgCO$_{2e}$***. The biggest emitter of the sector are the energy industries, which represent the 52.2% (2,343 Gg CO_{2e}) of the total emissions of the sector in 2022, followed by the transport sector, leaded by the road transport representing the 31.9% (1,431 GgCO_{2e}). Manufacturing industries and construction, and "Other sectors", represent the 7.5% (334 GgCO_{2e}) and the 6.2% (280 GgCO_{2e}) of the total emissions of the sector in 2022 respectively.

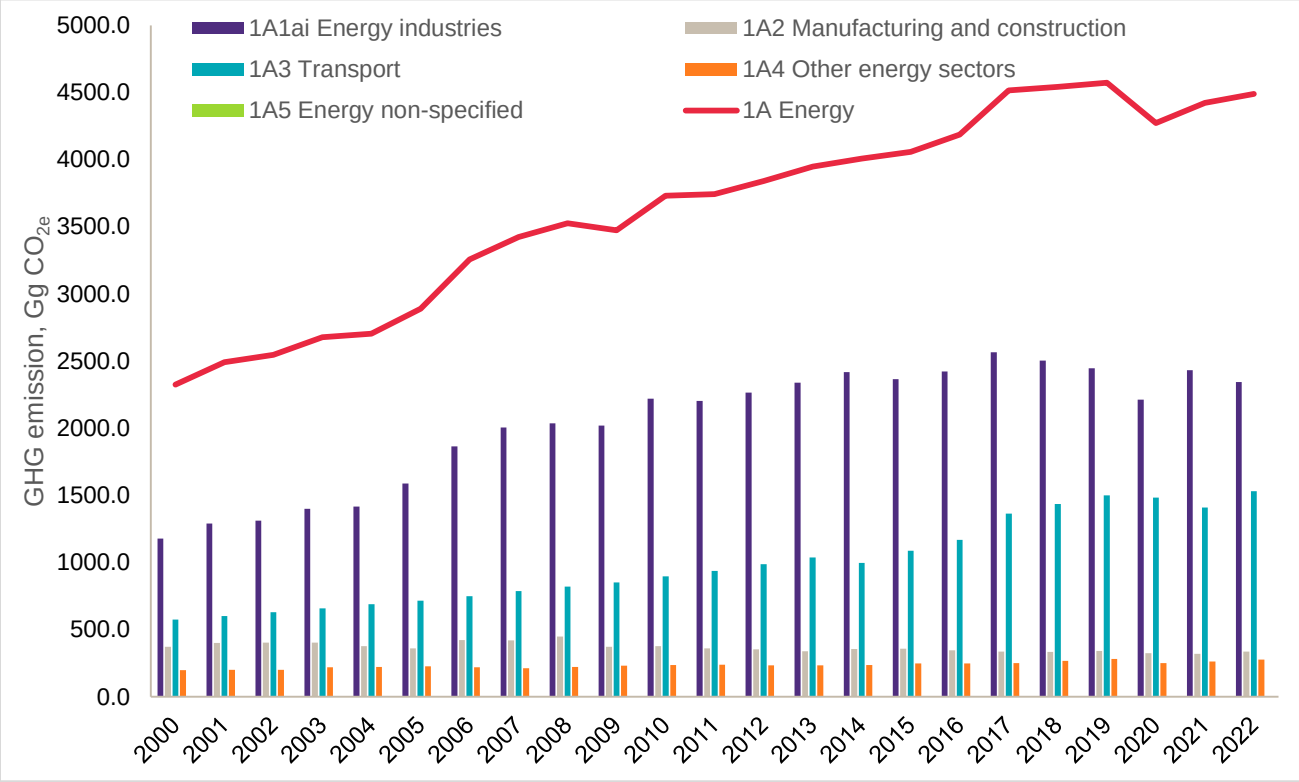
The total amount of GHG emissions in energy sector has increased by 93% from 2000 to 2022 (from 2,324 GgCO_{2e} to 4,490 GgCO_{2e}). In terms of electricity generation by energy industries, the fuel that generates the highest amounts of electricity is the fuel oil, corresponding 41% of GHG emissions in energy industries, followed by coal which is responsible for 58% of the emissions of the sector. The third fuel that generates highest amounts of electricity is the bagasse, which is a renewable resource and so CO_2 emission have not been accounted as it is a biogenic emissions source.

The transport category represents the second biggest emitter of the energy sector. This category is divided into civil aviation, road transport, and water-borne navigation. In 2022, transport represented 34.1% of the total emissions of the energy sector (1,530 GgCO_{2e}), and 93.5% (1,431 GgCO_{2e}) of those emissions corresponds to the road transport category, while water-borne navigation represents 5.8% of the category's emissions (88 Gg CO_{2e}) and the civil aviation the remaining 0.7% (9.4 GgCO_{2e}). This category has experienced 12% increase in terms of emissions over the time analysed.

The emissions from manufacturing industries and construction remained almost constant from 2000 to 2022. Manufacturing industries and construction represented 7.5% of the total emission of the energy sector (337 CO_{2e}).

The GHG emission trend of the energy sector for RoM from 2000 to 2022 is shown in Figure 5.

Figure 5: GHG emission trend of energy sector of RoM from 2000 to 2022



Industrial Process and Product Use (IPPU) Sector

The GHG emissions from the IPPU Sector contribute to 513 $GgCO_{2e}$ in 2022 and have experienced 536% increase along the time series from 2000 to 2022 (81 $GgCO_{2e}$).

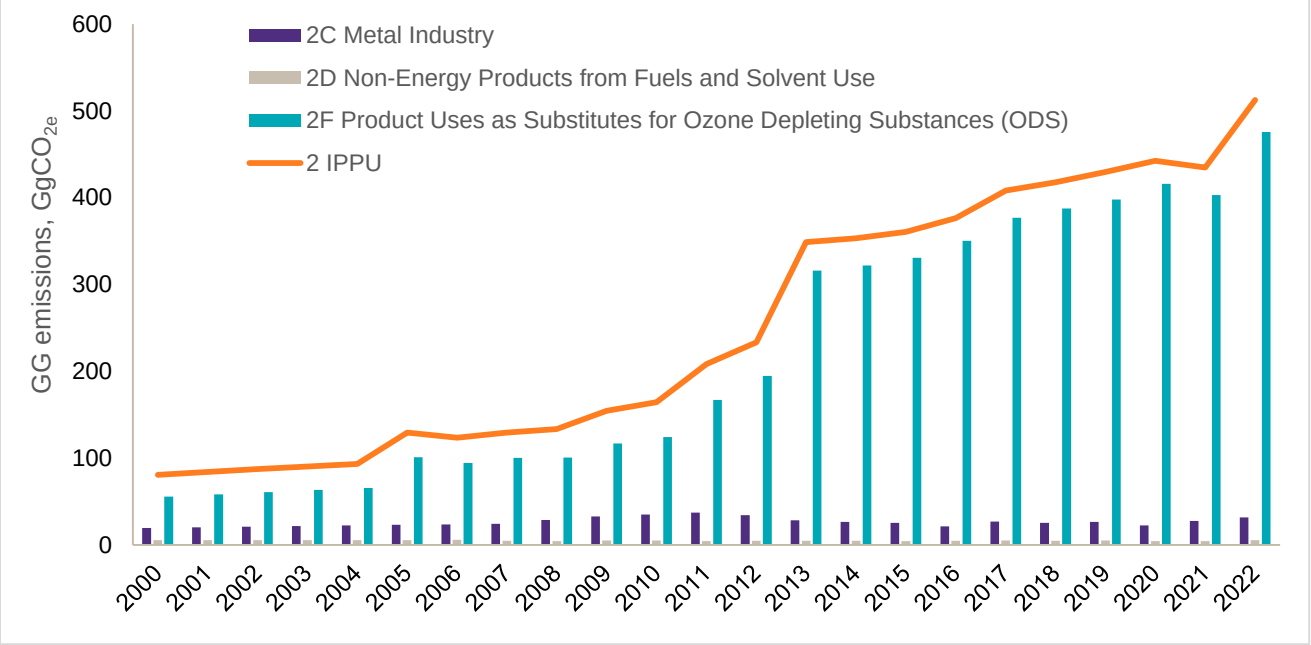
The most significant category, in terms of GHG emissions, in the IPPU sector is the Product Use as Substitutes of Ozone Depleting Substances (ODS), represented by stationary refrigerant and air conditioning and mobile air conditioning. This category represents 92.8% of total emissions in IPPU sector. GHG emissions of this sector have increased 758.5% from 2000 to 2022. The stationary refrigerant and air conditioning sector represents 97.8% of the emissions from this category (466 $GgCO_{2e}$ in 2022) and remaining 2.2% (10 $GgCO_{2e}$ in 2022) is from mobile air conditioning.

In stationary air conditioning and refrigeration sub-category, the most used substances are HFC-125, HFC-134a, HFC-143a, HFC-32 and HFC-23. For the mobile air conditioning sub-category, the only HFC substance used corresponds to HFC-134a.

The Metal Industry, represented by the Iron and Steel Production Industries, contributed to 6.2% of the total GHG emissions of the IPPU sector in 2022. Emissions from the iron and steel sub sector have increased by 62% from 19.6 $GgCO_{2e}$ in 2000 to 31.6 $GgCO_{2e}$ in 2022.

RoM also has emissions due to the use of lubricants in the industrial sector, as non-energy products. The emissions from this category represent 1% of the total emissions of IPPU sector. The GHG emission trend of the IPPU sector for RoM from 2017 till 2022 is shown in Figure 6.

Figure 6: GHG trends in IPPU sector in RoM from 2000 to 2022

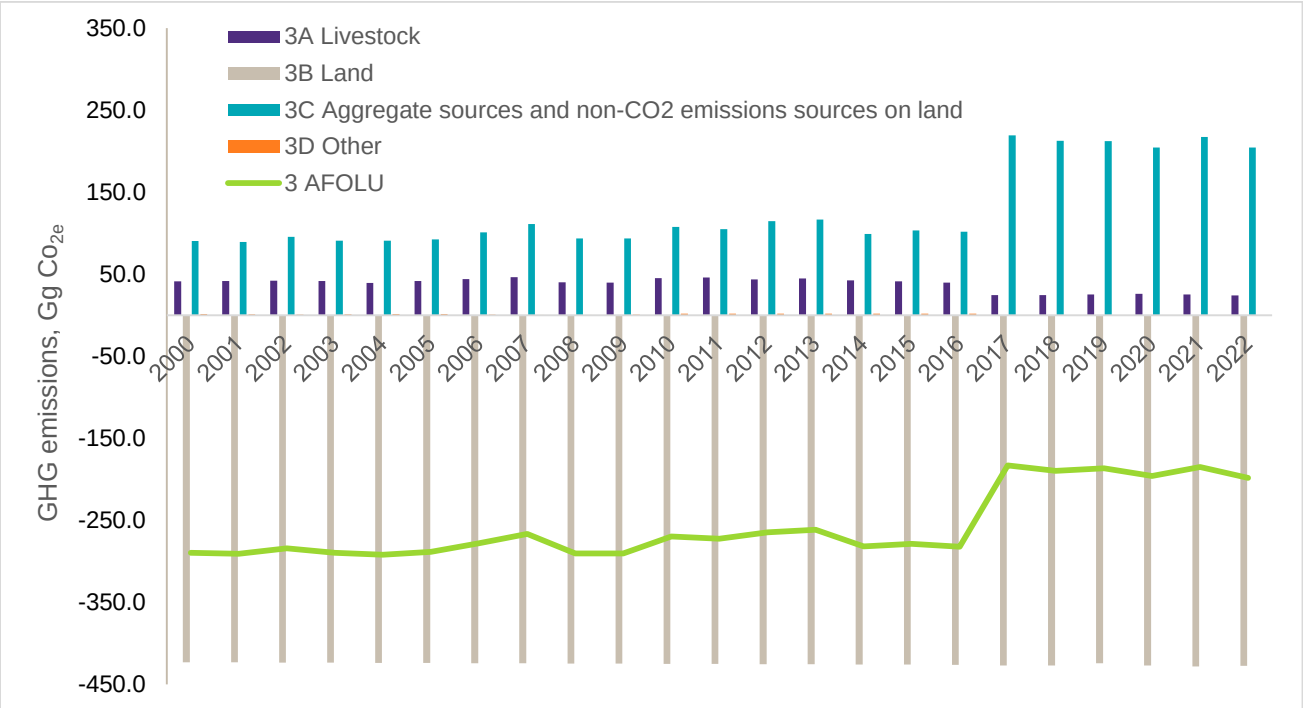


Agriculture, Forestry and Land Use (AFOLU) Sector

The AFOLU sector of RoM is a net sink. The net removals (emissions – removals) in Mauritius have decreased by 6.9% during the period from 2000 to 2022. GHG removals from LULUCF (categories 3.B and 3.D) have decreased from 459 $GgCO_{2e}$ in 2000 to 427 $GgCO_{2e}$ in 2022.

The Livestock (3.A) emissions decreased from 41.6 $GgCO_{2e}$ in the year 2000 to 24.4 $GgCO_{2e}$ in 2022, which resulted in a decrease of 41%. The GHG emission trend of the AFOLU sector for RoM from 2000 till 2022 is presented in Figure 7.

Figure 7: GHG trends in AFOLU sector in RoM from 2000 to 2022



Waste Sector

The GHG emissions from the Waste Sector increased 57% from 2000 to 2022 (from 602 $GgCO_{2e}$ in 2000 to 946 $GgCO_{2e}$ in 2022).

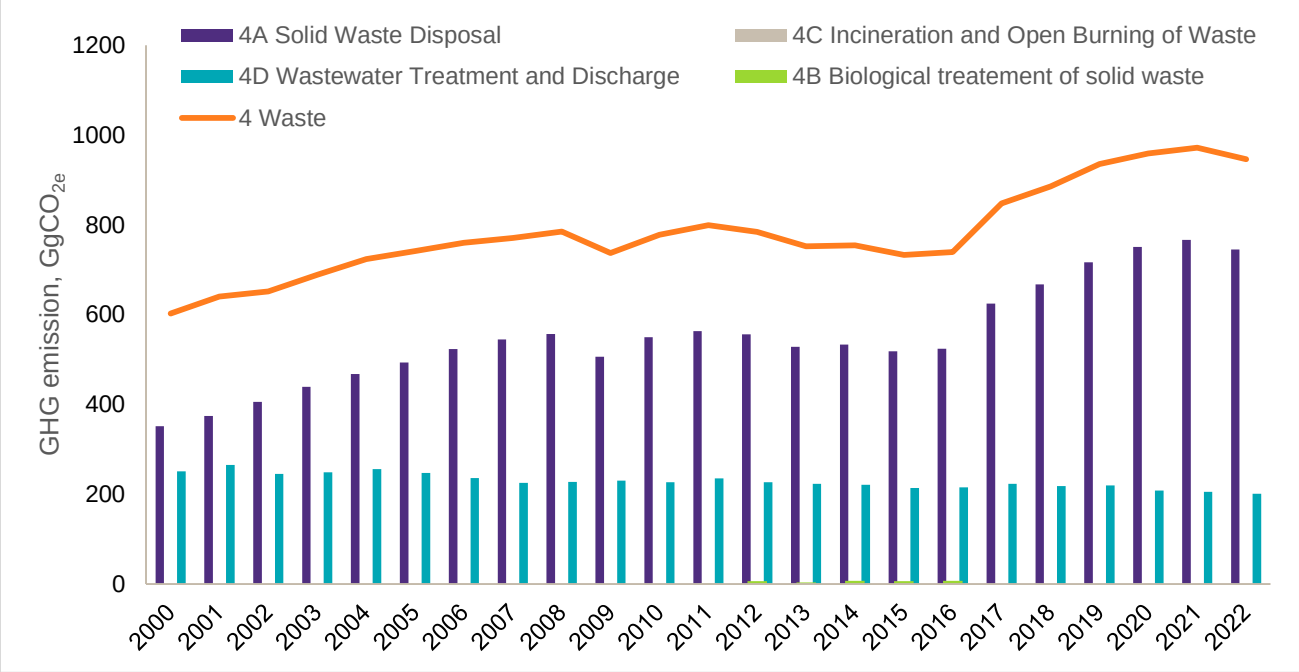
The most significant category, in terms of GHG emissions, for this sector is the solid waste disposal category, which represents 78.7% of the total GHG emissions of this sector in 2022.

The second category that contributes most to the emissions in this sector is the wastewater treatment and discharge representing 21.3% of the total GHG emissions in the sector in the year 2022. The emissions in this subcategory have experienced ~20% decrease from 2000 to 2022, from the 251 $GgCO_{2e}$ to 201 $GgCO_{2e}$. This is majorly due to the decrease in production in sugar industry, thus leading to reduced quantities of industrial wastewater.

There were no emissions from biological treatment of solid waste from 2017 to 2022 and 2000 to 2009 as the it was not in operation. However, emissions from composting were around 0.9 $GgCO_{2e}$ in 2010 which increased till 6.7 $GgCO_{2e}$ in 2016. Incineration represented 0.01% of the emissions from waste sector in 2022 and decreased from 0.56 $GgCO_{2e}$ in 2000 to 0.12 $GgCO_{2e}$ in 2022.

The GHG emission trend of the IPPU sector for RoM from 2017 till 2022 is shown in Figure 8.

Figure 8: GHG emission trends of waste sector for RoM from 2000 to 2022



Chapter 2

Information necessary to track progress made in implementing and achieving nationally determined contributions under Article 4 of the Paris Agreement

Mauritius's First Biennial Transparency Report

under the Paris Agreement

Chapter 2: Tracking progress of NDCs

Overview

This chapter provides information on the Information necessary to track progress made in related to implementing and achieving a nationally determined contribution under Article 4 of the Paris Agreement along with Mitigation policies and measures, actions and plans.

A. National circumstances and institutional arrangements

1. National circumstances

Government Structure

a) Administrative Organization

The Republic of Mauritius has a long tradition of parliamentary democracy. The country was declared independent in 1968. The Constitution guarantees the separation of the legislative, executive and judicial powers. Since 1992, Mauritius is a Republic where the Head of State is the President of the Republic, and the Government is led by the Prime Minister. The Government is elected on a five-year basis. The Constitution provides for the Parliament of Mauritius to consist of the President and the National Assembly. The executive administers the affairs of the nation and is exercised by the Cabinet headed by the Prime Minister. Ministries are headed by Cabinet Ministers, who are responsible for the business of their respective Ministries in Parliament. The current list of Ministries of the Cabinet is as follows:

1. Prime Minister, Minister of Defense, Home Affairs and External Communications, Minister of Finance, Minister for Rodrigues and Outer Islands
2. Deputy Prime Minister and Minister without Portfolio
3. Minister of Housing and Lands
4. Minister of Environment, Solid Waste Management and Climate Change
5. Minister of Agro-Industry, Food Security, Blue Economy and Fisheries
6. Minister of National Infrastructure
7. Minister of Health and Wellness
8. Minister of Tourism
9. Minister of Social Integration, Social Security and National Solidarity
10. Minister of Financial Services and Economic Planning
11. Minister of Energy and Public Utilities
12. Minister of Foreign Affairs, Regional Integration and International Trade
13. Minister of Youth and Sports
14. Minister of Labour and Industrial Relations
15. Minister of Land Transport
16. Minister of Gender Equality and Family Welfare
17. Minister of Commerce and Consumer Protection
18. Minister of Tertiary Education, Science and Research
19. Minister of Industry, SME and Cooperatives
20. Minister of Education and Human Resource
21. Minister of Information Technology, Communication and Innovation
22. Minister of Public Service and Administrative Reforms
23. Minister of Local Government
24. Minister of Arts and Culture

Reference: Government of Mauritius Website (https://pmo.govmu.org/Pages/My_Cabinet.aspx)

b) Department of Climate Change

The Climate Change Act of 2020 established the Department of Climate Change, along with other entities, to help Mauritius become a low-emission and climate-resilient country. The Department of Climate Change was established following the implementation of the Climate Change Act 2020 in April 2021. The Department of Climate Change is headed by its director. In line with the provisions of the Act, the Department of Climate Change is responsible to:

- Promoting adaptation and mitigation measures
- Developing and coordinating policies, projects, and action plans
- Overseeing the implementation of these plans
- Regulating the National Climate Change Adaptation Strategy and Action Plan
- Regulating the National Climate Change Mitigation Strategy and Action Plan
- Regulating the National Inventory Report
- Promote the implementation of Article 6 of the United Nations Framework Convention on Climate Change (UNFCCC) on education, training and public awareness on climate change and related matters

c) Budget for Global Warming and Climate Change Countermeasures

According to a study commissioned by the United Nations Development Programme (UNDP) Country Office, an amount of Rs 10.28 billion was spent from the national budget on climate-related measures (77% on adaptation measures and 23% on mitigation measures), representing 2.15% of Gross Domestic Product (GDP) or 7.02 % of total Government expenditure[6]. In its 2023 Annual Report for Mauritius, UNDP has reported that Mauritius allocated 12.7% of its national budget to climate actions[7].

In the 2021/2022 budget, Government allocated Rs 2.2 billion for adaptation and mitigation projects under the National Environment Fund (NEF)[8].

In the 2022/23 budget, Government allocated Rs 1 billion to the clean-up and embellishment programme as well as for the rehabilitation of beaches, lagoons and coral reefs. In addition, Rs 400 million was earmarked to undertake landslide rehabilitation works across the island while Rs 3.8 billion was assigned to continue the National Flood Management Programme[9].

In the 2023/24 budget, Government earmarked[10]:

- Rs 3 billion investments for flood mitigation measures through drain projects across the country are planned as part of the wider flood mitigation programme.
- Rs 1.6 billion for projects to address climate change.
- Rs 278 million for beach rehabilitation works and cleaning of lagoons amongst other measures.
- 30% subsidy up to a maximum of Rs 3.5 million on the purchase of electric buses by bus companies and a loan at a concessional rate of 2% for the purchase of electric buses.

In the 2024/2025 budget, Government earmarked Rs 3.2 billion under the Climate and Sustainability Fund for projects addressing climate change. Moreover, a Corporate Climate Responsibility levy of 2 % of company's profits was introduced for companies having a turnover exceeding Rs 50 million to support natural ecosystem and climate change initiatives[11].

Population Profile

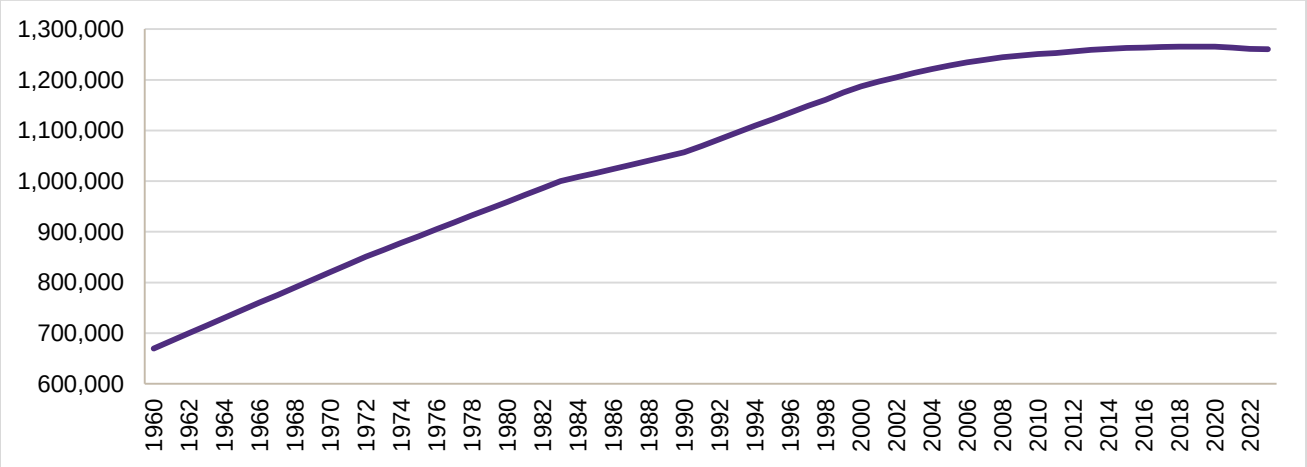
a) Population Structure

The Republic of Mauritius has a diverse population structure characterized by multiple ethnicities and cultures. As at end of 2023, the population stood at 1.26 million comprising 0.62 million males and 0.64 million females[12]. Due to its small land size, Mauritius is among the countries with the highest population densities in the world

[6] Tracking Public Sector Environmental Expenditure, 2018 – Reported in BUR.
[7] UNDP, Mauritius Annual Report 2023.
[8] Republic of Mauritius Budget 2021/22 Highlights
[9] Republic of Mauritius Budget 2022/23 Highlights
[10] Republic of Mauritius Budget 2023/24 Highlights
[11] Republic of Mauritius Budget 2024/25 Highlights
[12] Statistics Office - Digest of Demographic Statistics 2023

(628 persons/km^2 in 2023[1]). In the 1950s and 1960s, Mauritius experienced very high rates of natural population growth, peaking at 3.5% per year, followed by a very steep decline in fertility. The total fertility rate dropped from 6.2 children per woman in 1963 to 3.4 in 1971[13] and reached 1.39 in 2023[1]. The population trend from 1977 onwards in depicted in Figure 9.

Figure 9: Population trend in Republic of Mauritius



Changes in the population structure of Mauritius from 2000 to 2011 and 2023 are illustrated in adjacent figure. The sharp decline in fertility rates has inevitably bought about the problem of ageing[14]. Thus, mean and median ages of the population have been increasing steadily since the 1980s. While these indicators were at 27.1 and 23.6 years respectively in 1985[15], they increased to 32.2 and 30.4 years respectively in 2005[16] while they reached 39.0 and 38.4 years respectively in 2023. Accordingly, the percentage of the population aged 60 years and above have increased from 7.4% in 1985[4] to 9.6% in 2005[5] and 20.1% in 2023[1]. Projections made by Statistics Mauritius estimate this figure to rise up to 29.5% in 2048 as the overall population drops to 1,087,766.

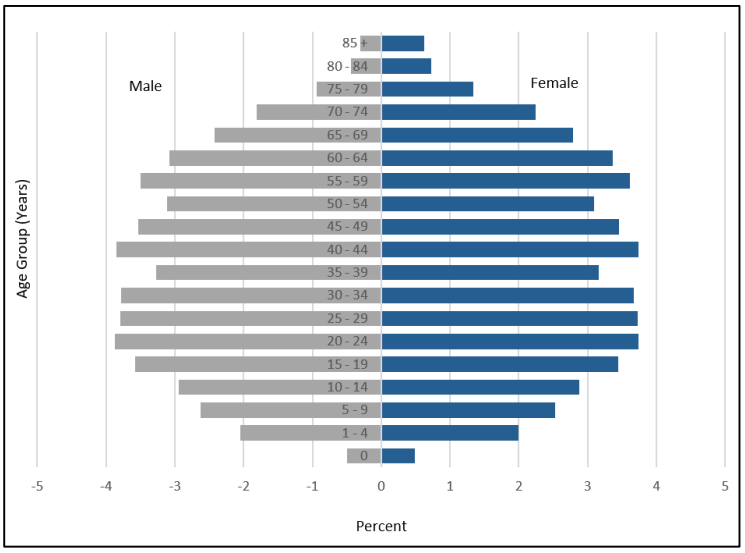


Figure 10: Population pyramid of Republic of Mauritius in 2023

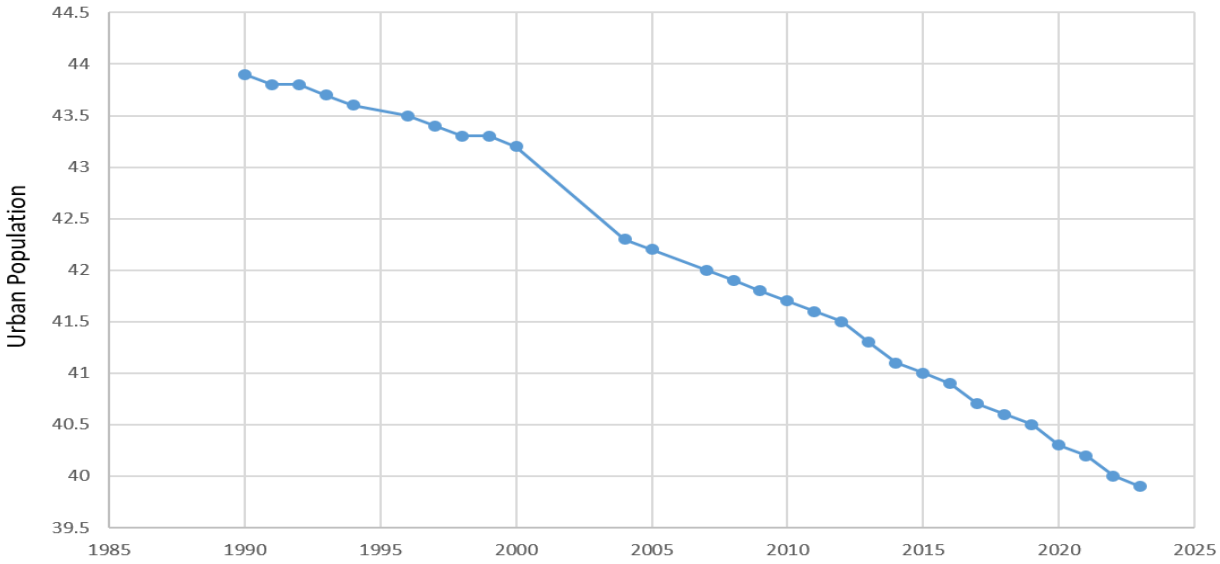
b) Population Distribution

Analysis of migration data in the Republic of Mauritius takes into account movements between municipal wards (urban) and village council areas (rural) but does not consider movements within these areas. The movement of people has potential impacts on expanding economic opportunity and on the activities of daily life – for example, commuting to and from the place of work, shopping, visiting, among others[17]. Figure 11 shows the

[13] National Research Council, Division of Behavioral, Social Sciences and Committee on Population, 1993. Population and land use in developing countries: Report of a workshop. National Academies Press.
[14] Suntoo, R., 2012. Population ageing and the theory of demographic transition: the case of Mauritius. University of Mauritius Research Journal, 18.
[15] Statistics Office - Digest of Demographic Statistics 1985
[16] Statistics Office - Digest of Demographic Statistics 2005
[17] Migration in Mauritius: A COUNTRY PROFILE 2013 (IOM Development Fund)

evolution of the urban population between 1990 and 2023. The number of people living in urban areas has been decreasing consistently during this period, from 43.9% in 1990 to 39.9% in 2023.

Figure 11: Percentage urban population between 1990 and 2023[18]



c) Number of households

The number of private households in the Republic of Mauritius amounted to 369,000 in 2022, an increase of 7.8% from 342,360 in 2011[19]. The average household size decreased from 3.6 to 3.3 during the same period. Since 1990, as the number of households increased progressively, the number of persons per household decreased, mainly due to changes in the household structure, with a tendency to move toward nuclear families coupled with a reduction in the number of children per family resulting from the decline in the fertility rate. Figure 12 displays the trend of the number of households along with the number of people per household in the Republic of Mauritius during the period 1990 to 2022[20].

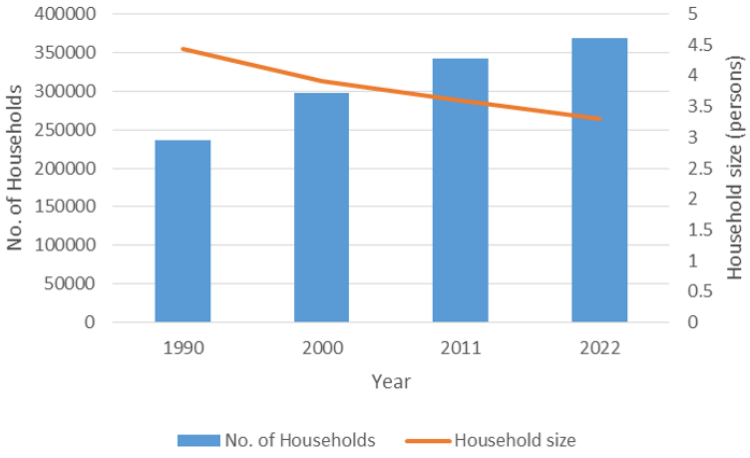


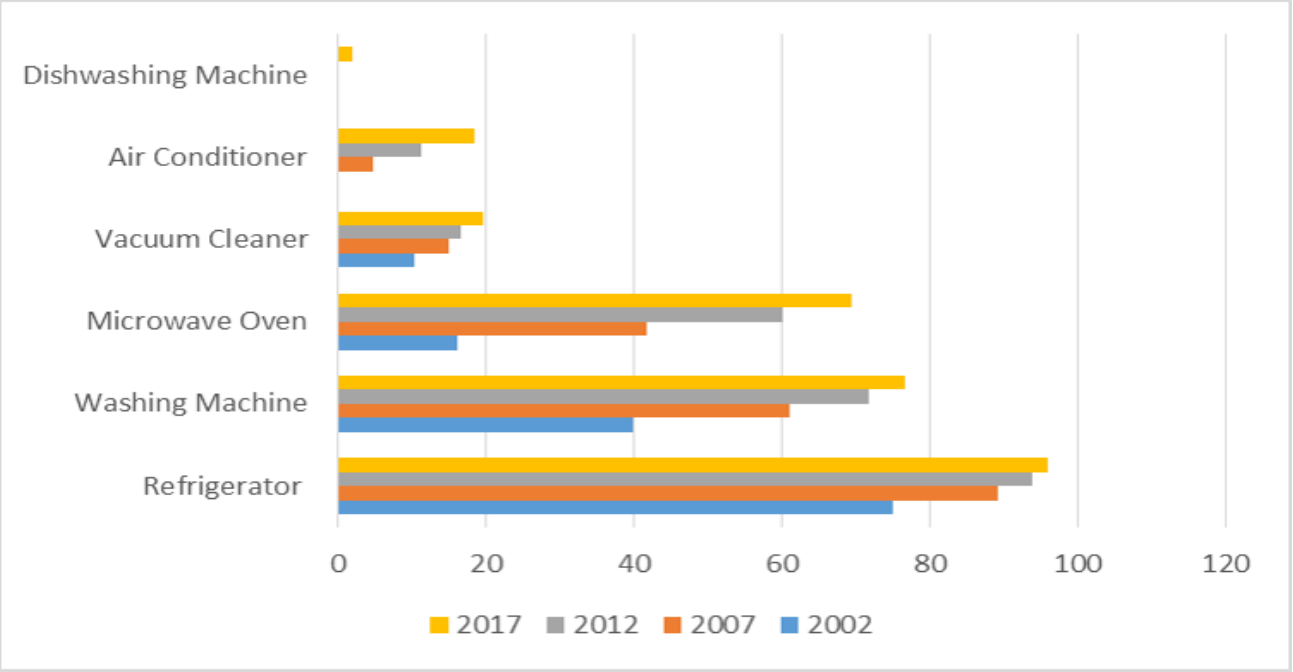
Figure 12: Number of households and number of people per household for the period 1990 to 2023

The proportions of households with energy-intensive appliances such as refrigerator, washing machine, microwave oven, vacuum cleaner and air conditioner has increased significantly over the last years. For example, only 16.1% of households had a microwave oven in 2002 compared to 69.4% in 2017. Figure 13[21]

[18] Statistics Office - Digest of Demographic Statistics
[19] Statistics Mauritius – Census 2022
[20] Statistics Mauritius – Censuses 1990, 2000, 2011 and 2022
[21] Statistics Mauritius - Household Budget Surveys 2002, 2007, 2012 and 2017

presents the distribution of households equipped with some selected high-energy appliances during the period 2002 to 2017.

Figure 13: Distribution (%) of households with selected durable goods from 2002 to 2017



d) Impact on Greenhouse Gases

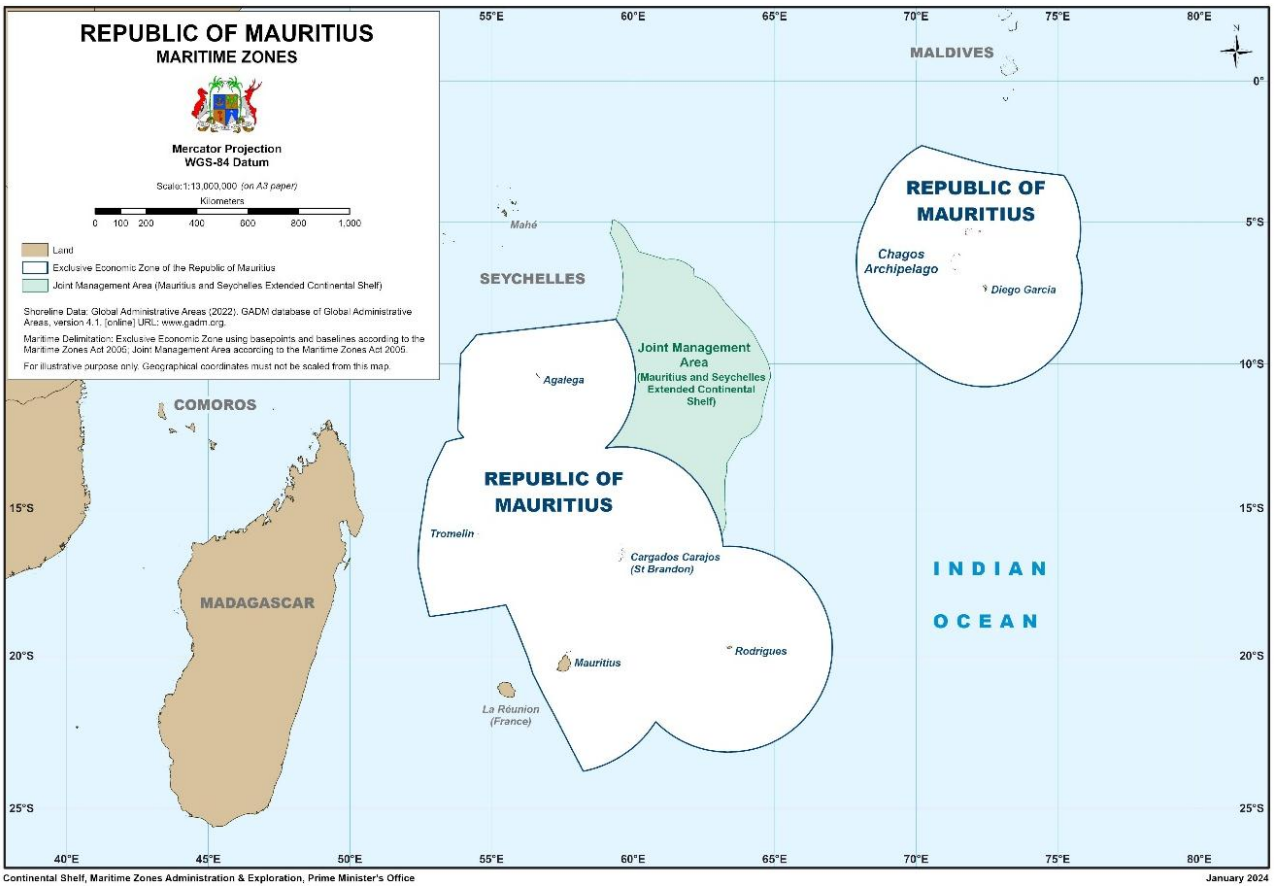
The steady trend in population statistics of the last decades indicate that the population of the Republic of Mauritius is set to decline progressively in the future, driven by a combination of factors including ageing residents and decreasing birthrates. Despite the overall population decrease, the number of households in on the rise, largely attributed to the increasing prevalence of nuclear families. This trend will likely lead to higher energy consumption per household given the surge in the number of energy-consuming appliances used.

Moreover, there is a distinct migration movement of the population towards rural areas in recent years, which may further contribute to additional greenhouse gas emissions. This transition often results in longer commuting distances for work or leisure, thereby increasing CO_2 emissions from the transport sector.

Geographical Profile

The Republic of Mauritius, situated in the southwestern part of the Indian Ocean, has a total land area of about 2040 km^2. It consists of the islands of Mauritius (1,868.4 km^2), Rodrigues (110.1 km^2), Agalega, Tromelin, Cargados Carajos (28.7 km^2) and the Chagos Archipelago, including Diego Garcia and any other island comprised in the State of Mauritius. The Republic of Mauritius has an Exclusive Economic Zone (EEZ) of approximately 2.3 million km^2, as illustrated in Figure 14. It also shares a joint jurisdiction with the Republic of Seychelles over an extended continental shelf area of about 400, 000 km^2 in the Mascarene Plateau region.

Figure 14: Maritime Zones Map of the Republic of Mauritius[22]



Climate Profile

The island of Mauritius enjoys a mild tropical maritime climate throughout the year. The country has two seasons: a warm humid summer extending from November to April and a relatively cool dry winter from June to September. The month of October and May are commonly known as the transition months. Mean summer temperature is 24.7°C while mean winter temperature is 20.4°C, resulting in a seasonal temperature difference of only 4.3°C. The warmest months are January and February with average day maximum temperature reaching 29.2°C and the coolest months are July and August when average night minimum temperatures drop down to 16.4°C. Long term mean annual rainfall (1971-2000) over the Island is 2010 mm. The wettest months are February and March. The driest month is October. Mean summer rainfall (1971-2000) is 1344 mm, which is 67% of the annual amount over the Island. Mean winter rainfall (1971-2000) is 666 mm. Although there is no marked rainy season, most of the rainfall occurs in summer months. Mauritius receives 6.5 to above 8 hours of bright sunshine daily. In summer months around 6.0 hours of bright sunshine are received over the high grounds, whereas the coastal regions are exposed to 7.5 to over 8.0 hours of bright sunshine. In winter months, the Central Plateau receives around 5.0 hours of bright sunshine whereas the coast receives above 7.5 hours of bright sunshine.

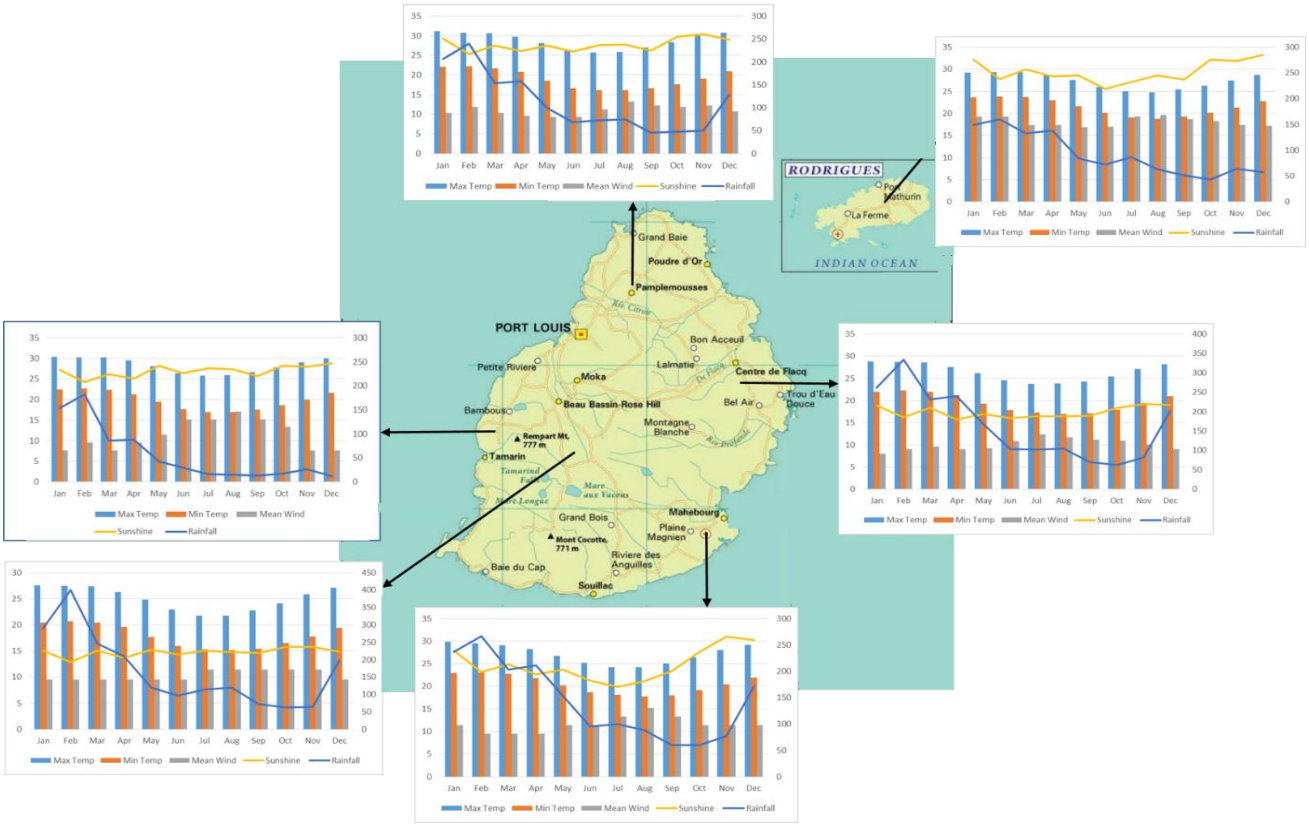
Rodrigues also features a mild tropical maritime climate with persistent trade winds blowing throughout the year. Mean summer temperature is 25.9°C and mean winter temperature is around 22.3°C so that the seasonal temperature difference is about 3.6°C. January to March are the hottest months and August is the coolest month. Long term annual mean rainfall (1961-2007) over the island is 1116 mm. Mean summer rainfall is 729 mm which represents 65% of the annual total. The wettest month is February whereas September and October

[22] Source: Prime Minister's Office, Department for Continental Shelf, Maritime Zones Administration & Exploration website, https://csmzae.govmu.org/Documents/CSMZAE/Maps/A3_indianOceanJMAEEZ_20240129_300dpi.jpg

are the driest months. The island receives on average, about 8.9 hours of bright sunshine daily and the average wind speed on any day is 18.1 km/h at Pointe Canon.

The islands of the Republic of Mauritius are exposed to cyclones during the summer months of November to March, sometimes bringing heavy rains and strong wind gusts that significantly impact the island's infrastructure and agriculture. Figure 15 shows the monthly variation of various climate parameters (maximum and minimum mean temperatures, mean wind speed, sunshine hours and rainfall) for the northern, southern, eastern, western and central regions of the island of Mauritius as well as for Rodrigues, based on long term recorded data.

Figure 15: Monthly variation of climate parameters at various locations in Mauritius and Rodrigues



Economy

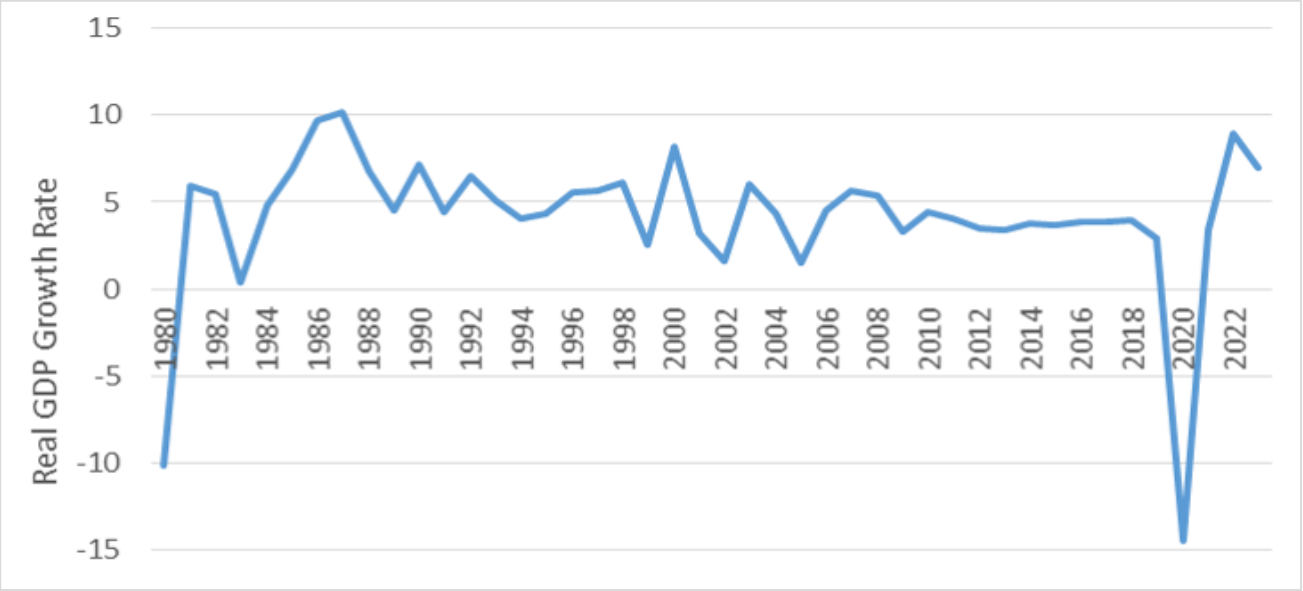
(1) Gross Domestic Product

Mauritius has experienced remarkable economic growth since gaining independence in 1968 and now stands as one of the highest per capita incomes in Africa[23]. In the decade following independence, Mauritius was largely dependent on agriculture and, in particular, on the sugar industry. In the 1980s, the country began a shift toward a more varied economic structure, making significant strides in sectors such as textile, tourism, fisheries and manufacturing. Since the turn of this century, it has successfully expanded into financial services as well as information and communication technology. In 2020, the country briefly attained high-income status by World Bank after the Gross National Income per capita reached USD 12,740, but the global COVID-19 pandemic severely impacted the economy. Although the public health crisis was effectively managed, the economic repercussions were profound, leading to a contraction of 14.6% in real Gross Domestic Product (GDP) that year, from USD 14.44 billion in 2019 to USD 11.41 billion in 2024, causing Mauritius to drop to upper-middle-

[23] Mauritius - 2022 World Factbook Archive: https://www.cia.gov/the-world-factbook/about/archives/2022/countries/mauritius/

income status again[24]. Real GDP growth saw a modest rebound of 3.5% in 2021, accelerating to 8.9% in 2022[19], fueled by a progression of 230% of tourist arrivals compared with 2021, and a contribution to real GDP growth of 5.1%[25]. Other key sectors contributing to growth in 2022 were manufacturing (+1,2% of which 0.6% accrued from non-sugar food processing), financial services and insurance activities (+0.6%) and agriculture (+0.2%)[20]. In 2023, real GDP grew by 7%[19]. The strong GDP growth over the last two years has bolstered tax revenues, leading to a reduced public debt-to-GDP ratio of around 78%[19]. Figure 16 presents the yearly real GDP growth rate for the period 1980 to 2023.

Figure 16: Trend in yearly real GDP growth rate for the period 1980 to 2023



As of 2023, the Gross Domestic Product (GDP) of Mauritius demonstrates resilience despite global economic challenges such as the COVID-19 pandemic and its subsequent economic recovery phase as well as those stemming from the war in Ukraine. The country's GDP was estimated to be around USD 14.7 billion and has shown consistent growth over the years, supported by sound macroeconomic policies and a stable political environment.

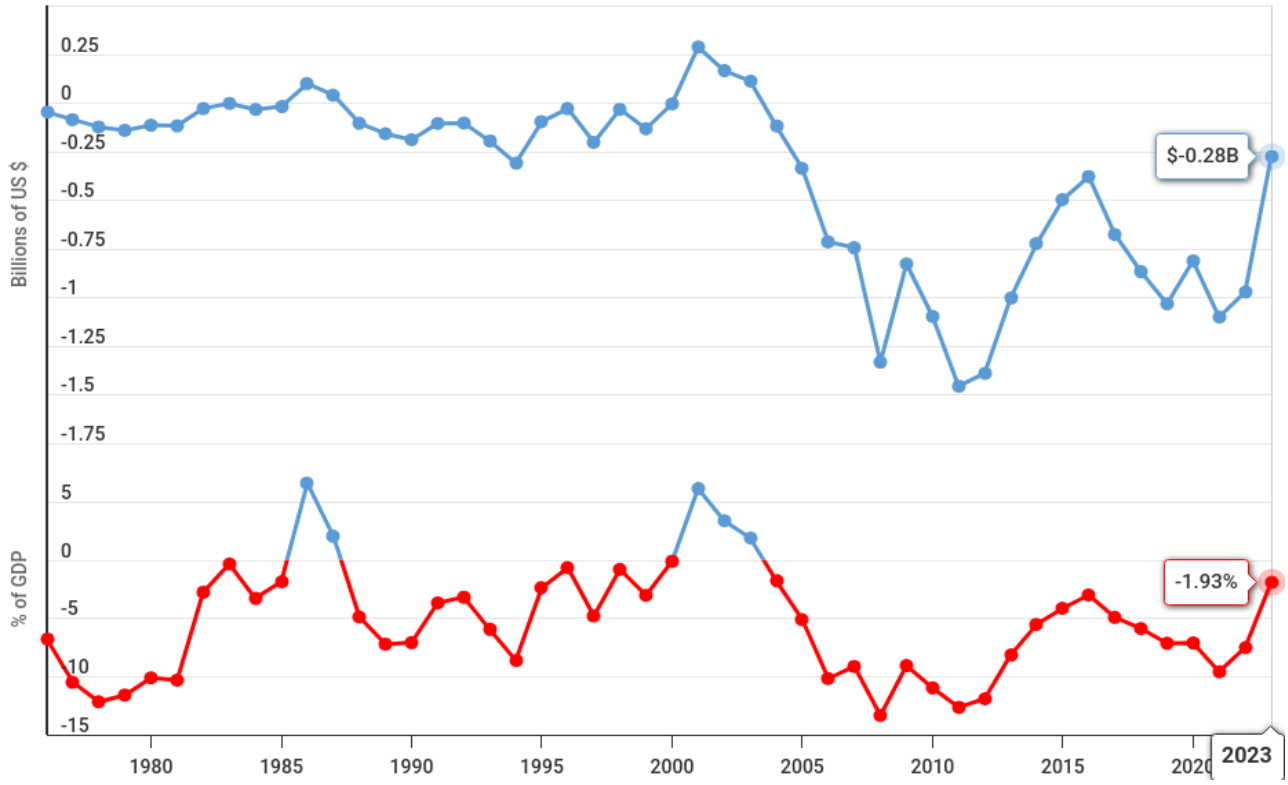
(2) Trade Balance

The balance of trade of the Republic of Mauritius has experienced significant fluctuations since it achieved independence, reflecting the nation's evolving economic landscape and trade relationships. Due to its limited natural resources, Mauritius has relied heavily on its agriculture, textile, and tourism sectors, which have shaped its trade patterns over the decades. In the late 1960s, Mauritius primarily focused on agriculture, particularly sugar production, which constituted a significant portion of its exports and benefitting from preferential trade agreements with former colonial powers such as the European Union[26]. The economic landscape worsened in the late 1970s, marked by rising petroleum prices and the decline of the sugar boom. As imports continued to exceed exports, the balance of payments deficit increased consistently[22]. In 1986, Mauritius had its first trade surplus in twelve years[22]. The sustained industrialization on the country in the late 1980s and 1990s resulted in a growing trade deficit, driven by the need for capital goods, machinery, and raw materials for its emerging manufacturing sector. Despite the deficit, the government implemented policies aimed at boosting exports, particularly in textiles and garments, which became significant contributors to the economy due to the Multi-Fibre Agreement. During the first decade of this century, Mauritius continued to face challenges regarding its

[24] World Bank Country Overview: https://www.worldbank.org/en/country/mauritius/overview
[25] Country Focus Report 2023 – Mauritius – African Development Bank Group
[26] Toth, A. (1995). "Mauritius: Economy". In Metz, Helen Chapin (ed.). Indian Ocean: five island countries (3rd ed.). Washington, D.C

trade balance. The global economic environment, along with changes in trade policies and the elimination of the Multi-Fibre Agreement in 2005, led to increased competition from other countries, negatively impacting export performance. As a result, the trade deficit widened significantly, more so as imports of consumer goods, fuel, and machinery surged to meet domestic demand. From 2010 onward, the Mauritian government has pursued diversification and innovation strategies to enhance its export capabilities, focusing on sectors such as information and communication technology, financial services, and sustainable tourism. Despite these efforts, the overall trade balance remained negative due to rising import costs, particularly for energy and manufactured goods[19]. The COVID-19 pandemic in 2020 led to further disruptions, severely impacting tourism and trade. However, as global economies recovered, the balance of trade in Mauritius showed signs of improvement by 2022, although the trade deficit persisted. As of 2023, Mauritius continues to work towards achieving a more balanced trade position. The trade balance for Mauritius during the period 1976 to 2023 is displayed in Figure 17, both in monetary terms and as a percentage of the GDP.

Figure 17: Trade balance for the period 1976 to 2023



Energy

(1) Primary Energy Supply

Mauritius has traditionally relied heavily on imported fossil fuels, which constitute a significant proportion of its energy mix. Energy production is complemented by renewable energy sources, predominantly derived from sugarcane biomass, hydroelectric, wind, and solar power. Biomass energy, sourced from the local sugar industry, has played a pivotal role, with several sugar mills generating electricity. Hydroelectric power, while limited by topography, has contributed to the energy supply, particularly during periods of high rainfall. The energy supply of the Republic of Mauritius is therefore divided into[27]:

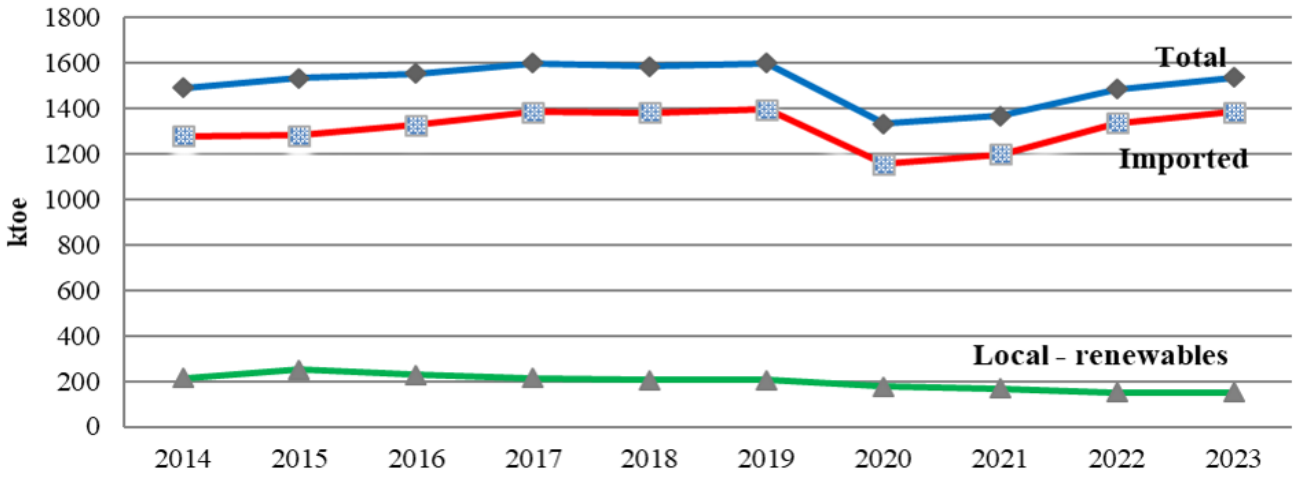
- Imports of primary energy (Fossil fuels: Fuel Oil, Liquefied Petroleum Gas, Gasolene, Diesel, Kerosene, Aviation fuel and Coal),

[27] Energy Efficiency Management Office – Energy Observatory Report 2019

- Production of primary energy (Local resources: Bagasse, hydro, wind, landfill gas, fuelwood, charcoal and photovoltaic),
- Primary energy re-exports and bunkering, and
- Variation of stocks

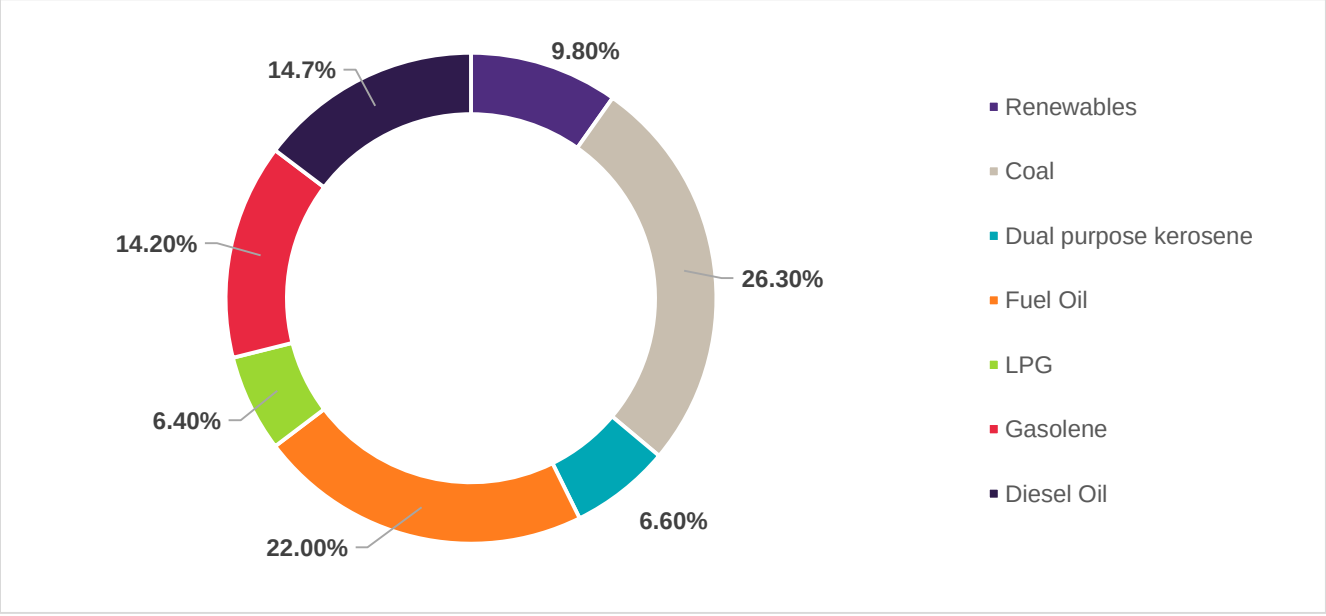
Hence, the total primary energy requirement is obtained as the sum of imported fossil fuels and locally available fuels less re-exports and bunkering, after adjusting for stock changes. The primary energy requirement for the period 2014 to 2023 in thousand tonnes of oil equivalent (ktoe) is shown in Figure 18.

Figure 18: Primary energy requirement for the period 2014 to 2023



In 2023, out of 1,537,622 tonnes of oil equivalent (toe) of the total primary energy requirement, 90.2% was met from imported fuels (mainly, fossil fuels) and 9.8% from local sources[25]. The breakdown of the energy mix is shown in Figure 19[28].

Figure 19: Breakdown of total energy requirements in 2023 into various energy sources

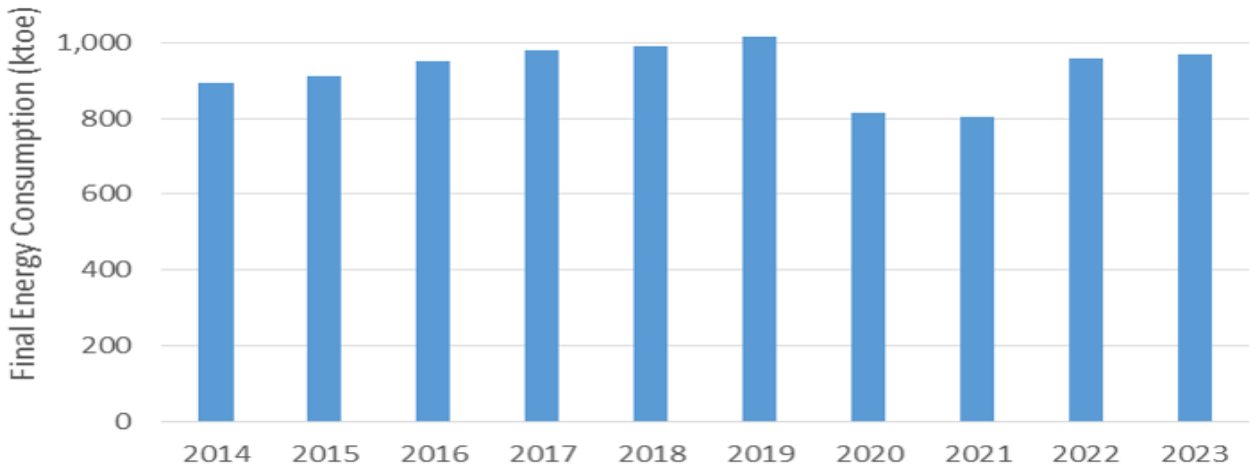


[28] Statistics Mauritius – Energy and Water Statistics 2023

(2) Energy Consumption

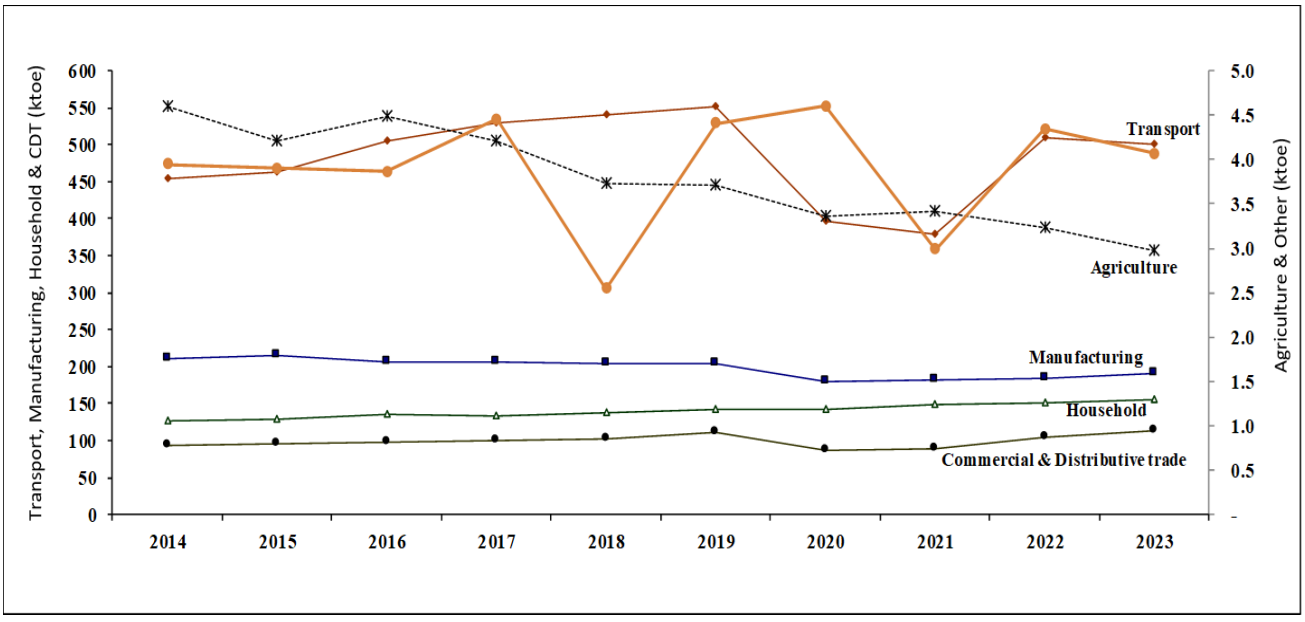
Final energy consumption refers to the energy consumed by end users, excluding the energy expended in electricity generation and losses in the energy transfer matrix. In 2023, final energy consumption was estimated at 967,708 toe, an increase of about 1.0% from 958,285 toe in 2022[25]. The trend of the final energy consumption of Mauritius during the period 2014 to 2023 is presented in Figure 20. A generally upward trend can be observed from 2014 to 2019, peaking at 1,016 ktoe. A substantial drop in the consumption occurred in 2020 and 2021 due to the COVID-19 pandemic's impact but the figures were back closer to pre-pandemic levels in 2022 and 2023 as the key industries resumed normal operation.

Figure 20: Trend of final energy consumption during period 2014 to 2023



For Mauritius, end users are primarily classified into five sectors: manufacturing, transportation, commercial and distributive trade (CDT), households, and agriculture. Any end user not fitting within these 5 categories is classified under “Other”. Figure 21 illustrates the trend in energy consumption across various end-user categories in Mauritius from 2014 to 2023. Transport is by far, the major energy consuming sector representing 51.7% of the total final energy consumption in 2023, followed by manufacturing, household, CDT, other and agriculture, with shares of 19.7%, 16.1%, 11.8%, 0.4% and 0.3% respectively in 2023.

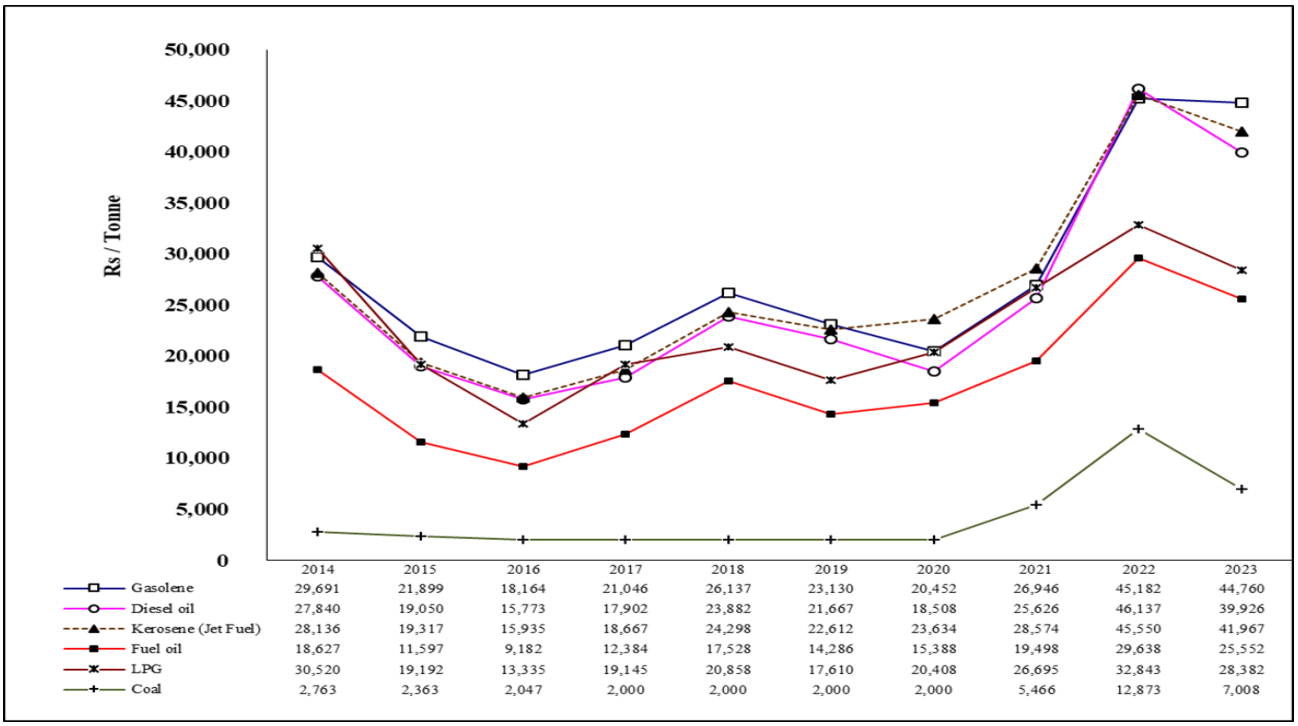
Figure 21: Energy consumption by various end-user categories in Mauritius from 2014 to 2023



(3) Price of imported fossil fuels

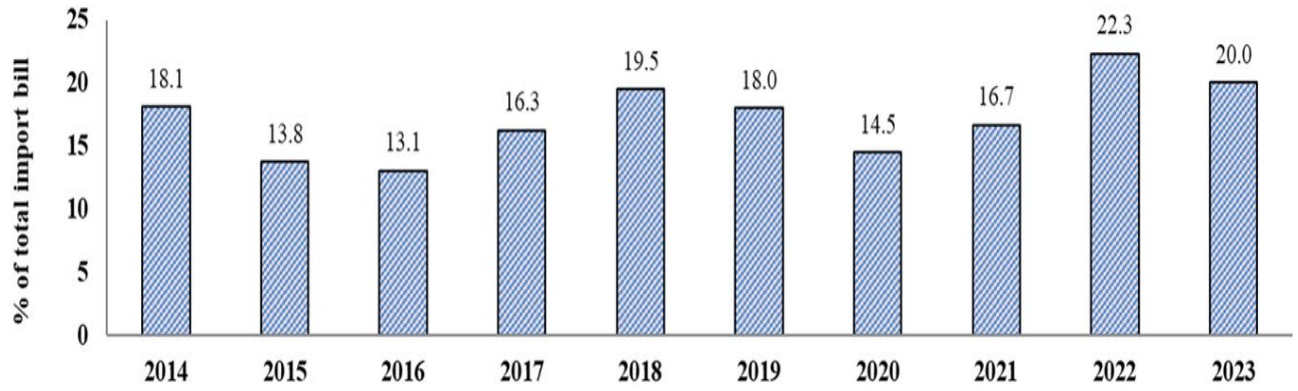
The high dependency of Mauritius on imported fossil fuels for its energy requirements can potentially create economic vulnerabilities related to energy security and price volatility. Fossil fuels constitute a significant share of the total import bill of the country. As such, the impact of the price of imported fossil fuels on the economy can be important. There is a strong correlation between the price of imported fossil fuels and the overall import bill as illustrated by Figure 22 & Figure 23. These figures represent the average import price of energy sources and the contribution of latter in the total imports bill of Mauritius during the period 2014 to 2023 respectively. For example, as the average prices of petroleum products and coal escalated globally from 2016 to 2018, their share in the total import bill soared by 6.4% during this interval, from 13.1% in 2016 to 19.5% in 2018.

Figure 22: Average import prices of petroleum products and coal from 2014 to 2023



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Gasolene	29,691	21,899	18,164	21,046	26,137	23,130	20,452	26,946	45,182	44,760
Diesel oil	27,840	19,050	15,773	17,902	23,882	21,667	18,508	25,626	46,137	39,926
Kerosene (Jet Fuel)	28,136	19,317	15,935	18,667	24,298	22,612	23,634	28,574	45,550	41,967
Fuel oil	18,627	11,597	9,182	12,384	17,528	14,286	15,388	19,498	29,638	25,552
LPG	30,520	19,192	13,335	19,145	20,858	17,610	20,408	26,695	32,843	28,382
Coal	2,763	2,363	2,047	2,000	2,000	2,000	2,000	5,466	12,873	7,008

Figure 23: Share of imported energy sources in total imports bill from 2014 to 2023

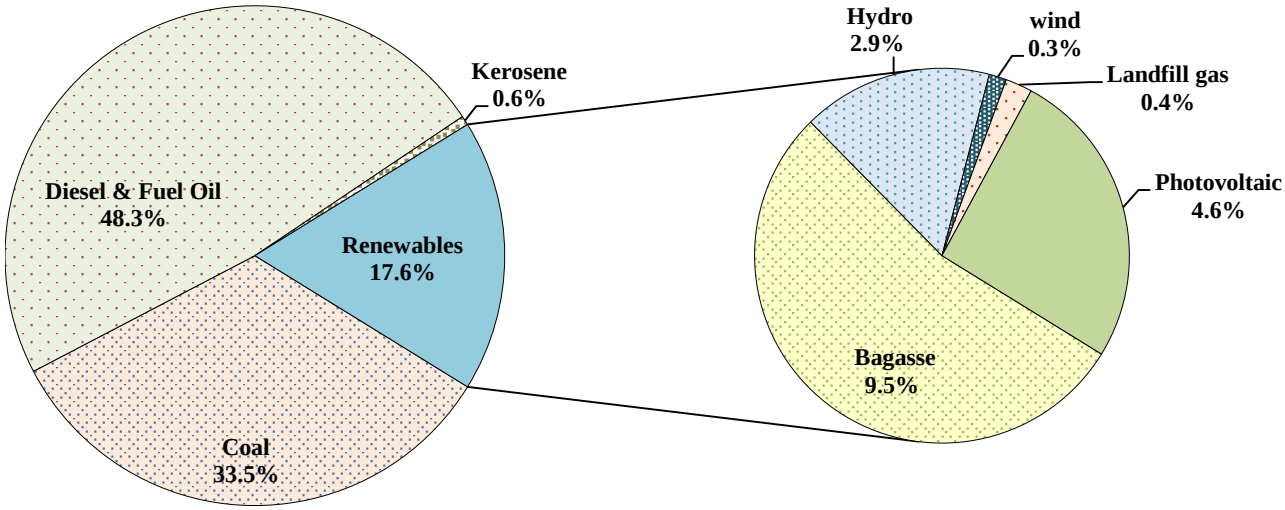


(4) Electricity Generation

In 2023, the total electricity generated for the Republic of Mauritius was 3,265.5 GWh, of which about 574.4 GWh came from renewable energy sources representing 17.6 percent of the electricity mix. In comparison to 2022, this indicates a 4.7% rise from the total electricity generation of 3,119.2 GWh, with renewable energy

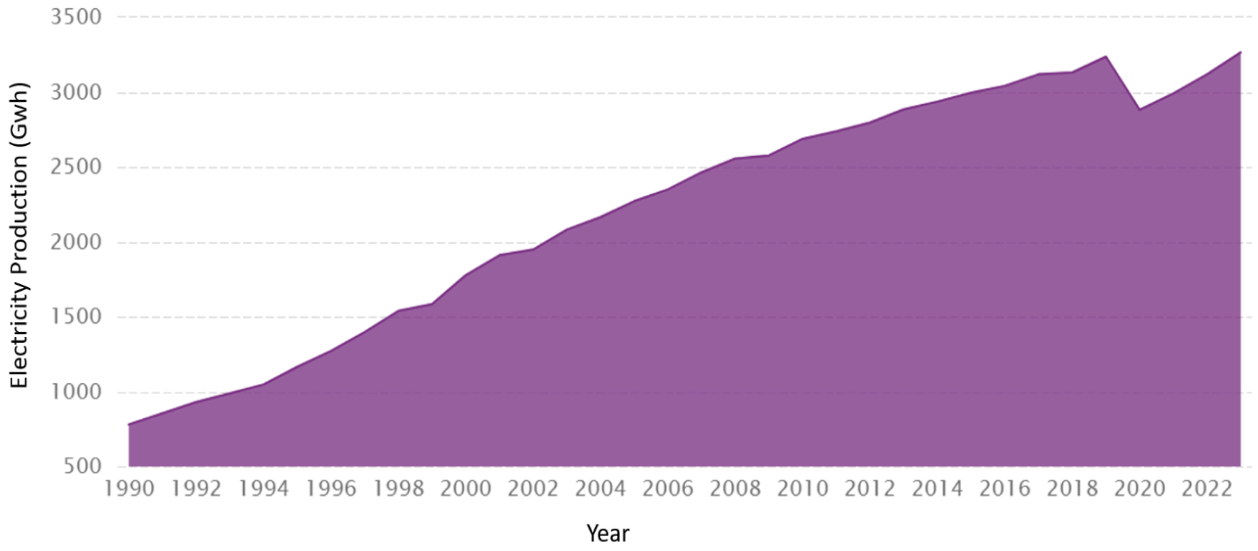
sources contributing 598.4 GWh (19.2% of the overall electricity mix)[25]. The share of electricity generated by energy sources in 2023 is depicted in Figure 24.

Figure 24: Percentage share of energy sources in electricity generation in 2023



The trend of electricity generation from 1990 to 2023 is shown in Figure 25. Throughout the entire period, a steady increasing trend is observed, with the exception of 2020, when the effects of the COVID-19 pandemic caused a decline.

Figure 25: Electricity generation from 1990 to 2023[29]



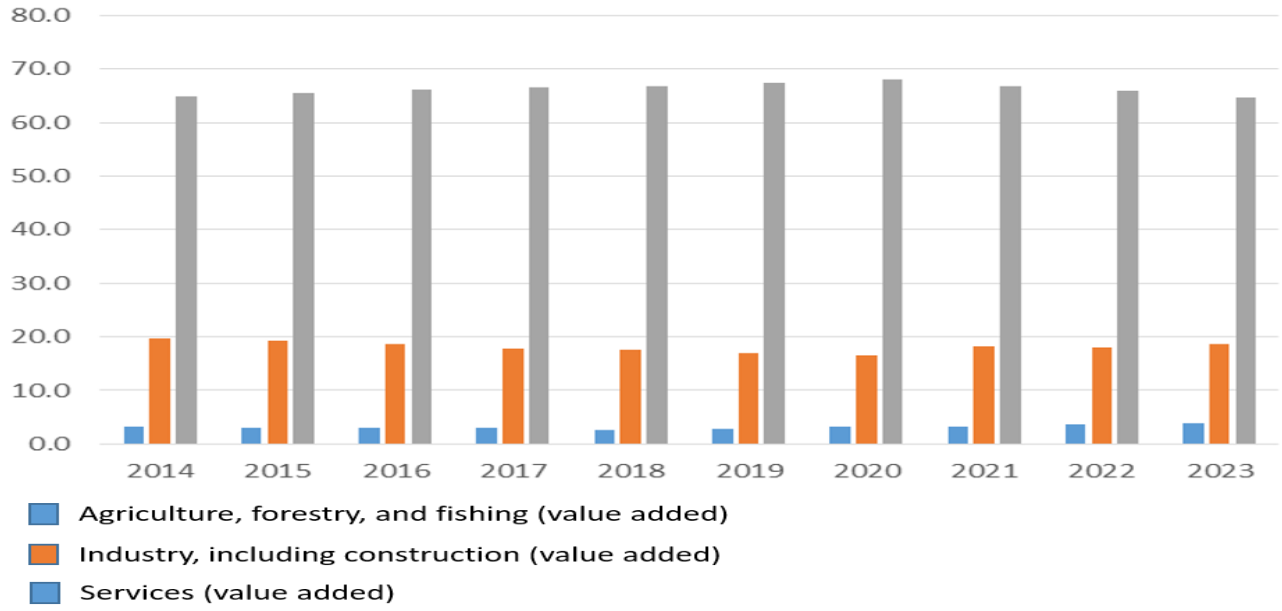
In 2023, total electricity sold was at 2,813.7 GWh, out of which the commercial sector accounted for the largest share (37.5%), followed by the domestic (36.5%), industrial (24.5%) and "other" (1.5%) sectors[25].

[29] Mauritius Electricity Production: https://www.ceicdata.com/en/indicator/mauritius/electricity-production - Data Source: Statistics Mauritius.

Industry

The primary sector is relatively small, accounting for 3.8% of GDP and around 5% of total employment in 2023[30]. About 44% of the nation's arable land area is dedicated to agriculture, with sugarcane dominating nearly 90% of cultivated land, serving as a primary source of export revenue[31]. The remaining portion is allocated to tea, tobacco, and a limited variety of food crops, predominantly vegetables and fruits. The secondary sector has been growing in importance, contributing 18.6% of GDP and 21% of employment in 2023[27]. The manufacturing sector, which is estimated to account for 12% of GDP, experienced a growth of 2.1% in 2023[27]. It has greatly diversified since the early 1970s and now encompasses a wide range of activities such as textile, food industry, high-end jewellery and medical devices. The tertiary sector dominates the country's economy, with services employing about 73% of the workforce, and the largest contributor to GDP with a share of 64.6% in 2023[27]. The global business sector in Mauritius has developed significantly since it was first conceived in 1992 and has now become one of the main pillars of the economy, offering a range of sophisticated financial products, such as global collective investment schemes, specialized collective investment schemes, closed-end funds, expert funds, CIS management, and investment dealers, amongst others[28]. The tourism sector is also pivotal: before the Covid-19 pandemic, Mauritius attracted 1.4 million tourists, but the numbers dropped drastically following the border closure in 2020 and 2021. In 2023, the country welcomed 1,295,410, tourists returning close to the pre-pandemic level[32]. Figure 26 provides the trend of the contribution to GDP, in terms of value added, by three main sectors of the industry during the period 2014 to 2023.

Figure 26: Contribution to GDP by three main industrial sectors from 2014 to 2023



Transport

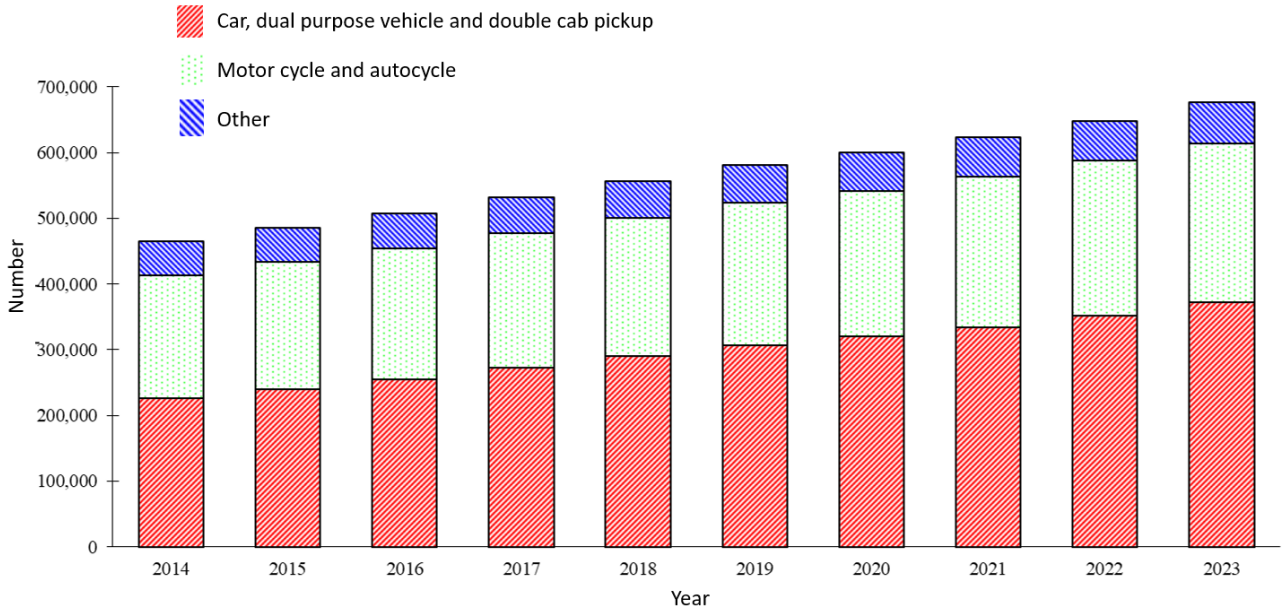
(1) Road Transport

The road transport sector in Mauritius plays a crucial role in the country's economy and social development, serving as a backbone for both the movement of goods and people. The number of vehicles on the roads has been growing at a relatively steady rate over the past years. As of the end of 2023, a total of 676,441 vehicles

[30] World Bank Group Data Bank for Mauritius: https://databank.worldbank.org/reports.aspx?source=2&country=MUS#
[31] Government of Mauritius Website – Economy: https://govmu.org/EN/infoservices/finance/Pages/economy.aspx
[32] Mauritius: Economic and Political Overview: https://www.mauritiustrade.mu/en/market-intelligence/explore-markets/mauritius/economic-and-political-outline

were reported as duly registered, marking a growth of 4.4% compared to the end of 2022, when the total stood at 648,176. In 2003, the fleet consisted of 55.0% (371,866) cars, double cab pickups and dual-purpose vehicles and 35.9% (242,608) auto/motorcycles. The remaining 9.1% comprised vans (31,079), lorries and trucks (18,618), buses (3,225) and other vehicles (9,045)[33]. Figure 27 presents the trend in the number and types of registered vehicles from 2014 to 2023.

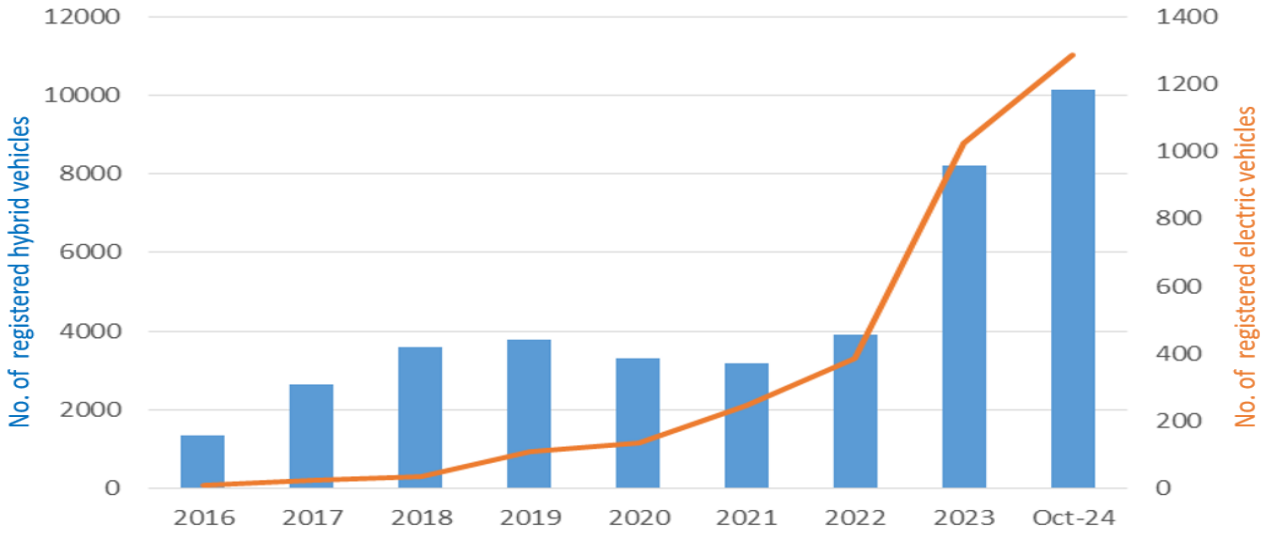
Figure 27: Number of registered vehicles and their types from 2014 to 2023



While most of the vehicles are powered by fossil fuels, namely diesel and gasoline, there is a gradual shift towards the adoption of hybrid and electric vehicles in Mauritius. Several measures have boosted this market, in particular, the exemption of duty on the purchase of hybrid and electric cars in 2022. In 2016, only 1,352 hybrid cars and 10 electric cars were newly registered; by 2023, those numbers increased significantly to 8,208 and 1,025, respectively. During the first 10 months of 2024, 10,152 hybrid vehicles and 1286 electric vehicles were registered[34]. Figure 28 shows the gradual increase in the number of registered hybrid and electric vehicles from 2016 to October 2024.

[33] Statistics Mauritius – Road Transport and Road Traffic Accident Statistics 2023
[34] National Land Transport Authority (NLTA) - Road Transport Division – Latest Statistics: https://nlta.govmu.org/Pages/Statistics/Statistics.aspx

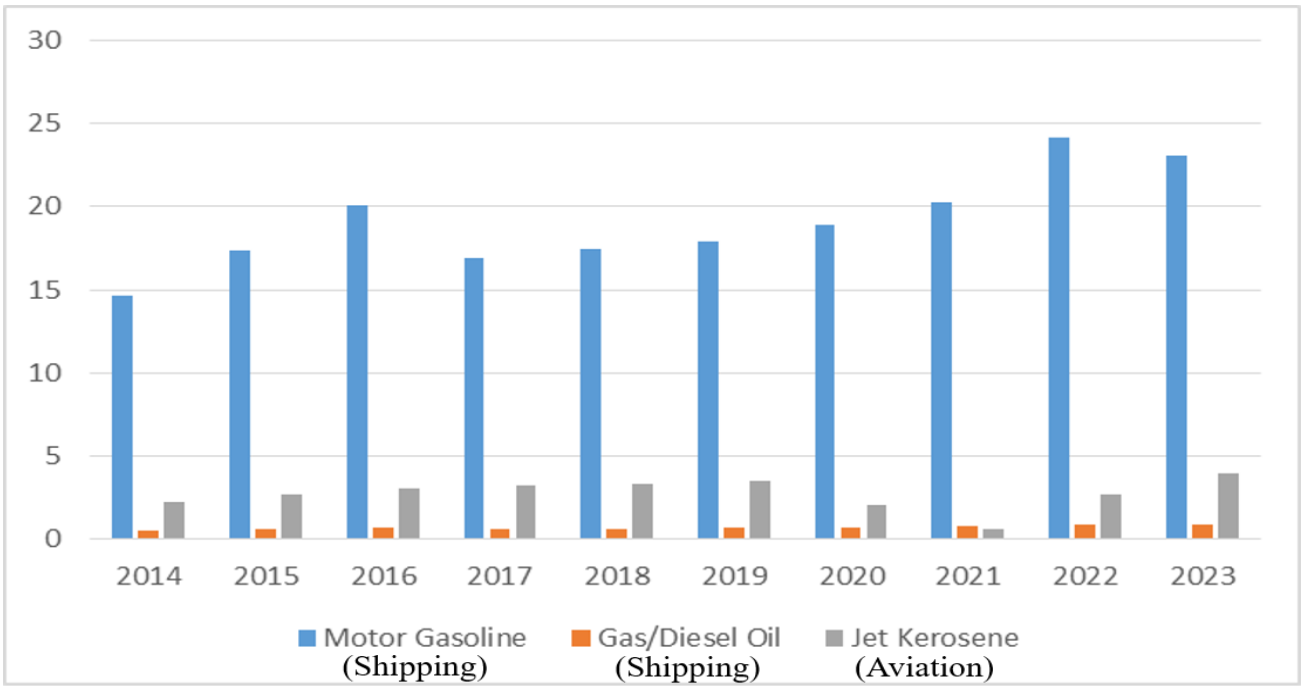
Figure 28: Trend of registered hybrid and electric vehicles from 2016 to October 2024



(2) Domestic aviation and shipping

Domestic aviation and shipping play a crucial role in connecting the islands of the Republic of Mauritius, enhancing economic integration, tourism, and cultural exchange. Moreover, the other islands rely heavily on-air transport and shipping for access to essential services and goods from Mauritius. Domestic aviation provides quick and convenient connectivity between these islands, and regular scheduled flights are available between Mauritius and Rodrigues. The maritime link is particularly important for Rodrigues, which depends on shipping for its imports and exports. Fuel consumption for domestic aviation and shipping for the period 2014 to 2023 is shown in Figure 29.

Figure 29: Fuel Consumption by domestic aviation and shipping sectors from 2014 to 2023



Buildings

In 2022, there were 329,000 buildings in Mauritius, out of which 85.5% were categorized as wholly residential buildings. Another 16,306 buildings were reported as being partly residential. These wholly/partly residential buildings accommodated a total of 411,700 housing units and 369,000 households. 36.5% of the residential buildings were located in urban areas. An overwhelming majority of total residential buildings are made of concrete materials[35]. Number of other categories of buildings recorded in 2022 is depicted in Figure 30.

The additional floor area in residential and non-residential building categories on a yearly basis, based on building permit applications received, for the period 1979 to 2023 is shown in Figure 31. The newly added floor area in both categories increased significantly during the 1980s as the GDP started to improve notably. During the subsequent three decades, the additional floor area in the residential area has been relatively constant[36]. The last two years, 2022 and 2023, saw substantial increases in new floor area in this category as the economy picked up again after the pandemic.

Figure 30: Number of different types of buildings in 2022

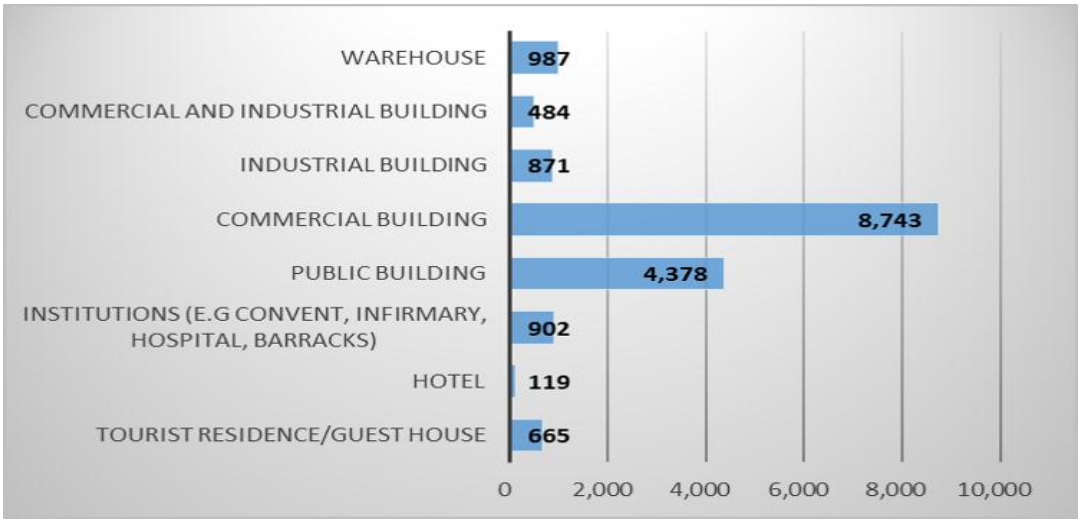
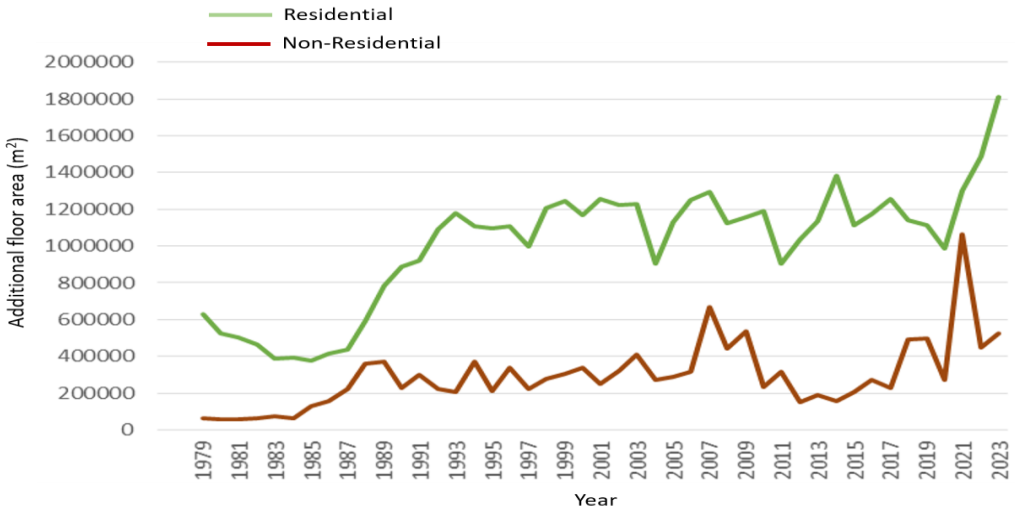


Figure 31: Additional floor area for the period 1979 to 2023



[35] Statistics Mauritius – 2022 Housing and Population Census – Vol 1: Housing and Living Conditions
[36] Statistics Mauritius - Main Indicators on Buildings and Construction 2024

Waste

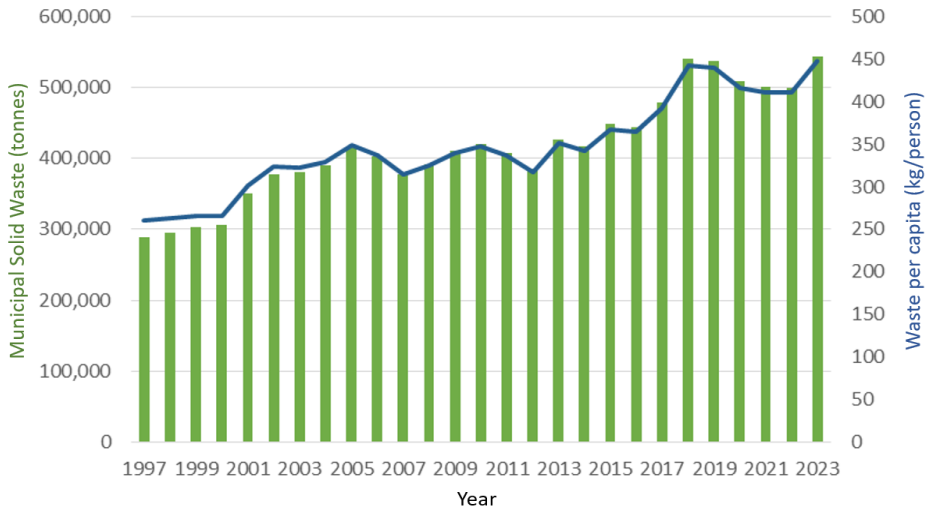
(1) Solid Waste

The collection of solid waste in the island of Mauritius is a comprehensive door-to-door service provided by local authorities[37]. Before 1997, solid waste disposal practices in Mauritius were largely unregulated. Dumpsites were located in about 24 natural depressions, where waste was deposited and compacted to maximize space. There was also no systematic record-keeping for incoming waste as well as information about their composition[38]. Existing records relied on rough estimates. Due to the lack of effective waste management strategies and considering the associated health hazards and risks of fire, the government commissioned several studies (including Binnie and Partners in 1992, Scott Wilson Kirkpatrick in1994, and Brown and Root in 1998) to address these issues. Their findings and recommendations led to the creation of a sanitary landfill in 1997 at Mare Chicose, a village located in the south-eastern part of the island. This paved the way to the systematic closure of the dumpsites and five of them were transformed into transfer stations, where waste from surrounding areas is received, temporarily stored, and compacted before being transported to the landfill[39]. Initially, the landfill was designed on 20 hectares and a capacity of 2 million tonnes of waste, corresponding to 300 tonnes of waste on a daily basis and a lifespan of 19 years. However, within a few years, the landfill started receiving four times the anticipated amount of waste. To accommodate this increased volume, landfill was expanded to 32 hectares[39]. Some additional engineering enhancements were also made to extend its operational lifespan until mid-2020.

In Rodrigues, an open dump was set up at Roche Bon Dieu and it is currently nearing saturation. The construction of a proper landfill is still under consideration as the site has already been vested thereto. A cell of size 50 m x 50 m has already been constructed to start receiving wastes.

In 2023, 539,810 and 4,472 tonnes of solid waste were generated in the island of Mauritius and Rodrigues respectively. The waste generation per capita for the island of Mauritius and Rodrigues were about 444.3 and 100 kg respectively[40]. The trend of the solid waste generation and the corresponding per capita value for the Republic of Mauritius for the period 1997 to 2023 is illustrated in Figure 32.

Figure 32: Solid waste generation and per capita value for Republic of Mauritius for period 1997 to 2023



[37] Kowlesser, P. (2020). Solid Waste Management in Small Island Developing States, specifically in Mauritius. In: Ghosh, S. (eds) Solid Waste Policies and Strategies: Issues, Challenges and Case Studies. Springer, Singapore.

[38] Beerachee, B. (2012). Overview of Wastes Management in Mauritius: https://uncrd.un.org/sites/uncrd.un.org/files/ipla-gf2012_theme2_04_beerachee-mauritius.pdf

[39] Foolmaun, R.K., Chamilall, D.S. and Munhurrun, G., 2011. Overview of non-hazardous solid waste in the small island state of Mauritius. Resources, Conservation and Recycling, 55(11), pp.966-972.

[40] Statistics Mauritius - Activity data for Solid waste disposal in Mauritius and Rodrigues

Mauritius has also been composting of the generated solid waste since 2011. In 2017, about 14,533 tonnes of waste were composted. Various technical and operational challenges have led to a suspension of this practice[37]. Recycling is also conducted and involves collection of PET bottles, processed into flakes, and then exported. Similarly, glass is crushed and repurposed into new products, while metals are reprocessed into new metal bars[37].

Rodrigues started waste segregation at household levels in 2022 and plastic bottles, cans and glass bottles are temporarily collected at a material recovery center at Grenade which is presently under construction[41]. Electronic wastes are collected through regular campaigns and temporarily stored before being exported. Scrap metals are also collected by local exporters for shipment to Mauritius. Green wastes are shredded and made available to planters for agricultural purposes. Single-use plastic bags were banned in 2014.

The Mare Chicose landfill also features advanced leachate and gas collection systems that effectively mitigate the environmental impacts associated with waste disposal[37]. The collected landfill gas undergoes combustion to generate electricity. In 2023, 13.3 GWh of electricity was generated from landfill gas, which was subsequently exported to the grid[25].

(2) Wastewater

Wastewater treatment in Mauritius is managed by the Management Authority (WMA) since 2001 and it operates under the aegis of the Ministry of Energy and Public Utilities. Its core service is the collection and treatment of domestic, commercial and industrial wastewaters for disposal to an environmentally acceptable quality. WMA manages the public wastewater system, which consists of 755 km of sewer network, 70 pumping stations and 10 treatment plants, including 4 main treatment plants which are located at St Martin, Grand Baie, Baie-du-Tombeau, and Montagne Jacquot[42]. Operational details of the treatment plants are provided in Table 1.

Table 1: Operational details of the treatment plants[43]

No.	Wastewater Treatment Plant	Design Flow (m3/day)	Average Actual Flow (m3/day)	Level of Treatment	Types of effluent received for treatment (Industrial, Domestic, Leachate, etc.)	Use of treated effluent (irrigation, borehole injection/sea outfall, etc.)
1	Montagne Jacquot	48,000	33,000 - 38,000	Advanced Primary	Industrial/Domestic	Sea Outfall
2	St Martin	69,000	55,000 - 59,000	Tertiary	Industrial/Domestic	Irrigation/Sea Outfall
3	Grand Baie	5,500	2,000 – 2,500	Tertiary	Domestic	Irrigation/Borehole Injection
4	Baie Du Tombeau	48,000	33,000 – 38,000	Preliminary Treatment (Wastewater Plant)	Industrial/Domestic	Sea Outfall
5	Pailles		270	Secondary followed by Chlorination	Domestic	Leaching Field
6	Bois Marchand		550	Secondary followed by Chlorination	Domestic	Leaching Field

[41] Proposed Expansion of Rodrigues Airport - Draft Environmental and Social Impact Assessment Report, Prepared by Setec, 2023
[42] Wastewater Management Authority (WMA) Website: https://www.wmamauritius.mu/
[43] WMA Website – Treatment Plants: https://www.wmamauritius.mu/treatment-plants/

No.	Wastewater Treatment Plant	Design Flow (m3/day)	Average Actual Flow (m3/day)	Level of Treatment	Types of effluent received for treatment (Industrial, Domestic, Leachate, etc.)	Use of treated effluent (irrigation, borehole injection/sea outfall, etc.)
7	R. Du Rempart		270	Secondary followed by Chlorination	Domestic	Leaching Field
8	Flacq		400	Secondary followed by Chlorination	Domestic	Leaching Field
9	Dubreuil		270	Secondary followed by Chlorination	Domestic	Leaching Field
10	Vuillemin		400	Secondary followed by Chlorination	Domestic	Leaching Field

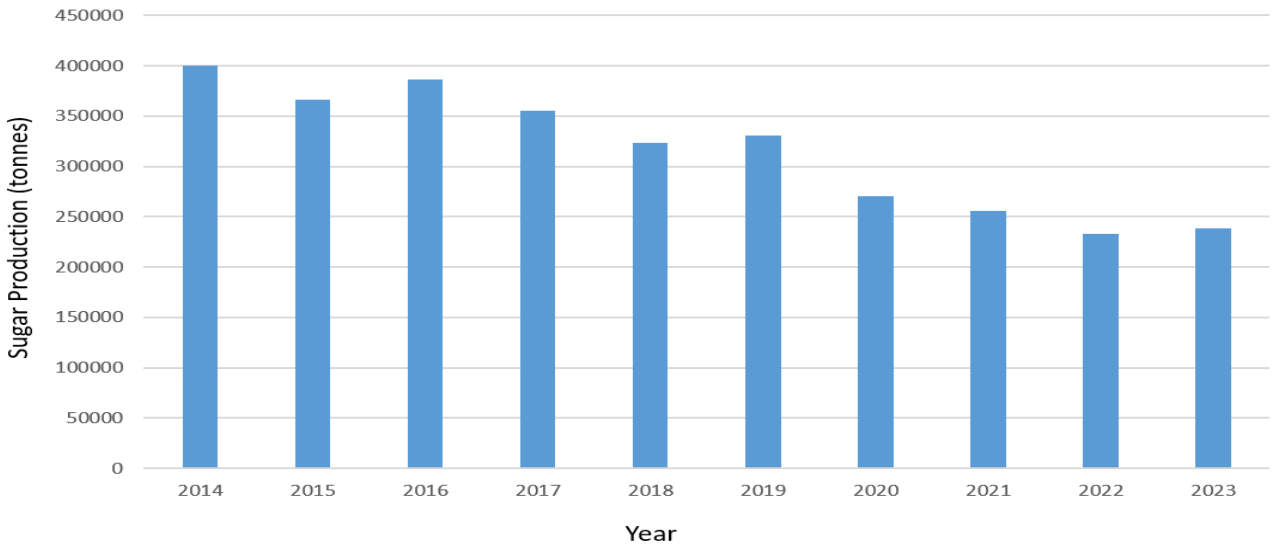
For Rodrigues, a wastewater treatment plant of capacity 50 m^3 was set up in Grenade in 2023. Prior to that, wastewater was being disposed in a leaching field at Grenade itself[41].

Agriculture

In 2023, a total area of 45,085 hectares was harvested for the main crop categories in the Republic of Mauritius. Sugarcane, food crops and tea accounted for 78.1%, 20.5% and 1.4% respectively of the total area[44]. That same year, the total harvested area for sugarcane decreased substantially by 8.5% compared to 2022, from 39,199 hectares to 35, 863 hectares. However, sugar production in 2023 increased by 2.6% during that same period, from 232,707 tonnes in 2022 to 238,854 tonnes in 2023. The production growth was attributed to a yield improving from 5.94 tonnes/hectare in 2022 to 6.66 tonnes/hectare in 2023[44]. Figure 33 illustrates that sugar production has generally been declining over the last decade.

[44] Statistics - Mauritius - Agricultural and Fish Production Year 2023

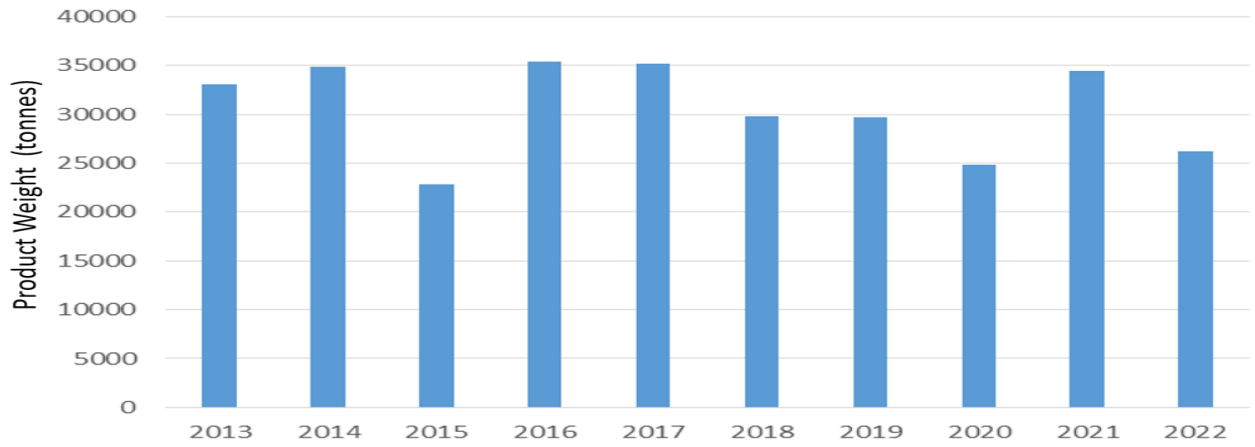
Figure 33: Sugar production for the period 2014 to 2023



In 2022, about 118,541 tonnes of fresh produce were harvested from food crop cultivation. Out of this total, the most prominent productions were 29,212 tonnes of creepers, 16,528 tonnes of potatoes, 16,093 tonnes of mixed vegetables, 14,290 tonnes of tomatoes, 9,829 tonnes of banana and 7,460 tonnes of onions[4546].

Fertilisers are used extensively in Mauritius to enhance soil fertility and improve crop yields. They are mostly nitrogen-based fertilisers that release nitrous oxide during their application. In 2022, 26,266 tonnes of fertilisers were used[46]. Figure 34 shows the trend of fertiliser use in the Republic of Mauritius for the period 2013 to 2022.

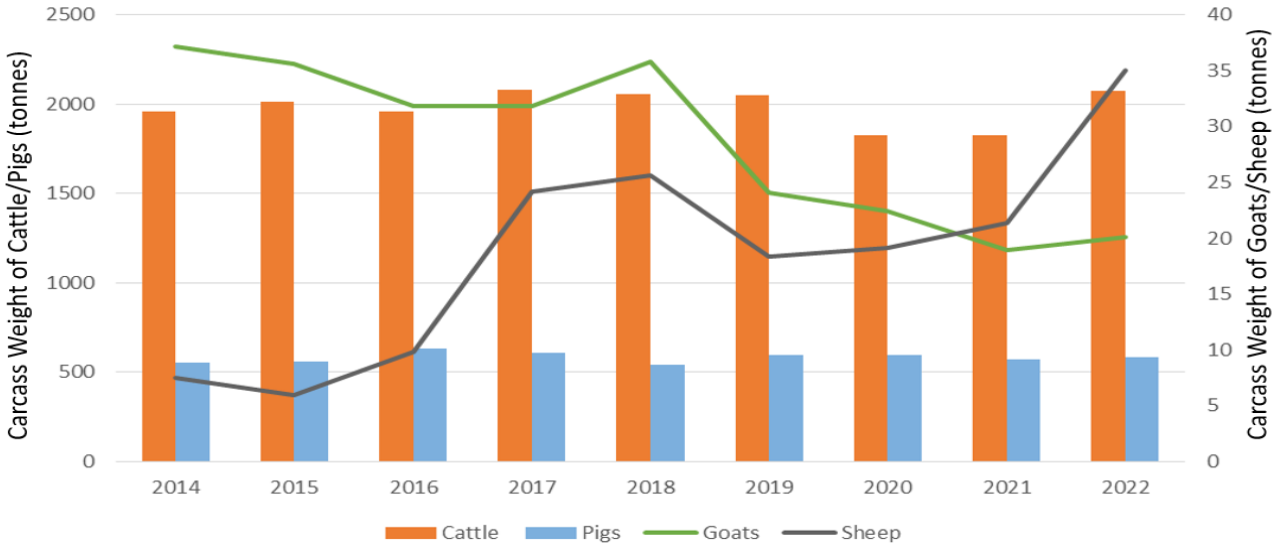
Figure 34: Utilisation of chemical fertilisers during the period 2013 to 2022[47]



Livestock and fisheries play a crucial role in Mauritius' economy and food security. The production figures of 2022, based of carcass weight, were as follows: beef from live cattle - 2,071 tonnes, pigs – 583 tonnes, sheep – 35 tonnes and goat – 20.1 tonnes[45 47]. The local production accounted for 5.9% of beef, 100% of pig, 73.4% of sheep and 93.5% of goat total carcass weight in that year, the remaining shares being imported. Yearly production values for the different categories of livestock from 2014 to 2022 are displayed in Figure 35.

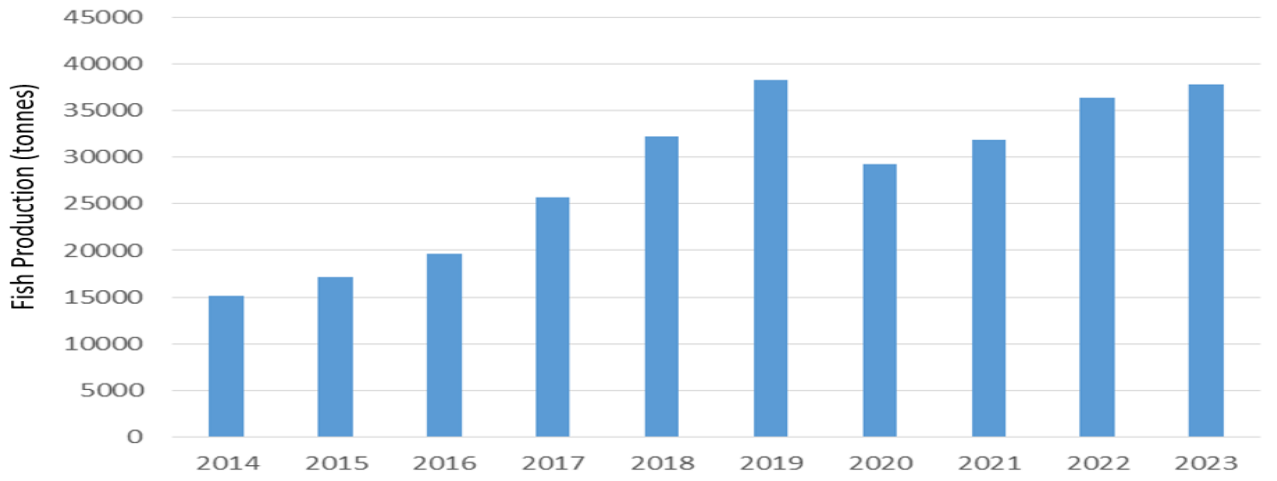
[45] Statistics Mauritius – Digest of Agricultural Statistics Year 2022
[46] Statistics Mauritius – Digest of Rodrigues 2023
[47] Statistics Mauritius – Digest of Agricultural Statistics Years 2017 to 2022

Figure 35: Production values of different livestock categories from 2014 to 2022



Total fish production (including high seas, coastal, freshwater, aquaculture and artisanal) increased by 3.7 % from 36,402 tonnes in 2022 to 37,765 tonnes in 2023 [45]. This increase was linked to a rise in the production of other catch (tuna, bank etc.) as well as an increase in the production of fresh coastal fish catch. The fish production for the period 2014 to 2023 is given in Figure 36**.**

Figure 36: Total fish production from 2014 to 2023



Forestry

Forestry (and Other Land Use) serve as vital carbon sink for Mauritius, estimated at an extent of 360.9 $ktCO_{2e}$ in 2019. This level of carbon sink has been nearly constant in the past decade revealing a state of unchanging stock of primary and secondary forests in Mauritius. In 2022, the privately-owned and state-owned forest covers were estimated at 22,002 and 25000 hectares respectively. Due to the lack of studies assessing the area of privately-owned forests over the past decade, it has been assumed that this segment has remained constant at 25,000 hectares during that time. However, a new survey conducted in 2023 using remote sensing estimated that at least 5000 hectares of privately-owned forest cover has been lost over a period of 10 years[48]. Accordingly,

[48] Forestry service – Land Use Change Data

privately-owned forest cover has been revised to 20,000 hectares in 2023 while state-owned forest cover decreased by 5 hectares to reach 21,997 hectares.

Table 2: Forest cover for the period 2014 to 2023[49]

Category	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
State-owned	22,103	22,069	22,066	22,066	22,048	22,031	22,011	22,006	22,002	21,997
Privately-owned lands	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	20,000
Total	47,103	47,069	47,066	47,066	47,048	47,031	47,011	47,006	47,002	41,997

Protected Areas in 2023 covered a total area of 14,914.5 hectares, consisting of 46 hectares of wetlands, 758.04 hectares of protected offshore islets, 7.570.46 hectares of other mainland state-owned protected areas and 6,540 hectares of privately-owned mountain and river reserves[50]. Moreover, the production of timber, poles and fuelwood from state-owned forests is gradually being reduced, with a greater emphasis on the conservation, protection, and sustainable management of the remaining forests. Consequently, local production of these three items decreased dramatically from 13,952 m^3 in 2007 to 8,718 m^3 in 2014 and further declined to 3,841 m^3 by 2023. In addition, mangroves which are crucial for their role in protecting coastlines and supporting biodiversity, covered an area of 243 hectares in 2023[51].

2. Institutional arrangements in place to track progress made in implementing and achieving the NDC under Article 4

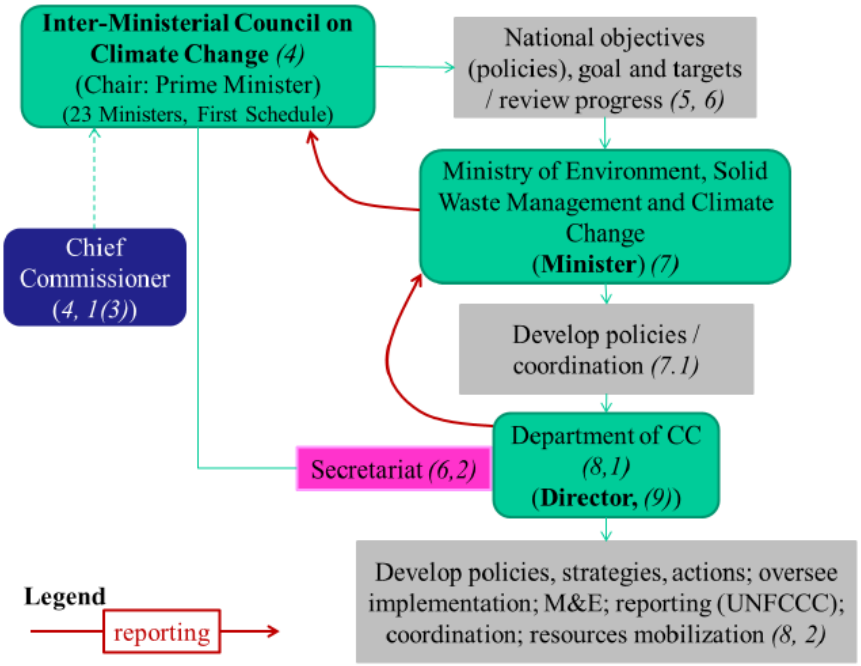
Overall framework of promotion of global warming countermeasures

Article 4 of the Paris Agreement outlines the commitments and processes related to the Nationally Determined Contributions (NDCs) that each party to the agreement must undertake. This article is reflected in Section 14 of the Climate Change Act (CCA) which was enacted in 2020 to provide legal framework towards making Mauritius a climate change resilient and low emission country. The National Climate Change Mitigation Strategy and Action Plan (NCCMSAP) has been developed for the period 2022-2030 to support implementation of the NDCs.

The CCA 2020 sketches the institutional arrangements for climate governance in the Republic of Mauritius. A schematic representation of the institutional mechanism proposed in the CCA 2020 is shown in Figure 37**.**

[49] Forestry service – Land Use Change Data
[50] Forestry Service – Forest Data 2007-2023

Figure 37: Schematic of institutional arrangements proposed in the Climate Change Act



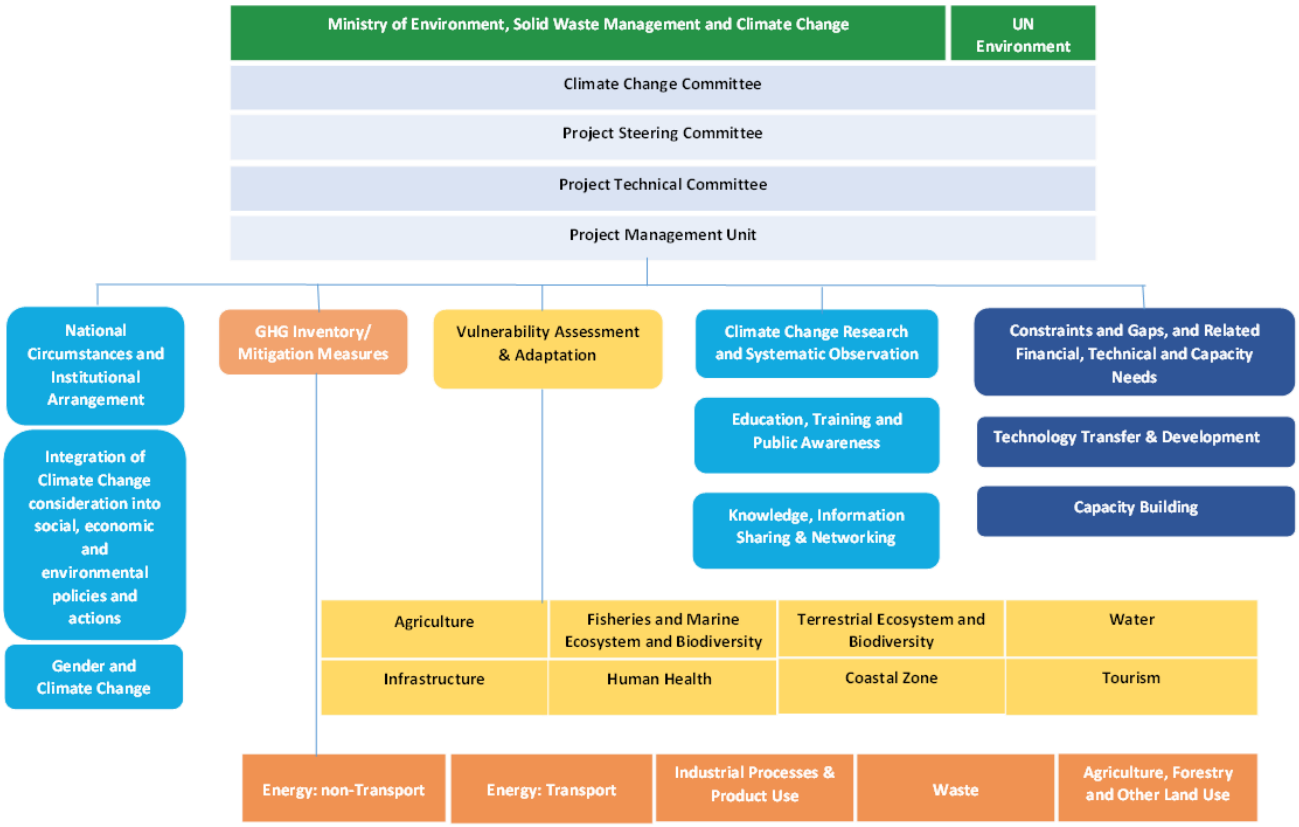
Department of Climate Change (DCC) was established under Section 8(1), and it is headed by a Director. The responsibilities of the Director are stipulated in Section 9(3). The Director is responsible to execute the climate change policy of the Ministry. In turn, the DCC shall be responsible to develop policies, formulate and implement measures, coordinate, monitor and evaluate programmes and action plans relating to climate change, as well as conduct and coordinate research on climate change.

Institutional arrangements

For the preparation of the Third National Communication (TNC), a process of participatory stakeholder consultations by various consultants and technical teams was adopted. Different Technical Working Groups (TWGs) were set up and relevant institutions involved in climate change related activities were officially identified to form part of each of these groups. A Chair was also nominated for each of the working groups. These TWGs were established to oversee the technical implementation in terms of data/information collection and quality control of climate change activities in the various key sectors. Therefore, a more formalized Institutional Arrangement was used. A similar approach was also adopted for the preparation of the First Biennial Update Report (BUR1).

In line with the above, the same formalized Institutional Arrangement was used for the preparation of the Fourth National Communication (NC4) and the BTR (Figure 38). A Project Steering Committee under the chair of the Permanent Secretary of the Ministry of Environment, Solid Waste Management and Climate Change (Environment and Sustainable Development Division) has been set up to provide guidance in terms of the process leading to political and stakeholder acceptance of BTR outcomes and to provide overall quality assurance for the final deliverables of the project, namely the BTR and NIR reports.

Figure 38: Institutional arrangement for BTR1



Five Technical Working Groups (TWGs) were established to oversee the implementation of climate change activities in key areas, namely: the GHG inventory; mitigation assessment and environmentally-sound technologies; adaptation; education, training and public awareness; and research and systematic observation. A Project Technical Committee under the chair of the Director of Climate Change was set up to provide leadership to the BTR process and to deal principally with all technical aspects of the BTR/NIR and to support the work of the different Technical Working Groups (TWGs).

The following five TWGs have been established to oversee the implementation of climate change activities in the various key sectors:

1) TWG 1: National Circumstances and Institutional Arrangement/ Integration of Climate Change consideration into social, economic and environmental policies and actions/ Gender and Climate Change
2) TWG 2: GHG Inventory/Mitigation Measures
3) TWG 3: Vulnerability Assessment & Adaptation
4) TWG 4: Climate Change Research and Systematic Observation/ Education, Training and Public Awareness/ Knowledge, Information Sharing & Networking
5) TWG 5: Constraints and Gaps, and Related Financial, Technical and Capacity Needs / Technology Transfer and Development/ Capacity Building

Table 3: Composition of the TWGs involved in the preparation of the BTR1

GHG Inventory/NDC Tracking
Overall Co-Chairs: Statistics Mauritius & Ministry of Environment, Solid Waste Management and Climate Change (Department of Climate Change)

Sub-TWG: GHGI/MM (Energy: non-Transport) – Combines former Energy Industries & Energy Other Sector (Residential, Commercial/Institutional/Manufacturing Industries & Construction and Agriculture/Forestry/ Fishing)

Central Electricity Board (Chair)

- University of Mauritius
- AHRIM
- Business Mauritius
- Energy Efficiency Management Office
- Thermal REs (Alteo; Omnicane; Terragen)
- MARENA
- Mauritius Cane Industry Authority
- Mauritius Export Association
- Mauritius Chamber of Agriculture
- 3 FROM MESWMCC (DCC; SD; Pollution, Prevention and Control Division; Post EIA monitoring)
- MEPU
- Ministry of Industrial Development, SMEs and Cooperatives
- Ministry of Commerce and Consumer Protection (Commerce Division)
- MNIFCD (Architect Division)
- State Trading Corporation
- Statistics Mauritius (Environment)

Sub-TWG: GHGI/MM (Energy: Transport) - *(Road Transportation, Civil Aviation & Water borne Navigation)*

- MLTLR (Co-Chair)
- External Communication Division (Prime Minister's Office) Co-Chair

- Air Mauritius Ltd
- Airports of Mauritius Ltd
- Department of Civil Aviation
- Mauritius Ports Authority
- Mauritius Shipping Corporation Ltd
- Mauritius Tourism Authority
- MBEMRFS (Shipping Division)
- MEPU
- MESWMCC (DCC; Coordination and Project Implementation Division)
- Metro Express Ltd
- MNICD (Mechanical Engineering Division)
- National Land Transport Authority
- Statistics Mauritius
- Traffic Management and Road Safety Unit

Sub-TWG: GHGI/MM (Industrial Processes & Product Use)

MESWMCC (National Ozone Office) (Chair)

- MCFI Ltd
- Mauritius Chamber of Industry and Commerce
- MESWMCC (DCC)
- Ministry of Industrial Development, SMEs and Cooperatives (Industrial Development Division)
- Samlo Ltd
- Statistics Mauritius

Sub-TWG: GHGI/MM (Waste) - *Solid & Liquid Wastes* Solid Waste Management Division (co-Chair) Wastewater Management Authority(co-Chair)
• AHRIM • MESWMCC (DCC; Pollution, Prevention, and Control Division) • Ministry of Health and Wellness • NEL • Sotravic Ltd • Statistics Mauritius
Sub-TWG: GHGI/MM (Agriculture, Forestry and Other Land Use) Forestry Service (co-Chair) Food and Agricultural Research and Extension Institute (Crop or livestock) (co-Chair)
• MCFI • FAREI (Crop or livestock) • MAIFS (Land Use Division) • Mauritius Cane Industry Authority (MSIRI) • Mauritius Chamber of Agriculture • Mauritius Meat Authority • MBEMRFS (Albion Fisheries Research Centre) • MESWMCC(DCC) • MHLUP (Cartography Section) • National Parks and Conservation Service • Omnicane Ltd • Statistics Mauritius

B. Description of a Party's nationally determined contribution under Article 4 of the Paris Agreement, including updates

1. Emission reduction target for 2030

The Republic of Mauritius aims to reduce overall GHG emissions by 40% in 2030 compared to the Business as Usual (BAU) scenario of around 6,900 ktCO2eq (including LULUCF) in 2030. This economy-wide emissions reduction target comprises sector specific mitigation targets for energy, transport, waste and Industrial Processes and Product Use (IPPU). Mauritius confirms its commitment to implement policies and measures on LULUCF and Agriculture sectors in line with its national policy and strategy documents on climate change and sustainable development.

Mauritius actions on adaptation are centred around the 2021 Updated National Climate Change Adaptation Policy Framework that focuses on the potential of nature-based solutions for adaptation and provides a new policy orientation in key adaptation sectors to build resilience. The implementation of mitigation and adaptation actions as identified in this NDC is unconditional as well as conditional on external financial support received. The total financial needs to implement the NDC targets are estimated at USD 6.5 billion. The share for the unconditional and conditional contributions for the USD 6.5 billion is as follows:

a. Unconditional amount of USD 2.3 billion (from government and private sector) representing 35%; and

b. Conditional amount of USD 4.2 billion (from international sources and donor agencies) representing 65%.

Information on the description of Mauritius' NDC under Article 4 of the Paris Agreement in accordance with Decision 5/CMA.3 is shown in Table 4.

Table 4: Description of a Party's nationally determined contribution under Article 4 of the Paris Agreement, including updates

Target(s) and description, including target type(s), as applicable	Mauritius aims to reduce overall GHG emissions by 40% in 2030 compared to the Business as Usual (BAU) scenario of about 6,900 ktCO2eq (including LULUCF) in 2030. The BAU emission projections were done considering AR2 GWP values. Recalculating the projections with AR5 GWP values increases BAU emissions to about 7,000 $ktCO_{2e}$ in 2030.
Target year(s) or period(s), and whether they are single-year or multi-year target(s), as applicable	Single year target and target year is 2030.
Reference point(s), level(s), baseline(s), base year(s) or starting point(s), and their respective value(s), as applicable	Reference point for Republic of Mauritius' NDC target is 2030 BAU projection of around 6900 ktCO2eq. The BAU projection was based on 2000 to 2016 GHG inventory. The projections were recalculated using AR5 GWP values and emissions were projected to be around 7,000 $ktCO_{2e}$.
Time frame(s) and/or periods for implementation, as applicable	Implementation period is from 2021 till 2030
Scope and coverage, including, as relevant, sectors, categories, activities, sources and sinks, pools and gases, as applicable	Republic of Mauritius' NDC target is an economy-wide emissions reduction target comprising sector specific mitigation targets for energy, transport, waste and Industrial Processes and Product Use (IPPU). The contribution by each sector to the 40% mitigation target in terms of avoided emissions (ktCO2eq) is as it follows: − Energy excluding transport: 2311 (Renewable Energy Roadmap for the Electricity Sector 2019, Government Programme 2020 -2024, Government Budget 2021 - 2022, Mauritius Renewable Energy Compact 2021) − Transport: 129 (combination of on-going government policies and Research Paper2) − Waste: 313 (Waste Management Sector Review and GHG Emission Reduction Potential, 2021) − IPPU: 55 (Mauritius' commitment under the Kigali Amendment to the Montreal Protocol). Gases covered: CO_2, CH_4, N_2O and HFCs
Intention to use cooperative approaches that involve the use of ITMOs under Article 6 towards NDCs under Article 4 of the Paris Agreement, as applicable	Republic of Mauritius is in the process of developing policies for co-operative approach under Article 6 of Paris Agreement
Any updates or clarifications of previously reported information, as applicable	The Second NDC submitted by republic of Mauritius in 2021, projects BAU emissions in 2030 to be around 6900 kt CO_{2e}. The BAU projections were carried out considering AR5 GWP values. The BAU projections were recalculated using AR5 GWP values and emission are expected to be around 7,000 kt CO_{2e}.

C. Information necessary to track progress made in implementing and achieving nationally determined contributions under Article 4 of the Paris Agreement

1. Description of selected indicators

Republic of Mauritius will select total greenhouse gas emissions as an indicator to track progress in implementing and achieving the NDC with a target year of FY 2030 submitted to the secretariat of the UNFCCC under the Paris Agreement.

The definitions needed to understand the indicator are shown in the Table 5.

Table 5: CTF Table 1 Structured Summary: Description

Any sector or category defined differently than in the national inventory report:	NA
Definition needed to understand mitigation co-benefits of adaptation actions and/or economic diversification plans:	NA
Any other relevant definitions	NA

2. Methodologies and accounting approaches for tracking progress toward implementing and achieving the NDC

Details of the methodologies and accounting approaches to be used to track progress in implementing and achieving the NDC are provided in the Table 6.

Table 6: Details of the methodologies and accounting approaches to be used to track progress

Reporting requirement	Description or reference to the relevant section of the BTR
For the first NDC under Article 4: [a]	
Accounting approach, including how it is consistent with Article 4, paragraphs 13–14, of the Paris Agreement (para. 71 of the MPGs)	NA
For the second and subsequent NDC under Article 4, and optionally for the first NDC under Article 4: [b]	
Information on how the accounting approach used is consistent with paragraphs 13–17 and annex II of decision 4/CMA.1 (para. 72 of the MPGs)	Republic of Mauritius applies the guidance for accounting for NDCs (4/CMA.1, annex II) in accordance with paragraph 14 of Decision 4/CMA.1 on the methodologies and accounting approaches for its second NDC and reports the relevant information.
Explain how the accounting for anthropogenic emissions and removals is in accordance with methodologies and common metrics assessed by the IPCC and in accordance with decision 18/CMA.1 (para. 1(a) of annex II to decision 4/CMA.1)	1. The selected indicator, national total GHG emissions, is calculated based on the 2006 IPCC Guidelines 2. The global warming potentials (GWPs) presented in the IPCC Fifth Assessment Report (AR5) are used to calculate the national total GHG emissions in CO2 equivalent in accordance with the relevant provisions of the MPGs (18/CMA.1, Annex). 3. These methods of estimation are subject to change depending on the progress of future international negotiations on estimating and accounting rules.

Reporting requirement	Description or reference to the relevant section of the BTR
Explain how consistency has been maintained between any GHG data and estimation methodologies used for accounting and the Party's GHG inventory, pursuant to Article 13, paragraph 7(a), of the Paris Agreement, if applicable (para. 2(b) of annex II to decision 4/CMA.1)	The national total GHG emissions used to account for NDC are the values reported in the National Inventory Report. Thus, the two are fully consistent.
Explain how overestimation or underestimation has been avoided for any projected emissions and removals used for accounting (para. 2(c) of annex II to decision 4/CMA.1)	The national total GHG emissions and contributions from the LULUCF used to account for the NDC are estimated based on the principle of accuracy and the good practices as stated in the IPCC Guidelines, to avoid estimates being overestimated or underestimated to the extent possible.
For each NDC under Article 4: [b]	
Accounting for anthropogenic emissions and removals in accordance with methodologies and common metrics assessed by the IPCC and adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (para. 12(a) of decision 4/CMA.1 and para 1 of its annex II):	
Each methodology and/or accounting approach used to assess the implementation and achievement of the target(s), as applicable (para. 74(a) of the MPGs)	The implementation and achievement of the target in Republic of Mauritius' NDC will be done by comparing the Business as Usual (BAU) emissions in 2030 with the total economy-wide GHG emissions including LULUCF
Each methodology and/or accounting approach used for the construction of any baseline, to the extent possible (para. 74(b) of the MPGs)	The baseline for comparison of NDC target achievement for Republic of Mauritius is the projection of Business-as-Usual emissions in 2030. The sector wise GHG emissions in 2016 as reported in National Inventory report, 2021 was taken as the basis for projection and exponential smoothening technique was used to project BAU emissions in 2030.
If the methodology or accounting approach used for the indicator(s) in table 1 differ from those used to assess the implementation and achievement the target, describe each methodology or accounting approach used to generate the information generated for each indicator in table 4 (para. 74(c) of the MPGs)	Methodologies and accounting approaches used to develop the information on each indicator in CTF Table 4 are identical to those used for each indicator in CTF Table 1.
Any conditions and assumptions relevant to the achievement of the NDC under Article 4, as applicable and available (para. 75(i) of the MPGs)	The achievement of NDC under Article 4 of the Paris Agreement is conditional to the receipt of external financial support of USD 4.5 billion for implementation of mitigation and adaptation measures
Key parameters, assumptions, definitions, data sources and models used, as applicable and available (para. 75(a) of the MPGs)	Information on methodologies, data sources, etc. on national total GHG emissions and contributions from the LULUCF sector used to track and evaluate the implementation and achievement of the NDC is explained in detail in the National Inventory Report.

Reporting requirement	Description or reference to the relevant section of the BTR
IPCC Guidelines used, as applicable and available (para. 75(b) of the MPGs)	2006 IPCC Guidelines for National Greenhouse Gas Inventories
Report the metrics used, as applicable and available (para. 75(c) of the MPGs)	GWPs of a 100-year time horizon presented in IPCC Fifth Assessment Report (AR5)
For Parties whose NDC cannot be accounted for using methodologies covered by IPCC guidelines, provide information on their own methodology used, including for NDCs, pursuant to Article 4, paragraph 6, of the Paris Agreement, if applicable (para. 1(b) of annex II to decision 4/CMA.1)	Not applicable
Provide information on methodologies used to track progress arising from the implementation of policies and measures, as appropriate (para. 1(d) of annex II to decision 4/CMA.1)	Not applicable
Where applicable to its NDC, any sector-, category or activity-specific assumptions, methodologies and approaches consistent with IPCC guidance, taking into account any relevant decision under the Convention, as applicable (para. 75(d) of the MPGs):	
How the Party has drawn on existing methods and guidance established under the Convention and its related legal instruments, as appropriate, if applicable (para. 1(c) of annex II to decision 4/CMA.1)	Not applicable
Any methodologies used to account for mitigation benefits of adaptation actions and/or economic diversification plans (para. 75(e) of the MPGs)	Not applicable
Describe how double counting of net GHG emission reductions has been avoided, including in accordance with guidance developed related to Article 6 if relevant (para. 76(d) of the MPGs)	Republic of Mauritius is currently developing framework for participation in co-operation under Article 6 of Paris Agreement. As such double accounting of GHG emission reduction is currently not applicable.
Any other methodologies related to the NDC under Article 4 (para. 75(h) of the MPGs)	Not applicable
Ensuring methodological consistency, including on baselines, between the communication and implementation of NDCs (para. 12(b) of the decision 4/CMA.1 and para 1 of its annex II)):	
Explain how consistency has been maintained in scope and coverage, definitions, data sources, metrics, assumptions and methodological approaches including on baselines, between the communication and implementation of NDCs (para. 2(a) of annex II to decision 4/CMA.1)	1. At the time of communication of the 2nd NDC, the 100-year GWPs in the IPCC Second Assessment Report (AR2 GWP) were to be used for metrics, but the 100-year GWPs in the IPCC Fifth Assessment Report (AR5 GWP) will be used for tracking and evaluating progress toward implementing and achieving the NDC, in accordance with MPGs. Since NDC of Republic of Mauritius is with respect to 2030 BAU scenario, the BAU projections will be recalculated considering 100-year

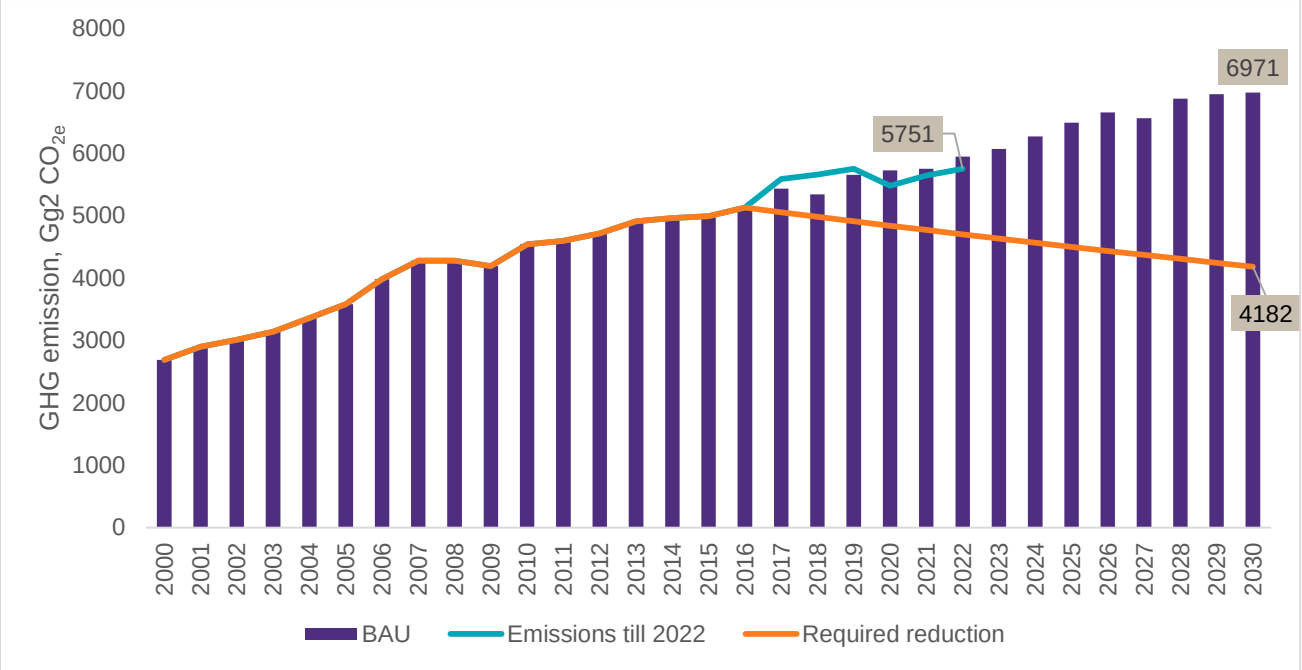
Reporting requirement	Description or reference to the relevant section of the BTR
	GWP values provided in AR5. 2. There is no methodological inconsistency with respect to matters other than metrics between the communication and implementation of the NDC.
Explain how consistency has been maintained between any GHG data and estimation methodologies used for accounting and the Party's GHG inventory, pursuant to Article 13, paragraph 7(a), of the Paris Agreement, if applicable (para. 2(b) of annex II to decision 4/CMA.1) and explain methodological inconsistencies with the Party's most recent national inventory report, if applicable (para. 76(c) of the MPGs)	1. The methodologies used to estimate GHG emissions and removals for accounting NDC and the methodologies used in the GHG inventory are identical and consistent. 2. There are no methodological inconsistencies between the most recent national inventory report and the NDC accounting.
For Parties that apply technical changes to update reference points, reference levels or projections, the changes should reflect either of the following (para. 2(d) of annex II to decision 4/CMA.1):	
Explain how any methodological changes and technical updates made during the implementation of their NDC were transparently reported (para. 2(e) of annex II to decision 4/CMA.1)	In the GHG inventory, if the methodology or data used for GHG emissions in a category is revised, GHG emissions for all years are recalculated in a manner that ensures time-series consistency, including base year emissions.
Striving to include all categories of anthropogenic emissions or removals in the NDC and, once a source, sink or activity is included, continuing to include it (para. 12 (c) of decision 4/CMA.1 and para. 3 of annex II to decision 4/CMA.1):	
Explain how all categories of anthropogenic emissions and removals corresponding to their NDC were accounted for (para. 3(a) of annex II to decision 4/CMA.1)	The 2030 GHG emission reduction target in Republic of Mauritius's NDC covers GHG emissions from all IPCC categories. The methodologies for GHG emissions from all categories and the contribution from the LULUCF are reported in detail in the National Inventory Report.
Explain how Party is striving to include all categories of anthropogenic emissions and removals in its NDC, and, once a source, sink or activity is included, continue to include it (para. 3(b) of annex II to decision 4/CMA.1)	Republic of Mauritius' 2030 GHG emission reduction target in its NDC covers GHG emissions from all IPCC categories. In addition, once a category's emissions have been reported in its GHG inventory, it has continued to report emissions in subsequent inventories. The sub-category of Lime production under IPPU category has been discontinued in the GHG inventory for 2017 to 2022, since lime production has ceased in Republic of Mauritius from 2014 onwards.
Provide an explanation of why any categories of anthropogenic emissions or removals are excluded (para. 12 (c) of decision 4/CMA.1 and para. 4 of annex II to decision 4/CMA.1)	The sub-category of Lime production under IPPU category has been discontinued in the GHG inventory for 2017 to 2022, since lime production has ceased in Republic of Mauritius from 2014 onwards.
Each Party that participates in cooperative approaches that involve the use of ITMOs	

Reporting requirement	Description or reference to the relevant section of the BTR
towards an NDC under Article 4, or authorizes the use of mitigation outcomes for international mitigation purposes other than achievement of its NDC	

3. Information to track progress made in implementing and achieving its NDC under Article 4

Total greenhouse gas emissions (excluding LULUCF) in FY 2022 were approximately 6177 Gg CO_2 equivalent, as against a BAU projection of 6492 Gg CO_2 equivalent, which is a 5% reduction from BAU scenario. In consideration of the contribution from LULUCF activities (approximately 427 Gg CO_2), the total greenhouse gas emissions in FY 2022 were approximately 5751 Gg CO_2e. The BAU emission projections, emissions till 2022 and the required emission reduction trend till 2030 are shown in Figure 39.

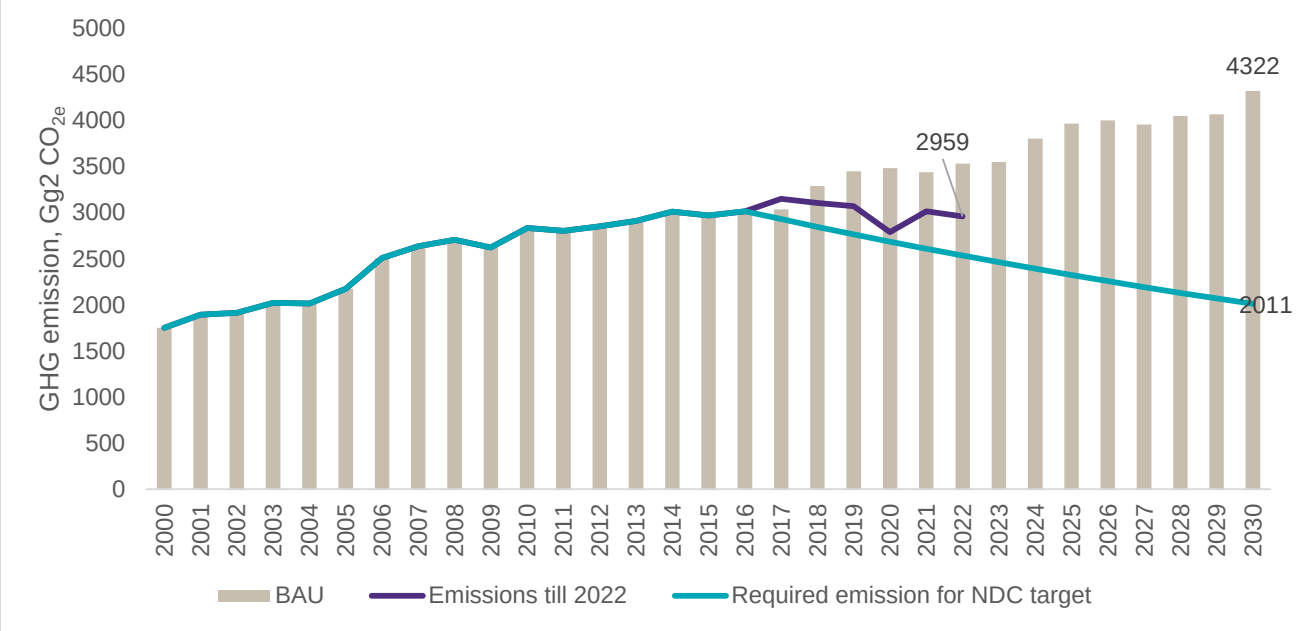
Figure 39: BAU emission projections, emissions till 2022 and required emission reduction trend till 2030



Energy Sector

Total greenhouse gas emissions from energy non-transport sector in FY 2022 were approximately 2959 Gg CO_2 equivalent, as against a BAU projection of 3533 Gg CO_2 equivalent, which is a 16% reduction from BAU scenario. The BAU emission projections, emissions till 2022 and the required emission reduction trend till 2030 are shown in Figure 40.

Figure 40: BAU emission projections for Energy Sector, emissions till 2022 and the required emission reduction trend till 2030

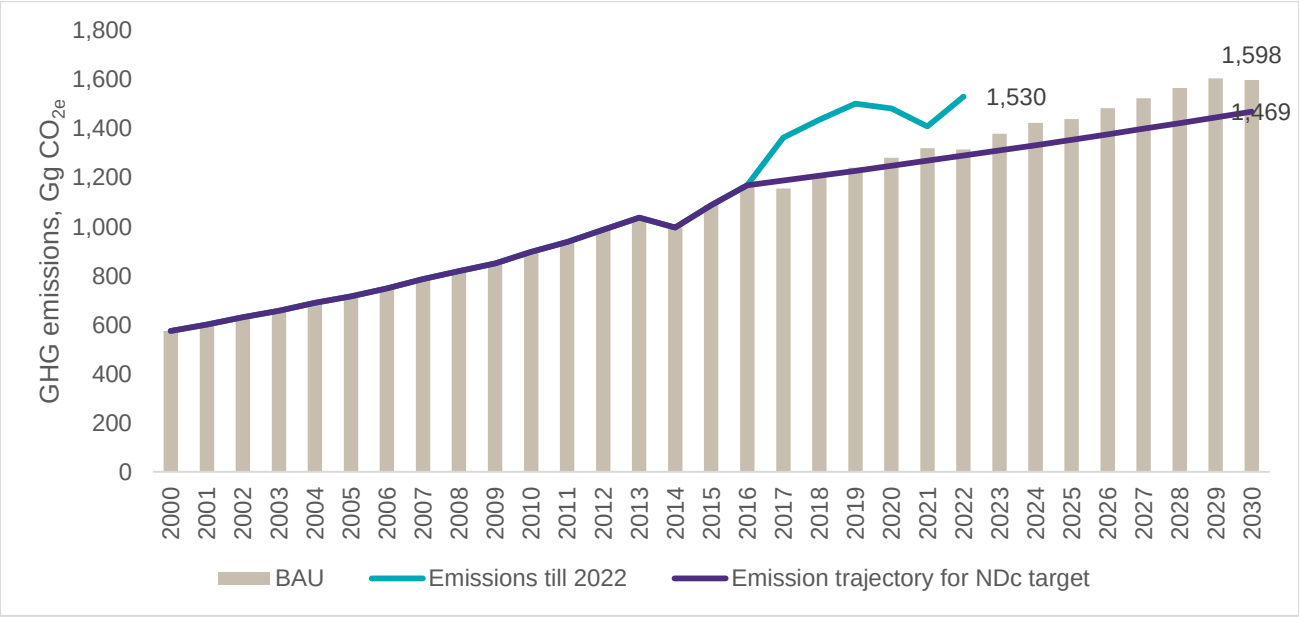


Mauritius has increased the share of RE especially solar energy in the electricity generation mix from 2017 onwards. The country has achieved considerable emission reductions by reducing coal use for electricity generation. Mauritius plans to completely replace coal by 2030 to meet its NDC target.

Transport Sector

The total greenhouse gas emissions from transport sector in FY 2022 were approximately 1530 Gg CO_2 equivalent, as against a BAU projection of 1315 Gg CO_2 equivalent, which is a 16% increase from BAU scenario. The BAU emission projections, emissions till 2022 and the required emission reduction trend till 2030 are shown in Figure 41.

Figure 41: BAU emission projections for Transport sector, emissions till 2022 and the required emission reduction trend till 2030

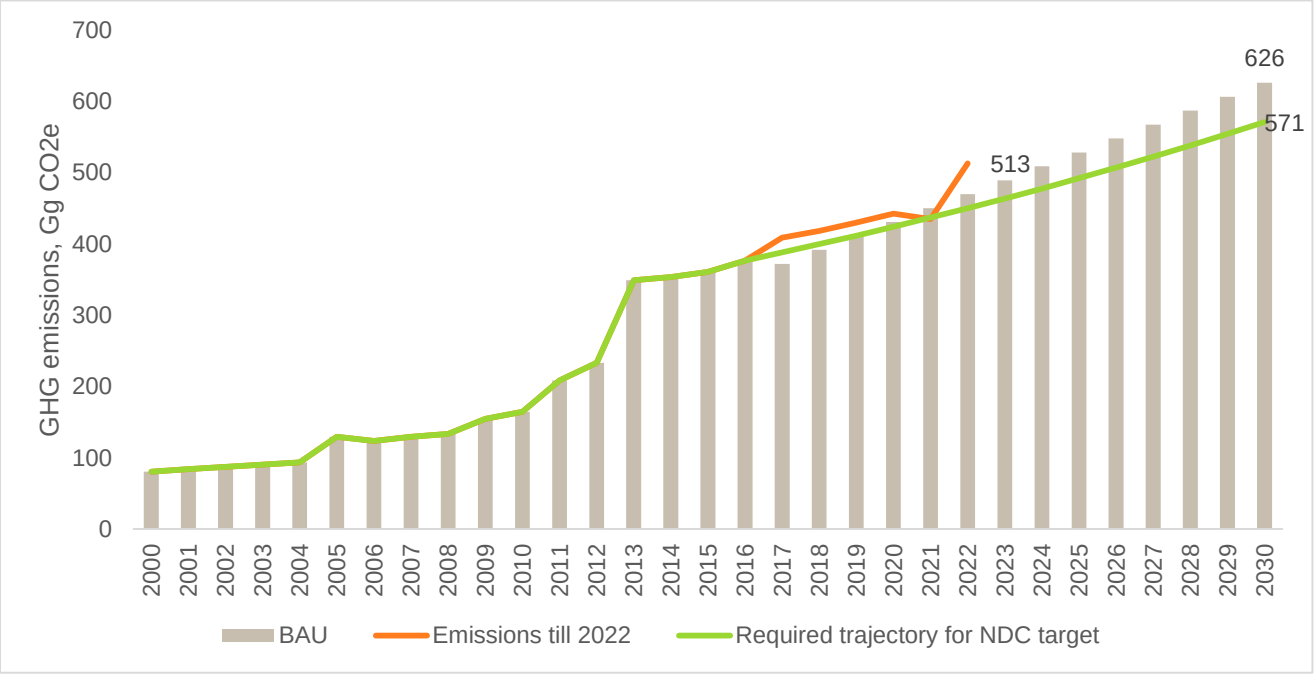


Republic of Mauritius intended to reduce emissions in transport sector by increasing incentives for electric vehicles. However, the implementation of such incentive scheme has not been possible due to the lack of internation funding**.**

IPPU Sector

The total greenhouse gas emissions from IPPU sector in FY 2022 were approximately 512 Gg CO_2 equivalent, as against a BAU projection of 470 Gg CO_2 equivalent, which is a 9% increase compared to BAU scenario. The BAU emission projections, emissions till 2022 and the required emission reduction trend till 2030 are presented in Figure 42.

Figure 42: BAU emission projections for IPPU Sector, emissions till 2022 and the required emission reduction trend till 2030

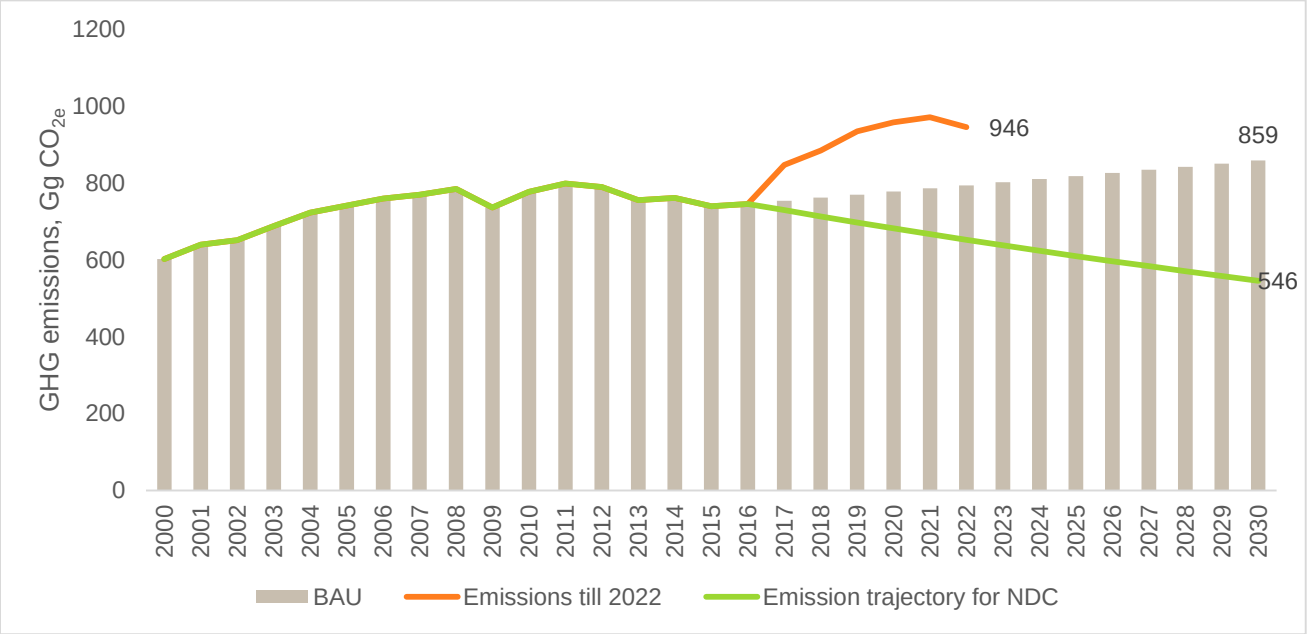


The emissions from IPPU sector saw an increase compared to BAU due to the increase in use of refrigerants used for stationary and mobile air conditioning. Mauritius as part of its Kigali Plan, intends to reduce the use of HFCs within the country. However external financial support will be required for implementation of the plan.

Waste Sector

The total greenhouse gas emissions from Waste sector in FY 2022 were approximately 946 Gg CO_2 equivalent, as against a BAU projection of 795 Gg CO_2 equivalent, which is a 19% increase compared to BAU scenario. The BAU emission projections, emissions till 2022 and the required emission reduction trend till 2030 are presented in Figure 43.

Figure 43: BAU emission projections for Waste Sector, emissions till 2022 and the required emission reduction trend till 2030

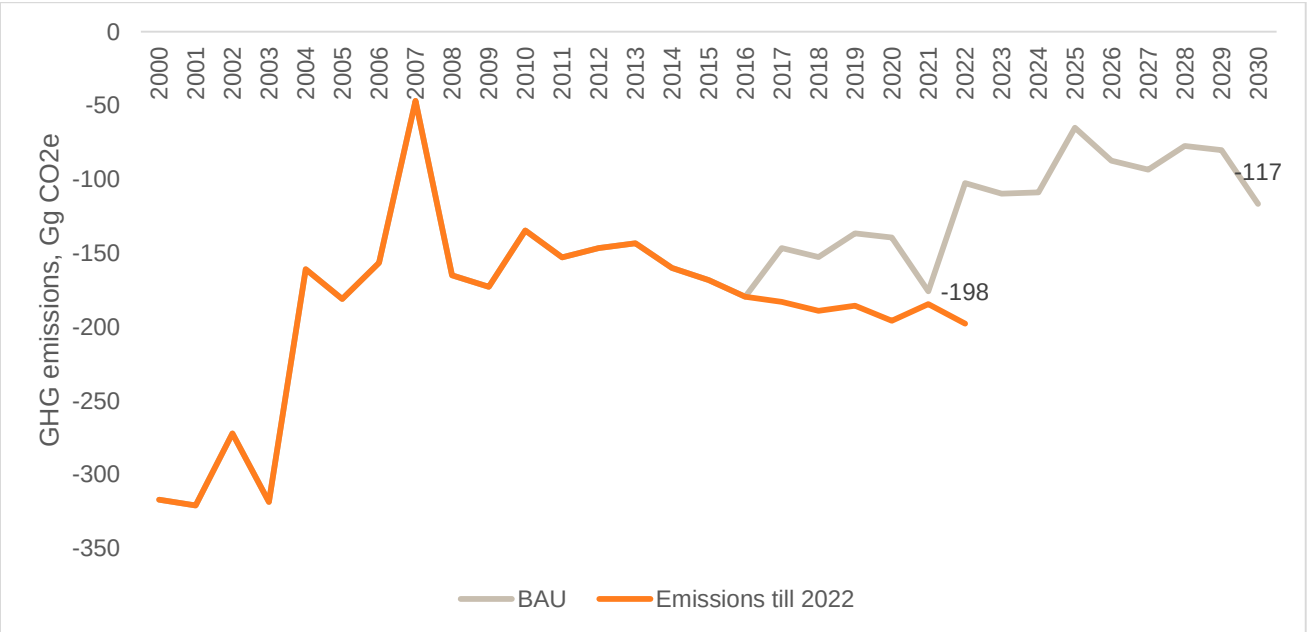


The waste sector experienced a jump in emissions from 2017 onwards due to the breakdown of the biological treatment plant. Mauritius intended to reduce emissions in the Waste sector by diverting 70% of its landfill waste after segregation for biological treatment and waste to energy plants. Due to lack of external financial support, Mauritius has currently not been able to increase the share of biological treatment. On the contrary, due to lack of fund, the existing biological treatment plant has not been in operation since 2017.

AFOLU Sector

The total greenhouse gas removals from AFOLU sector in FY 2022 were approximately 198 Gg CO_2 equivalent, as against a BAU emission removal projection of 103 Gg CO_2 equivalent, which is around 90% higher than BAU projection. The BAU emission removal projections till 2030 are shown in Figure 44.

Figure 44: BAU emission removal projections for AFOLU Sector till 2030



Mauritius is well endowed with natural forests and a large portion of the country is also covered by privately held forests. Moreover, there are multiple small uninhabited islands in Mauritius whose forestry and mangrove related data is currently not available. The country's emission sink availability is expected to be much higher than the quantified figure (due to lack of information).

D. Mitigation policies and measures, actions and plans, related to implementing and achieving a nationally determined contribution under Article 4 of the Paris Agreement

1. Introduction

The Climate Change Act of Mauritius was gazetted in November 2020 and came into effect in April 2021. The act defines the roles and responsibilities of institutions involved in climate change governance. For example, the Department of Climate Change is responsible for coordinating the implementation of commitments to international climate change agreements. The act regulates the National Climate Change Mitigation Strategy and Action Plan, the National Climate Change Adaptation Strategy and Action Plan, and the National Inventory Report.

Various policies, actions and plans have been formulated and enacted to mitigate impacts of climate change. Some of the key interventions under each sector are highlighted in the subsequent sectors.

2. Energy sector

Energy sector is representing the largest share of emissions in the country. Various policies, plans and actions have been initiated by concerned ministries and departments. Some of the key interventions under Energy sector are highlighted next:

Table 7: Mitigation Action 2.1 (Energy Sector)

Mitigation Action 2.1	Accelerating the transformational shift to a low-carbon economy in the Republic of Mauritius
Objective	The project will provide the enabling environment for the scaling up of renewable energy in Mauritius thereby bringing the transformational change advocated by the Green Climate Fund (GCF). The project will curtail both the regulatory and infrastructural barriers for a paradigm shift in power generation in Mauritius.
Description	The project is being implemented in two phases with the following three components: ➢ Component 1: Institutional strengthening for renewable energy ➢ Component 2: Improving grid absorption capacity followed by PV deployment ➢ Component 3: PV mini grids on the Outer Island of Agalega
Type of instrument	Policy and action plan
Status	Under implementation
Start year of implementation	2017
Gases affected	CO_2
Implementing agencies	Ministry of Finance Economic Planning and Development, Mauritius Renewable Energy Agency (MARENA), Central Electricity Board (CEB)

Table 8: Mitigation Action 2.2 (Energy Sector)

Mitigation Action 2.2	Mandatory Energy Labelling and Minimum Energy Performance Standard
Objective	To mitigate GHG emissions and reduce energy consumption by helping consumers make informed purchase decisions through improved energy efficiency, utilizing rescaled energy labels to lower fossil fuel imports and greenhouse gas emissions.
Description	The policy and regulatory initiatives include following actions: • Implement the Energy Efficiency (Labelling of Regulated Machinery) Regulations 2017 for refrigerators, ovens, and dishwashers. Extend these regulations to air conditioners and washing machines. • Amend the Energy Efficiency (Labelling of Regulated Machinery) Regulations 2017. • Launch a media campaign to inform the public about energy efficiency. • Phase out the importation of fixed speed compressor air conditioners • Ban the importation of all incandescent light bulbs used for general lighting to promote more energy-efficient lighting. • Establish procedures to monitor energy efficiency and consumption, aiming for public institutions to reduce their electricity consumption by at least 5%. • Define Minimum Energy Performance Standard (MEPS) for Air conditioners
Type of instrument	Policy and Regulatory
Status	Under implementation
Start year of implementation	2017
Gases affected	CO_2
Implementing agencies	Ministry of Energy and Public Utilities (Energy Efficiency Management Office)

Table 9: Mitigation Action 2.3 (Energy Sector)

Mitigation Action 2.3	Accelerating the Transition to a Net-Zero Nature-Positive Economy in Mauritius (NZNPA) Project
Objective	The objective of the project is to accelerate the decarbonisation of the manufacturing sector and to establish the enabling conditions to support the integration of nature-based solutions at national level.
Description	The Ministry has completed the Project Preparation Phase and has already submitted its Project Document for approval to the donor (GEF). The Project Document delineates the modalities and the activities with timeframes for implementation over the next four years, 2025-2028.
Type of instrument	Policy and action plan
Status	Under implementation
Start year of implementation	2023
Gases affected	CO_2
Implementing agencies	Ministry of Industrial Development SMEs and Cooperatives (Industrial Development Division)

Table 10: Mitigation Action 2.4 (Energy Sector)

Mitigation Action 2.4	Energy Efficiency Audit Scheme for the Manufacturing Sector (EEASMS)
Objective	The objective of the Scheme is to accelerate the transition towards a carbon neutral industrial sector.
Description	The Scheme provides for a one-off grant of 75% of the energy audit cost, up to a maximum of Rs 300,000, to be incurred on a production site of a manufacturing enterprise. It is now applicable to all manufacturing enterprises (having an annual turnover above Rs 10 million) which intend to embark on an energy audit exercise.
Type of instrument	Policy and action plan
Status	Under implementation
Start year of implementation	2023
Gases affected	CO_2
Implementing agencies	Ministry of Industrial Development SMEs and Cooperatives (Industrial Development Division)

Table 11: Mitigation Action 2.5 (Energy Sector)

Mitigation Action 2.5	Modal shift to a mass transport system (Light Rail)
Objective	To collaboratively develop and operate an economically and environmentally sustainable light rail network by reducing traffic congestion and carbon emission.
Description	The activity includes following actions: • Construction for the Metro Express Project (Completed) • Extension of Metro Express Network (Completed) • Installation of Solar PV System in parks and station under MEL • Installation of Solar PV System in a solar form
Type of instrument	Action
Status	Two phases of the project are completed. Solar PV Project is under planning stage.
Start year of implementation	2017
Gases affected	CO_2, CH_4, N_2O
Implementing agencies	Ministry of Land Transport and Light Rail (Metro Express Ltd)

Table 12: Mitigation Action 2.6 (Energy Sector)

Mitigation Action 2.6	Strategies and Projects to combat climate change for Air Transport
Objective	The objective of the program is to accelerate the transition towards a carbon neutral Air Transport sector.
Description	The activity includes following actions: • Operate new generation aircraft with 25% more fuel efficiency • Reduce Engine Taxi for ATR 72 Aircraft with one engine ON after landing - Reduce fuel consumption while taxiing

Mitigation Action 2.6	Strategies and Projects to combat climate change for Air Transport
	• Introduce electric vehicles for ground operations in Mauritius • Air Mauritius conducts engine wash as per their aircraft maintenance program for engine performance and fuel savings • To deploy an optimised Building Management System (BMS) to enable accurate control of pumping systems and air systems. • Replacement of conventional equipment's with energy efficient equipment's (Such as LEDs, AHUs, Motors, ACs, Sensors for lighting control) • Implementation of a solar farm at the airport • Reduce single use plastics on board
Type of instrument	Policy and action plan
Status	Under implementation
Start year of implementation	2012
Gases affected	CO_2
Implementing agencies	Department of Civil Aviation – Air Traffic Management, Air Mauritius Ltd

Table 13: Mitigation Action 2.7 (Energy Sector)

Mitigation Action 2.7	Strategies and Projects to combat climate change for Shipping
Objective	The objective of the activities to accelerate the transition towards a carbon neutral shipping sector.
Description	The activity includes following actions: • Promoting energy efficiency in ships, adopting cleaner fuels, and reducing maritime emissions and other requirements under the MARPOL 73/78 Conventions • Enforcement of Merchant Shipping Notice No. 2 of 2019, which focuses on the reduction of air pollution from ships • Mandating the mandates the Ship Energy Efficiency Management Plan (SEEMP) and the Energy Efficiency Design Index (EEDI) • Launched guidelines to help reduce the environmental impact of invasive species and improve vessel efficiency • Awareness and capacity building
Type of instrument	Policy and action plan
Status	Under implementation
Start year of implementation	2019
Gases affected	CO_2
Implementing agencies	Ministry of Blue Economy, Marine Resources, Fisheries and Shipping

3. Industrial processes and product use (IPPU) sector

IPPU sector is representing the third largest share of emissions in the country. Majority of the emissions in IPPU sector are from the use of substitutes of ozone depleting substances (ODS). Mauritius ratified the Kigali Amendment in October 2019 committing to phasing down Hydrofluorocarbons (HFC) use by 80% until 2045. To facilitate this, the country uses several existing regulations to issue import licenses and control the HFC imports into the country. The Dangerous Chemical Control Act 2004 is one of the various acts that assists with these controls.

Additionally, the Consumer Protection (Control of Imports) Regulations 2017 enables Mauritius to control the types of equipment imported into the country. Under these regulations, all cooling equipment falls within the scope of control, allowing Refrigeration and Air conditioning (RAC) equipment to be regulated through this Act. The National Ozone Unit is in the process of enacting the Kigali Implementation Plan. Further details on the plan are highlighted below:

Table 14: Mitigation Action 3.1 (IPPU Sector)

Mitigation Action 3.1	Development of Kigali Implementation Plan for Mauritius
Objective	To mitigate GHG emissions by targeting specific sectors such as domestic refrigerators, standalone units, and domestic air conditioners, while working in synergy with the HCFC Phase-down Management Plan
Description	The draft implementation plan proposed the following actions: • Implement controls on importing HFC refrigeration and air conditioning (RAC) technologies (e.g., R410A, R404A) with available low/zero GWP alternatives. • Demonstrate low GWP alternatives, particularly for condensing units. • Support training centers with R290 mono block technology and necessary training. • Build capacity through improved training on containment practices for commercial refrigeration and ACs to prevent leakages.
Type of instrument	Action Plan
Status	Under approval stage
Start year of implementation	2025 (Proposed)
Gases affected	CO_2
Implementing agencies	Ministry of Environment, Solid Waste Management and Climate Change (National Ozone Unit)

4. Agriculture sector

Various policies, plans and actions have been initiated by concerned ministries and departments to mitigate climate change in Agriculture sector. Some of the key interventions under Agriculture sector are highlighted next:

Table 15: Mitigation Action 4.1 (Agriculture Sector)

Mitigation Action 4.1	Standards for treated manure from animal waste
Objective	To develop treated manure standards using proven locally adapted technology through dehydration and solarisation to reduce GHG emission.
Description	The following actions have been undertaken:

	• Implementation Committee set up under the chairmanship of MSB to develop technology to meet published standards • Specifications for treated farm animal manure published under Standards MS 196 in November 2018 • Action plan and Protocol for sanitation of cattle and poultry manure trial developed. • Experimental trials started in in October 2019 by FAREI in collaboration of University of Mauritius and MSB. Two methods (solar drying and dehydration) were assessed using cattle and poultry manure. In solarisation trial, transparent plastic of 50µ thickness was effective in sanitisation of both poultry and cattle manure within one week and both treated manures complied with chemical and microbiological standards as set in MS 196-201. For solar dehydration, preliminary findings showed that cattle and poultry manure can be sanitised within 5 weeks • Flyer distribution and sensitisation workshop done on "solarisation as a method for sanitisation of cattle and poultry manure" with various stakeholders on 21st January 2021 at Wooton, Farmer Training School, FAREI.
Type of instrument	Standard
Status	Under implementation stage
Start year of implementation	2018
Gases affected	CO_2, CH_4, N_2O
Implementing agencies	Food and Agricultural Research and Extension Institute (FAREI), Mauritius Standard Bureau, University of Mauritius

Table 16: Mitigation Action 4.2 (Agriculture Sector)

Mitigation Action 4.2	**Promotion of small livestock projects at back yard level**
Objective	To reduce GHG emission by encouraging farmers to engage in backyard production through rearing of small livestock species such as rabbit, duck and quail.
Description	The following actions have been undertaken: • Set up of a nucleus rabbit unit at FAREI Curepipe Livestock Research Station with the objective to produce breeding animals for farmers • Promoting the use of electric artificial incubators to improve hatchability of eggs at farm levels • Publish a booklet on Quail Production in Mauritius, in 2018 • Conduct awareness campaign on quail production through diffusion of a clip-on national TV • One trial undertaken in 2019 to evaluate the laying capability of 4 types of quails. The Jumbo type quail is found to be very promising with a daily feed intake of around 40g per day, giving 1 egg (weighing 12 g) per day over a laying cycle of 33 weeks.
Type of instrument	Policy action
Status	Under implementation stage
Start year of implementation	2018
Gases affected	CO_2, CH_4, N_2O
Implementing agencies	Food and Agricultural Research and Extension Institute (FAREI)

In addition to the above-mentioned mitigation actions, other climate projects for reducing greenhouse gas emissions are listed below:

- Development of Bio farming/ organic package and Agri-waste recycling and composting
- Improving the Resilience of Small Farmers to Climate Change "Development of an integrated sheltered farming system comprising of roof-top rainwater harvesting structure, a solar water pump coupled with a pressurized drip fertigation system or a gravity-fed drip irrigation system for vegetable crops production"
- Development of an Interplanetary Naming System (IPNS) as an eco-friendly approach to optimize fertilizer use and management of soil fertility in crop production.
- Enhancing crop nutrition and soil and water management and technology transfer in irrigated systems for increased food production and income generation"
- Optimising fertiliser use in tea cultivation "Review fertilizer recommendation of existing and new tea plantation"
- Testing of new products "Testing of new products as substitutes to chemical fertilizer and for sustaining crop production"
- Development and promotion of the Agro forestry sector to optimize forest land for agricultural purpose, under Organic and Natural techniques.
- Development of high biomass sugarcane varieties as a renewable source of energy

5. Land use, land use change and forestry (LULUCF) sector

Some of the key interventions taken for climate change mitigation under LULUF sector are highlighted next:

Table 17: Mitigation Action 5.1 (LULUF Sector)

Mitigation Action 5.1	**Tree planting and Creation and maintenance of mini-forest, Nature Walk, urban forests, Parks and Garden, etc**
Objective	Increase carbon sequestration, improve environmental and ecological benefits, enhance local microclimate, improve soil, water, and air quality, and mitigate the impact of natural calamities such as floods.
Description	The draft implementation plan proposed the following actions: • Plant Production in Forest nurseries • Site selection for tree planting • Site selection for creation of new mini forests/garden/parks. • Tree planting programme throughout the island • Restoration and maintenance of mini forests
Type of instrument	Action Plan
Status	Under implementation
Start year of implementation	2016
Gases affected	CO_2, CH_4, N_2O
Implementing agencies	Forestry Service, National Parks and Conservation Service, Ministry of Environment, Solid Waste Management and Climate Change, District Council, Municipalities NGOs

Table 18: Mitigation Action 5.2 (LULUF Sector)

Mitigation Action 5.2	Forest restoration - Nature Reserves, Mountain, River Reserves, forest plantation
Objective	To support reduction of forest degradation and improve environmental and ecosystem Services
Description	The draft implementation plan proposed the following actions: • Weeding/removal of invasive alien species • Re-introduction of native species • Filling of gaps in plantation forest • Provision of incentive for the restoration of privately owned river and mountain reserves
Type of instrument	Action Plan
Status	Under implementation
Start year of implementation	2020
Gases affected	CO_2, CH_4, N_2O
Implementing agencies	Forestry Service, National Parks and Conservation Service, private landowners, NGOs

6. Waste sector

Waste sector is representing the second largest share of emissions in the country. Various policies, plans and actions have been initiated by concerned ministries and departments. Some of the key interventions under waste sector are highlighted next:

Table 19: Mitigation Action 6.1 (Waste Sector)

Mitigation Action 6.1	Strategy and Action Plan for a new Solid Waste Management and Resource Recovery System for Mauritius
Objective	To provide for the regulatory framework to ensure the environmentally safe and sound management of solid and hazardous wastes and a sustainable waste management system through the adoption of a circular economy approach focusing on waste reduction, reuse, material recovery and recycling.
Description	The Waste Management and Resource Recovery Act 2023 is already enacted in 2023. The action plan includes the following key activities: • Weeding/removal of invasive alien species • Re-introduction of native species • Filling of gaps in plantation forest • Provision of incentive for the restoration of privately owned river and mountain reserves
Type of instrument	Action Plan
Status	Under implementation
Start year of implementation	2020
Gases affected	CO_2, CH_4, N_2O
Implementing agencies	Ministry of Environment, Solid Waste Management and Climate Change (Solid Waste Management Division)

Table 20: Mitigation Action 6.2 (Waste Sector)

Mitigation Action 6.2	Strategy and Action Plan for a new Solid Waste Management and Resource Recovery System for Mauritius
Objective	To provide for the regulatory framework to ensure the environmentally safe and sound management of solid and hazardous wastes and a sustainable waste management system through the adoption of a circular economy approach focusing on waste reduction, reuse, material recovery and recycling.
Description	The Waste Management and Resource Recovery Act 2023 is already enacted in 2023. The action plan includes the following key focus areas: • Strategic Area I: "Prevention and Environmentally Responsible Consumption" • Strategic Area II: "Increase in Resource Recovery" • Strategic Area III: "Adequate Technologies for Energy Recovery" • Strategic Area IV: "Provision of Adequate Disposal Infrastructure" • Strategic Area V: "Information, Education and Communication"
Type of instrument	Action Plan
Status	Under implementation
Start year of implementation	2020
Gases affected	CO_2, CH_4, N_2O
Implementing agencies	Ministry of Environment, Solid Waste Management and Climate Change (Solid Waste Management Division)

7. Cross-cutting measures

To combat the climate change various policies, plans and actions have been initiated by different ministries and departments. Some of the key interventions impact more than one sectors. Such cross-cutting measures are highlighted next:

Table 21: Mitigation Action 7.1 (Cross-cutting Sector)

Mitigation Action 7.1	Mauritius National Climate Change Mitigation Strategy and Action Plan (NCCMSAP) 2022 - 2030
Objective	The long-term objective of the NCCMSAP is "to contribute towards achieving a net-zero carbon society by 2070 while achieving the Sustainable Development Goals".
Description	The Climate Change Act (CCA) of Mauritius was gazetted in November 2020 and came into effect in April 2021. The apex body an Inter-Ministerial Council on Climate Change (IMCCC) is established under CCA 2020. The NCCMSAP has been formulated based on the objectives and goals emanating from the Inter-Ministerial Council on Climate Change as captured in the updated NDC. The strategy and action planning has hinged on three interrelated activities, namely: (i) stakeholder engagement; (ii) identification and prioritisation of mitigation actions; and (iii) policy and mitigation scenario analyses, including costing. Mitigation actions were identified using policy documents and expert knowledge on mitigation technologies and deployment pathways that are detailed for each sector below. For the purpose of the NCCMSAP, the definition of sectors has been aligned with the nomenclature of the Intergovernmental Panel on Climate Change (IPCC).
Type of instrument	Policy and action plan

Mitigation Action 7.1	Mauritius National Climate Change Mitigation Strategy and Action Plan (NCCMSAP) 2022 - 2030
Status	Under implementation
Start year of implementation	2022
Gases affected	CO_2, CH_4, N_2O
Implementing agencies	Ministry of Environment, Solid Waste Management and Climate Change

Table 22: Mitigation Action 7.2 (Cross-cutting Sector)

Mitigation Action 7.2	Sustainable Island Mauritius (SIM) project
Objective	The objective was to promote sustainable tourism through demonstrating and scaling-up self-sustaining mechanism for improving sustainability impact along the value chain and improving awareness as well as the marketing of sustainable tourism products and services.
Description	The following actions have been undertaken: • Capacity Building on Best Sustainable Practices • Policy Facilitation for implementing green practices • Creation of “Horizon Eco” tool to manage and monitor SDG goals by enterprises, which includes energy saving, renewable energy use and waste reduction
Sectors covered	Energy, Waste
Type of instrument	Standard
Status	Under implementation stage
Start year of implementation	2018
Gases affected	CO_2, CH_4, N_2O
Implementing agencies	Mauritius Tourism Authority

Table 23: Mitigation Action 7.3 (Cross-cutting Sector)

Mitigation Action 7.3	Integration of Climate Change in Higher Education
Objective	The objective was to integrate necessary climate related topics in ongoing programs and introduction of new specialisations on climate change.
Description	The following actions have been undertaken: • Launched Postgraduate programme - MSc in Climate Change and Sustainable Development • Partnership between UoM and the Ministry of Environment, Sustainable Waste Management and Climate Change on the research and development component of the Observatoire de l’Environnement • Organised conferences and on climate change • Seeking research funding for climate change projects
Sectors covered	Energy, IPPU, Waste, Agriculture and LULUF

Mitigation Action 7.3	Integration of Climate Change in Higher Education
Type of instrument	Other
Status	Under implementation stage
Start year of implementation	2018
Implementing agencies	University of Mauritius

E. Summary of greenhouse gas emissions and removals

The summary of greenhouse gas emissions and removals from various categories is shown in table below.

Table 24: Summary of greenhouse gas emissions and removals from various categories

2000-2011

Categories	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1 - Energy	**2323.5**	**2492.4**	**2545.1**	**2678.4**	**2704.3**	**2890.0**	**3255.9**	**3423.5**	**3526.2**	**3472.6**	**3730.6**	**3741.9**
1.A - Fuel Comb. Activities	2323.5	2492.4	2545.1	2678.4	2704.3	2890.0	3255.9	3423.5	3526.2	3472.6	3730.6	3741.9
1.A.1 - Energy Industries	1177.4	1289.1	1310.6	1400.5	1415.9	1587.3	1864.9	2006.0	2037.3	2018.5	2219.3	2203.8
1.A.1.a - Main Activity Electricity	1177.4	1289.1	1310.6	1400.5	1415.9	1587.3	1864.9	2006.0	2037.3	2018.5	2219.3	2203.8
1.A.2 – Man. Industries and Const.	372.3	401.7	402.5	402.1	378.1	359.4	422.9	420.0	448.0	372.2	377.9	361.2
1.A.3.a - Civil Aviation	4.8	5.1	6.0	6.3	6.1	5.4	5.6	6.3	5.6	4.3	5.9	6.4
1.A.3.b - Road Transport	539.2	562.6	586.6	610.2	644.2	675.3	706.6	739.3	777.6	810.9	849.7	887.1
1.A.3.c - Railways	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.A.3.d - Water-borne Navigation	30.8	32.6	38.2	40.6	38.8	34.8	36.1	40.4	36.1	35.4	41.1	44.3
1.A.3.e - Other Transportation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.A.4 - Other Sectors	199.0	201.3	201.4	218.6	221.3	227.8	219.7	211.5	221.6	231.4	236.7	239.1
1.A.5.a - Stationary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.B - Fugitive emissions from fuel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.C – CO_2 Transport and Storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy non transport	1748.8	1892.1	1914.5	2021.2	2015.3	2174.5	2507.5	2637.5	2706.9	2622.1	2834.0	2804.1
Transport	574.8	600.3	630.7	657.2	689.1	715.5	748.3	786.0	819.3	850.6	896.7	937.8
2 - IPPU	**80.5**	**84.0**	**87.1**	**90.2**	**93.3**	**129.3**	**123.5**	**129.3**	**133.3**	**154.5**	**164.3**	**208.4**
2.A - Mineral Industry												
2.B - Chemical Industry												

Categories	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
2.C - Metal Industry	19.6	20.2	20.9	21.6	22.2	22.9	23.6	24.3	28.6	32.9	35.0	37.1
2.C.1 - Iron and Steel production	19.6	20.2	20.9	21.6	22.2	22.9	23.6	24.3	28.6	32.9	35.0	37.1
2.D - Non-Energy Products	5.6	5.5	5.5	5.5	5.5	5.5	5.6	4.7	4.3	4.9	5.0	4.2
2.D.1 - Lubricant use	5.1	5.1	5.1	5.1	5.1	5.1	5.2	4.3	4.0	4.5	4.8	4.0
2.D.2 - Paraffin wax use	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.2	0.4	0.3	0.3
2.F - Product Uses as Substitutes for ODS	55.4	58.2	60.7	63.2	65.6	100.9	94.2	100.3	100.4	116.8	124.3	167.0
2.F.1 - Refrigeration and Air Conditioning	55.4	58.2	60.7	63.2	65.6	100.9	94.2	100.3	100.4	116.8	124.3	167.0
2.F.1.a - Refrigeration and Stationary Air Conditioning	55.0	57.4	59.6	61.7	63.9	99.0	92.1	97.6	94.8	110.8	118.3	160.1
2.F.1.b - Mobile Air Conditioning	0.4	0.8	1.1	1.4	1.7	1.9	2.2	2.7	5.6	5.9	6.0	6.9
3 - AFOLU	**-325.4**	**-329.4**	**-280.8**	**-334.3**	**-259.1**	**-256.4**	**-229.1**	**-119.6**	**-241.8**	**-243.4**	**-205.3**	**-229.2**
3.A - Livestock	41.6	41.8	42.3	41.8	39.5	41.7	44.3	46.6	40.3	39.9	45.5	46.1
3.A.1 - Enteric Fermentation	34.6	35.0	35.3	34.9	32.6	34.4	35.6	37.0	32.1	31.9	36.3	37.0
3.A.1.a - Cattle	20.8	21.2	20.7	19.9	17.6	18.7	19.5	20.6	16.3	15.3	17.6	18.6
3.A.1.a.i - Dairy Cows	10.0	10.1	9.9	9.5	8.5	9.0	8.1	8.7	6.7	6.1	7.5	8.3
3.A.1.a.ii - Other Cattle	10.8	11.0	10.7	10.3	9.1	9.7	11.4	11.9	9.6	9.2	10.1	10.3
3.A.1.b - Buffalo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.A.1.c - Sheep	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.1	0.9	1.2	1.6	1.3
3.A.1.d - Goats	3.3	3.4	4.3	4.3	4.2	4.4	4.9	5.0	4.9	5.2	6.7	6.6
3.A.1.e - Camels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.A.1.f - Horses	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4
3.A.1.g - Mules and Asses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.A.1.h - Swine	0.9	0.8	0.8	0.9	0.9	1.0	0.9	1.0	0.7	0.8	1.0	1.1
3.A.1.j - Other	8.4	8.4	8.4	8.7	8.7	9.0	9.0	9.0	9.0	9.0	9.0	9.0

Categories	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
3.A.2 - Manure Management	7.0	6.8	7.0	6.9	6.8	7.3	8.7	9.6	8.1	8.1	9.2	9.1
3.A.2.a - Cattle	3.0	3.0	2.9	2.8	2.5	2.6	4.2	4.8	4.2	3.7	4.5	4.1
3.A.2.a.i - Dairy Cows	2.0	2.0	2.0	1.9	1.7	1.8	1.6	1.7	1.3	1.2	1.5	1.6
3.A.2.a.ii - Other Cattle	1.0	1.0	1.0	0.9	0.8	0.9	2.5	3.1	2.9	2.5	3.0	2.4
3.A.2.b - Buffalo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.A.2.c - Sheep	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2
3.A.2.d - Goats	0.7	0.7	0.9	1.0	0.9	1.0	1.1	1.1	1.2	1.2	1.4	1.4
3.A.2.e - Camels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.A.2.f - Horses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.A.2.g - Mules and Asses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.A.2.h - Swine	3.3	2.9	3.0	3.0	3.3	3.5	3.3	3.4	2.6	2.9	3.0	3.4
3.A.2.i - Poultry	2.9	3.0	3.3	3.3	3.4	3.4	4.3	4.7	4.9	5.0	5.2	5.3
3.A.2.j - Other	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3.B - Land	-458.9	-461.7	-419.8	-468.1	-390.9	-392.1	-375.5	-277.4	-376.0	-377.9	-360.5	-382.0
3.B.1 - Forest land	-458.9	-461.7	-419.8	-468.1	-390.9	-392.1	-375.5	-277.4	-376.0	-377.9	-360.5	-382.0
3.B.2 - Cropland	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.8	6.0	0.1	0.1	0.4
3.B.3 - Grassland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.B.4 - Wetlands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.B.5 - Settlements	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.B.6 - Other land	0.0	0.0	0.0	7.1	1938.6	66.6	61.7	61.7	61.7	61.7	61.7	67.4
3.C - Aggregate sources and non-CO2 emissions sources on land	90.4	89.4	95.7	90.9	90.8	92.4	101.1	111.1	93.8	93.9	107.7	104.9
3.C.1 - Emissions from biomass burning	5.9	5.9	10.9	6.0	5.7	5.8	9.3	17.5	6.3	7.8	11.1	4.7
3.C.1.a - Biomass burning in forest lands	0.7	0.7	5.7	0.8	0.5	0.6	4.4	13.0	2.3	4.1	7.7	1.6
3.C.1.b - Biomass burning in croplands	5.2	5.2	5.2	5.2	5.2	5.2	4.9	4.5	4.0	3.8	3.4	3.0

Categories	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
3.C.1.c - Biomass burning in grasslands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.C.1.d - Biomass burning in all other land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.C.2 - Liming	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.C.3 - Urea application	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.C.4 - Direct N2O Emissions from managed soils	64.2	62.2	62.9	62.9	63.0	63.9	66.4	66.9	61.8	60.4	67.5	69.8
3.C.5 - Indirect N2O Emissions from managed soils	20.5	19.6	19.9	19.9	20.0	20.3	21.2	21.4	20.1	19.7	22.2	22.9
3.C.6 - Indirect N2O Emissions from manure mg	5.0	6.9	7.2	7.3	7.3	7.6	9.1	9.7	9.6	9.7	10.3	10.6
3.C.7 - Rice cultivations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.C.8 - Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.D - Other	1.4	1.1	1.0	1.1	1.5	1.6	1.0	0.1	0.1	0.6	2.0	1.9
3.D.1 - Harvested Wood Products	1.4	1.1	1.0	1.1	1.5	1.6	1.0	0.1	0.1	0.6	2.0	1.9
3.D.2 - Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4 - Waste	602.4	639.7	651.3	688.6	723.5	741.6	759.7	770.5	784.7	736.8	777.3	799.7
4.A - Solid Waste Disposal	351.0	374.4	405.9	439.4	467.4	493.4	523.3	544.7	556.8	506.3	549.9	563.2
4.B - Biological Treatment of Solid Waste	-	-	-	-	-	-	-	-	-	-	-	0.9
4.C - Incineration and Open Burning of Waste	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6
4.D - Wastewater Treatment and Discharge	250.8	264.8	244.9	248.7	255.6	247.6	235.9	225.2	227.4	230.1	226.9	235.0
TOTAL (excluding LULUCF 3.B and 3.D) (Gg CO_{2e})	3138.6	3347.3	3421.6	3589.9	3651.4	3895.0	4284.4	4481.0	4578.3	4497.8	4825.4	4900.9

Categories	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TOTAL (net emissions) (Gg CO_{2e})	**2679.7**	**2885.7**	**3001.8**	**3121.8**	**3260.5**	**3502.9**	**3908.9**	**4203.6**	**4202.2**	**4119.9**	**4464.9**	**4518.9**

2012-2022

Categories	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1 - Energy	3839.5	3949.0	4007.7	4057.5	4185.2	4515.2	4542.4	4573.0	4270.9	4422.8	4489.9
1.A - Fuel Comb. Activities	3839.5	3949.0	4007.7	4057.5	4185.2	4513.5	4540.6	4571.1	4269.7	4421.6	4487.8
1.A.1 - Energy Industries	2264.5	2338.0	2417.9	2364.5	2421.5	2564.4	2502.8	2447.2	2212.3	2431.2	2343.4
1.A.1.a - Main Activity Electricity	2264.5	2338.0	2417.9	2364.5	2421.5	2564.4	2502.8	2447.2	2212.3	2431.2	2343.4
1.A.2 – Man. Industries and Const.	353.9	339.5	354.8	357.5	345.1	335.7	335.0	341.8	325.0	319.5	337.3
1.A.3.a - Civil Aviation	6.8	7.0	7.2	8.6	9.8	11.0	11.3	12.0	6.8	2.3	9.4
1.A.3.b - Road Transport	933.9	982.2	942.1	1022.3	1093.9	1284.7	1350.9	1410.7	1403.8	1320.0	1430.7
1.A.3.c - Railways	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.A.3.d - Water-borne Navigation	46.2	47.7	47.6	56.4	65.5	65.6	71.5	76.3	70.5	84.9	88.2
1.A.3.e - Other Transportation	0.0	0.0	0.0	0.0	0.0	1.7	1.8	1.9	1.2	1.2	2.1
1.A.4 - Other Sectors	234.2	233.9	237.3	247.4	248.6	251.1	268.1	282.1	250.5	262.7	277.9
1.A.5.a - Stationary	0.0	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
1.B - Fugitive emissions from fuel	0.0	0.0	0.0	0.0	0.0						
1.C – CO2 Transport and Storage	0.0	0.0	0.0	0.0	0.0						

Categories	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Energy non transport	2852.6	2912.1	3010.9	2970.3	3016.1	3152.1	3106.8	3072.1	2788.7	3014.3	2959.5
Transport	986.9	1036.9	996.8	1087.3	1169.2	1363.1	1435.6	1500.9	1482.2	1408.5	1530.4
2 - IPPU	233.3	348.9	353.4	360.7	376.4	408.4	418.0	429.7	442.4	434.9	512.6
2.A - Mineral Industry											
2.B - Chemical Industry											
2.C - Metal Industry	34.1	28.3	26.5	25.4	21.4	26.8	25.4	26.4	22.2	27.6	31.6
2.C.1 - Iron and Steel production	34.1	28.3	26.5	25.4	21.4	26.8	25.4	26.4	22.2	27.6	31.6
2.D - Non-Energy Products	4.5	4.6	4.8	4.4	4.6	4.9	4.8	5.2	4.2	4.3	5.2
2.D.1 - Lubricant use	4.3	4.4	4.7	4.2	4.4	4.7	4.7	5.1	4.1	4.2	5.1
2.D.2 - Paraffin wax use	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2
2.F - Product Uses as Substitutes for ODS	194.7	316.0	322.1	330.9	350.4	376.7	387.7	398.1	416.0	403.0	475.8
2.F.1 - Refrigeration and Air Conditioning	194.7	316.0	322.1	330.9	350.4	376.7	387.7	398.1	416.0	403.0	475.8
2.F.1.a - Refrigeration and Stationary Air Conditioning	187.7	309.1	315.2	322.2	341.5	367.5	379.3	389.5	407.3	394.2	465.5
2.F.1.b - Mobile Air Conditioning	7.0	6.9	6.9	8.7	8.9	9.2	8.5	8.6	8.7	8.8	10.3
3 - AFOLU	-216.8	-218.2	-231.2	-250.0	-250.5	-183.1	-189.2	-185.7	-195.8	-184.5	-197.9
3.A - Livestock	43.8	45.0	42.5	41.5	39.9	24.7	24.8	25.5	26.3	25.4	24.4
3.A.1 - Enteric Fermentation	35.3	36.3	33.4	32.6	31.5	16.1	16.5	16.8	17.6	16.9	16.2
3.A.1.a - Cattle	17.6	18.6	19.3	19.1	17.5	6.6	6.0	5.9	6.8	6.3	6.0

Categories	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
3.A.1.a.i - Dairy Cows	8.1	8.4	8.7	8.2	7.9	3.2	2.7	2.6	2.6	2.8	2.7
3.A.1.a.ii - Other Cattle	9.5	10.1	10.6	10.9	9.6	3.3	3.3	3.3	4.2	3.5	3.3
3.A.1.b - Buffalo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.A.1.c - Sheep	1.4	1.5	1.9	1.9	2.1	0.4	0.4	0.6	0.6	0.7	0.6
3.A.1.d - Goats	6.1	6.0	6.4	5.8	6.0	3.6	3.6	3.6	3.5	3.1	3.0
3.A.1.e - Camels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.A.1.f - Horses	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4
3.A.1.g - Mules and Asses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.A.1.h - Swine	0.9	0.8	0.9	0.9	1.0	0.6	0.6	0.6	0.6	0.6	0.6
3.A.1.j - Other	9.0	9.0	4.5	4.5	4.5	4.5	5.6	5.6	5.6	5.6	5.6
3.A.2 - Manure Management	8.5	8.7	9.1	8.9	8.5	8.6	8.2	8.7	8.7	8.6	8.2
3.A.2.a - Cattle	4.2	4.6	4.5	4.6	3.9	0.9	0.8	0.8	0.9	0.8	0.8
3.A.2.a.i - Dairy Cows	1.6	1.7	1.7	1.6	1.6	0.4	0.4	0.4	0.4	0.4	0.4
3.A.2.a.ii - Other Cattle	2.6	2.9	2.8	2.9	2.3	0.4	0.4	0.4	0.5	0.5	0.4
3.A.2.b - Buffalo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.A.2.c - Sheep	0.3	0.3	0.4	0.3	0.4	0.4	0.4	0.7	0.7	0.7	0.6
3.A.2.d - Goats	1.3	1.3	1.3	1.3	1.3	3.7	3.7	3.7	3.6	3.2	3.1
3.A.2.e - Camels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.A.2.f - Horses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.A.2.g - Mules and Asses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.A.2.h - Swine	2.7	2.5	2.9	2.7	2.9	3.7	3.3	3.6	3.5	3.8	3.7
3.A.2.i - Poultry	5.4	5.3	5.4	5.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0
3.A.2.j - Other	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.B - Land	-377.6	-382.1	-375.2	-397.0	-394.4	-427.1	-426.8	-423.5	-426.7	-427.5	-427.0
3.B.1 - Forest land	-377.6	-382.2	-375.2	-397.0	-394.4	-427.1	-427.1	-424.1	-426.8	-428.0	-427.5
3.B.2 - Cropland	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0

Categories	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
3.B.3 - Grassland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.B.4 - Wetlands	0.0	0.0	0.0	11.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.B.5 - Settlements	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.7	0.1	0.5	0.4
3.B.6 - Other land	61.8	66.4	62.7	62.0	62.6	0.0	0.0	0.0	0.0	0.0	0.0
3.C - Aggregate sources and non-CO2 emissions sources on land	115.0	116.8	99.3	103.5	102.0	219.4	212.8	212.2	204.6	217.5	204.7
3.C.1 - Emissions from biomass burning	8.0	8.0	8.9	6.6	5.9	0.2	0.6	0.7	0.7	0.3	0.4
3.C.1.a - Biomass burning in forest lands	5.2	5.2	6.1	3.8	3.2	0.2	0.6	0.7	0.7	0.3	0.4
3.C.1.b - Biomass burning in croplands	2.8	2.8	2.8	2.8	2.7	0.0	0.0	0.0	0.0	0.0	0.0
3.C.1.c - Biomass burning in grasslands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.C.1.d - Biomass burning in all other land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.C.2 - Liming	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.C.3 - Urea application	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.C.4 - Direct N2O Emissions from managed soils	74.9	76.4	62.2	67.6	67.0	165.4	159.4	158.8	152.0	163.8	152.3
3.C.5 - Indirect N2O Emissions from managed soils	24.6	25.0	20.6	22.0	21.8	5.6	5.0	4.9	4.2	5.5	4.2
3.C.6 - Indirect N2O Emissions from manure mg	10.3	10.1	10.4	10.1	10.0	48.2	47.9	47.8	47.8	47.9	47.9

Categories	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
3.C.7 - Rice cultivations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.C.8 - Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.D - Other	2.0	2.1	2.2	2.1	1.9	0.0	0.0	0.0	0.0	0.0	0.0
3.D.1 - Harvested Wood Products	2.0	2.1	2.2	2.1	1.9	0.0	0.0	0.0	0.0	0.0	0.0
3.D.2 - Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4 - Waste	789.9	755.7	761.4	739.7	746.2	847.6	885.0	935.3	958.6	971.5	946.0
4.A - Solid Waste Disposal	556.3	528.3	532.9	518.5	523.8	624.7	667.1	716.1	750.2	766.4	744.6
4.B - Biological Treatment of Solid Waste	6.1	3.4	7.2	6.7	6.7	-	-	-	-	-	-
4.C - Incineration and Open Burning of Waste	0.6	0.6	0.7	0.7	0.7	0.1	0.1	0.1	0.0	0.0	0.1
4.D - Wastewater Treatment and Discharge	226.9	223.4	220.7	213.8	214.9	222.8	217.8	219.2	208.4	205.1	201.2
TOTAL (excluding LULUCF 3.B and 3.D) (Gg CO2e)	5021.5	5215.4	5264.5	5302.9	5449.7	6015.4	6083.0	6175.7	5902.9	6072.1	6177.6
TOTAL (net emissions) (Gg CO2e)	4643.9	4833.4	4889.2	4905.8	5055.4	5588.2	5656.2	5752.2	5476.2	5644.6	5750.6

F. Projections of greenhouse gas emissions and removals

1. Overview

Republic of Mauritius' NDC target is to reduce emissions by 40% from BAU scenario in 2030. The projections for BAU were carried out based on the GHG inventory till 2016. As per the projections, net GHG emissions in 2030 including LULUCF will be around 6,900 Gg of CO_2 equivalent. The BAU projections mentioned in NDC used AR2 GWP figures. The same were updated using AR5 GWP figures and the new BAU projection for net GHG emissions in 2030 including LULUCF is around 7,000 Gg of CO_2 equivalent.

2. Projections

A summary of the sector wise projections is provided in Table 25.

Table 25: Summary of the sector wise projections

Category	2016		2022			2025		2030	
	Estimated emissions as per AR2 GWP	Estimated emissions as per AR5 GWP	Estimated emissions	Projected emissions as per AR2 GWP	Projected emissions as per AR5 GWP	Projected emissions as per AR2 GWP	Projected emissions as per AR5 GWP	Projected emissions as per AR2 GWP	Projected emissions as per AR5 GWP
	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}
Energy (non-transport)	3,012	3,016	2,959	3,286	3,533	3,963	3,967	4,317	4,322
Transport	1,169	1,169	1,530	1,206	1,315	1,401	1,439	1,514	1,598
IPPU	311	376	513	402	470	451	528	534	626
Waste	559	746	946	592	795	608	819	636	859
AFOLU	-172	-180	-198	-93	-103	-55	-65	-106	-117

3. Methodology

Republic of Mauritius used the Exponential Smoothing technique to project the overall GHG emissions and reductions till 2030. Exponential smoothing is a time series forecasting method that uses an exponentially weighted average of past observations to predict future values1234. This method assigns more weight to recent observations and less to older observations, allowing the forecast to adapt to changing trends in the data. The technique takes into consideration any seasonality observed in historical data.

The exponential smoothing technique was applied to individual sectors to project the BAU emissions till 2030. Same was also done for the entire country's GHG emissions both with and without LULUCF. The projections were carried out on the total equivalent carbon dioxide emissions. Mauritius' has not done gas wise BAU emission projections.

4. Sensitivity analysis

Sensitivity analysis has not been carried out for the projections.

5. Differences from the projections reported in the NIR

The Republic of Mauritius carried out projection of GHG emissions to estimate BAU scenario till 2030. This projection was done based on GHG inventory till 2016. The 2016 GHG inventory used AR2 GWP values as presented in Table 26.

Table 26: GWP values as per AR2 and AR5

Gas	Second Assessment Report (AR2)	Fifth Assessment Report (AR5)
CO_2	1	1
CH_4	21	28
N_2O	310	265
HFC-23	11700	12400
HFC-32	650	677
HFC-125	2800	3170
HFC-134a	1300	1300
HFC-143a	3800	4800
HFC-227ea	2900	3350

As seen from table above, the GWP of CH_4 witnessed a 33.3% increase in AR5 as compared to AR2, whereas GWP of N_2O witnessed a 14.5% reduction. These change in GWP have resulted in variation in the projected BAU emissions especially for IPPU, Waste and AFOLU sectors where HFCs, CH_4 and N_2O are the major gages emitted. As such a time series correction of the GHG inventory from 2000 to 2016 was carried out using AR5 GWP values. The recalculated emission figures were used to project the BAU scenario emissions till 2030 using the same Exponential Smoothing technique and maintaining same seasonality values. The old figures and recalculate values are shown in table below.

Table 27: Comparison of emission projections as per AR2 GWP and AR5 GWP

Category	2016		2022		2025		2030	
	Estimated emissions as per AR2 GWP	Estimated emissions as per AR5 GWP	Projected emissions as per AR2 GWP	Projected emissions as per AR5 GWP	Projected emissions as per AR2 GWP	Projected emissions as per AR5 GWP	Projected emissions as per AR2 GWP	Projected emissions as per AR5 GWP
	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}
Energy (non-transport)	3,012	3,016	3,286	3,533	3,963	3,967	4,317	4,322
Variation		0.13%		7.52%		0.10%		0.12%

Category	2016		2022		2025		2030	
	Estimated emissions as per AR2 GWP	Estimated emissions as per AR5 GWP	Projected emissions as per AR2 GWP	Projected emissions as per AR5 GWP	Projected emissions as per AR2 GWP	Projected emissions as per AR5 GWP	Projected emissions as per AR2 GWP	Projected emissions as per AR5 GWP
	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}	Gg of CO_{2e}
Transport	1,169	1,169	1,206	1,315	1,401	1,439	1,514	1,598
Variation		-0.01%		9.04%		2.71%		5.55%
IPPU	311	376	402	470	451	528	534	626
Variation		20.90%		16.92%		17.07%		17.23%
Waste	559	746	592	795	608	819	636	859
Variation		33.45%		34.29%		34.70%		35.06%
AFOLU	-172	-180	-93	-103	-55	-65	-106	-117
Variation		4.65%		10.75%		18.18%		10.38%
Total (excluding LULUCF)	5,210	5,458	6,220	6,492	6,653	6,942	7,375	7,691
Variation		4.75%		4.37%		4.33%		4.28%
Net emissions (Including LULUCF)	4,881	5,128	5,682	5,943	6,203	6,487	6,689	6,971
Variation		5.06%		4.59%		4.59%		4.21%

6. Other information relevant to tracking progress made in implementing and achieving its NDC under Article 4 of the Paris Agreement

RoM is currently in the process of developing a comprehensive online Monitoring Verification and Reporting (MRV) portal to track the implementation of the various policy measures and to estimate the mitigation impacts achieved. The online portal will support the country in developing policies backed by actual impact assessment data. It will also help in identifying gap and challenges in implementation, tracking progress against timeline, and assessing the impacts achieved. Other co-benefits of the mitigation projects which support Sustainable Development Goals can also be tracked.

7. Specific flexibility provisions applied

Republic of Mauritius has applied flexibility for the following aspects:

Para 85 of Decision 18/CMA1: Each Party shall provide, to the extent possible, estimates of expected and achieved GHG emission reductions for its actions, policies and measures in the tabular format referred to in paragraph 82 above; those developing country Parties that need flexibility in the light of their capacities with respect to this provision are instead encouraged to report this information.

- *Republic of Mauritius is currently in the process of developing a comprehensive online Monitoring Reporting and Verification (MRV) portal to monitor the implementation of the various mitigation actions under implementation (and/or completed); measure and verify the GHG emission reduction achieved and compare the same with the BAU emissions and the intended impact of the programme.*

Para 95 of Decision 18/CMA1: Projections shall begin from the most recent year in the party's national inventory report and extend at least 15 years beyond the next year ending in zero or five; those developing country Parties that need flexibility in the light of their capacities with respect to this provision have the flexibility to instead extend their projections at least to the end point of their NDC under Article 4 of the Paris Agreement.

- *Republic of Mauritius will consider end of NDC period, 2030 as the endpoint of projections as the policies and measures in place for mitigation actions are all targeted towards 2030.*

Para 102 of Decision 18/CMA1: Those developing country Parties that need flexibility in the light of their capacities with respect to paragraphs 93-101 above can instead report using a less detailed methodology or coverage.

- *To the extent possible, detailed projections of GHG emissions for each sector of the economy for Republic of Mauritius is provided in CO_2 equivalent emissions terms till 2030. However, projections for individual greenhouse gases will be incorporated from BTR2 onwards.*
- *The IPCC 2019 Refinement of the 2006 IPCC Guidelines provides updated methodology and emission factors for estimating GHG emissions from the solid waste and wastewater subsectors within the waste sector. Republic of Mauritius seeks flexibility on the use of the new methodology and emissions factor. Mauritius intends to conduct measurement-based study to check applicability of the revised methodology and emission factors for the waste sector in the country's context. The updated methodology and emissions factors will be used for BTR3.*

8. Information on areas of improvement in relation to reporting

Republic of Mauritius is currently in the process of improving the national GHG inventory by developing tier 3 grid emission factor for electricity generation, tier 3 emission factor for industries, tier 2 methodology for activity data collection in the transport sector and conducting surveys for estimating carbon sink available in privately held forests under the GEF-CBIT project.

In addition to the above activities, there is a need for the country to estimate emission factors for the solid waste and wastewater sector, in line with the methodology in 2019 Refinement of the 2006 IPCC GHG inventory guidelines.

The Climate Change Division, under the MoESWMCC can have a dedicated cell for collection, monitoring and maintaining data related to GHG inventory and MRV of the mitigation actions.

Chapter 3

Information related to climate change impacts and adaptation under Article 7 of the Paris Agreement

Mauritius's First Biennial Transparency Report

under the Paris Agreement

Chapter 3: Climate change impacts and adaptation

Overview

In Mauritius, the National Climate Change Adaptation Policy Framework was developed in 2015 and updated in 2021 which delineated the adaptation policy and sector-wise action plans. The National Climate Change Adaptation Framework identifies the key sectors of priority for adaptation measures include water, infrastructure, agriculture, marine ecosystems, tourism, and human health. From a legal standpoint, the Climate Change Act was formulated and came into force in 2021 which established the different institutions along with their responsibilities. Mauritius submitted its Nationally Determined Contribution (NDCs) in 2015 and updated them in 2021 which more ambitious targets. Along with the updated NDCs, Mauritius has also submitted the Adaptation Communication in 2021 describing the priority sectors for intervention coupled with ongoing and proposed adaptation plans. In 2016, Mauritius submitted the Third National Communication which highlighted the climatic conditions and a comprehensive national greenhouse gas (GHG) inventory. The Biennial Update Report was submitted in 2021 as a follow up to the Third National Communication and thus included updated GHG inventory and key activities from both mitigation and adaptation perspectives. Currently, Mauritius is developing the National Adaptation Plan.

A. National circumstances and institutional arrangements

Mauritius is part of the Small Island Developing States (SIDS) and is majorly impacted by climate change. In recent years, it faced numerous climate-related challenges and disasters cyclones, storm and tidal surges, torrential rains, floods and flash floods, landslides, tsunamis, heat stress. Mauritius recently suffered a flooding event in Port Louis in January 2024 after the passing of cyclone Belal. Similarly, in April 2024, experienced torrential rainfall and flooding. These disasters heavily impacted the country by causing widespread destruction of residential buildings and infrastructure. In financial terms, Mauritius faced economic losses of up to USD 325,000 due to the closure of banks, and agricultural losses of up to USD 7 million. It is projected that in the future the climate-related adversities and the negative impacts associated with them will increase. These would include extreme temperatures, erratic rainfalls, and sea level rise. It is also estimated Mauritius will be a water scarce region by the year 2030. Projections also indicate distortions in climatic conditions like reduced precipitation by 13 per cent by 2050. They also highlight that the island is expected to experience a major increase in hot days and nights, there will be a greater number of days exceeding the temperature of 35 degrees Celsius between November to May by 2050, which will surpass the observed values of 1986 to 2005. The World Risk Report of 2023 ranked Mauritius as 106th out of 193 countries with the highest disaster risk. Geographically as well, Mauritius is located in an active cyclone basin making it more exposed and vulnerable to hazards as compared to other regions. These would have a significant impact on the country and its people thus it is imperative for Mauritius to strengthen resilience and decrease vulnerability by developing and adopting comprehensive adaptation strategies and measures.

Mauritius has various institutional frameworks and arrangements that work in the development and implementation of climate adaptation and overall sustainable strategies. The Ministry of Environment, Solid Waste Management, and Climate Change (MoESWMCC) is a key nodal institution which is responsible for responding to climate change and related issues. The key responsibilities of MoESWMCC entails implementing the provisions of the Climate Change Act of 2020 that also includes mitigation and adaptation strategies along with other ancillary activities such as research, trainings, public awareness. Additionally, since climate-induced risks impact various sectors, other ministries are also involved in taking key responsibilities pertaining to specific sectors or issues. These have been highlighted in the Table 28.

Table 28: Institutional Arrangements and Responsibilities in Mauritius for Climate Adaptation[51]

Institution	Responsibility
Ministry of Environment, Solid Waste Management and Climate Change • Department of Climate Change • Department of Environment • Department of Solid Waste and Resource Recovery	• Climate Change Governance • National Climate Change Adaptation Strategy and Action Plan • National Communications • Capacity Building, Awareness Raising • Environmental Assessment and monitoring • Management of Environmentally Sensitive Areas • Integrated coastal zone management • Sustainable Development • Monitoring of coastal water quality • Beaches and shoreline development
Ministry of Housing and Land Use Planning	• National Land Use Planning • National Development Strategy • Cartography • Housing
Ministry of Blue Economy, Marine Resources, Fisheries and Shipping and the Mauritius Oceanography Institute	• Fisheries and marine ecosystem management and protection • Restoration of coral reefs • Management of Marine Parks • Monitoring of fish stocks • Scientific research on oceanographic science • Bathymetric mapping
Ministry of Agro-Industry and Food Security • Forestry Services • National Parks and Conservation • Food and Agricultural Research and Extension Institute • Mauritius Cane Industry Authority • Irrigation Authority	• Policy and strategy formulation on food security • Forests and national parks management • Vulnerability assessment for small scale farmers • Research for non-sugar agriculture and livestock • Strategic Plan for Food crop and Livestock Sectors • National Biodiversity Strategy and Action Plan • Wetland management and protection • Climate research on sugarcane • Irrigation plans and schemes
Ministry of National Infrastructure and Community Development • Architect Department • Engineering Department • Land Drainage Authority • National Development Unit • Road Development Authority	• Green buildings • Roads network • Drainage programme • Landslide management

[51] Ministry of Finance, Economic Planning and Development, The Republic of Mauritius

Institution	Responsibility
Ministry of Tourism • Mauritius Tourism Authority	• Sustainable development of the tourism industry • Regulation of tourist activities and accommodation and pleasure crafts
Ministry of Energy and Public Utilities • Water Resources Unit • Central Water Authority • Wastewater Management Authority	• Mobilization and Development of Water Resources • Treatment and Distribution of Potable Water • Collection, Treatment and Disposal of Wastewater • Regulate the utility services, namely electricity, water and wastewater
Ministry of Local Government and Disaster Risk Management • Local Authorities • Mauritius Meteorological Services • National Disaster Risk Reduction and Management Centre	• Implementation of land use plans and disaster management • Local infrastructural development • Disaster Risk Reduction & Management • Provision of timely and accurate weather reports, climate services and warnings for hydro-meteorological hazards and tsunamis. • Coordinating body of the Ministry for the planning, organizing, coordinating and monitoring of disaster risk reduction and management activities at all levels.
Ministry of Health and wellness	• Human diseases • Climate-related health
Ministry of Education, Tertiary Education, Science and Technology • University of Mauritius • Mauritius Institute of Education • Rajiv Gandhi Science Centre	• Applied research on agriculture and marine science • Mainstreaming of climate education • Scientific outreach programme
Ministry of Gender Equality and Family Welfare	• Mainstreaming gender in climate change
Ministry of Social Integration, Social Security and National Solidarity	• Promotion and enhancement of social protection and national solidarity • Empowerment of persons with disabilities, elderly persons and local communities to enhance their quality of life.
Ministry of Youth Empowerment, Sports and Recreation	• Awareness raising and implementation of activities on climate related topics
Ministry of Foreign Affairs, Regional Integration and International Trade • Foreign Affairs Division • International Trade Division	• Promote and safeguard national interest of Mauritius • Sustainable development through regional integration • Support sustainable economic growth
Ministry of Finance, Economic Planning and Development (MoFEPD) • Resource Mobilisation Unit • Macro-economic Unit • Statistics Mauritius	• Develop macro fiscal framework and formulate fiscal policy • National Designated Authority • Climate finance strategy • Monitoring of national development processes • Digest of environment statistics

B. Impacts, risks, and vulnerabilities

Climate modelling of up to 2100 for the Indian Ocean region was conducted by Météo–France. The key observation from the assessment indicates temperature and rainfall variability for different scenarios indicating warming trends, reduced precipitation, and high inter annual variability. These are indicated below for Mauritius.

i. Temperature

The temperature analyses and projections indicate a warming trend for Mauritius. Compared to the long term mean of 1961-1990 period, the average temperature has increased by 0.74 to 1.2 degrees Celsius and there is an increase in the average temperature by the rate of 0.15 degree Celsius per decade. The increasing trend of warming is already in action and is maintained from the most optimistic to the worst scenarios, increasing up to 4.7 degree Celsius by 2100. Even by the worst scenario, it is estimated that the occurrence of maximum temperature is more than anticipated.

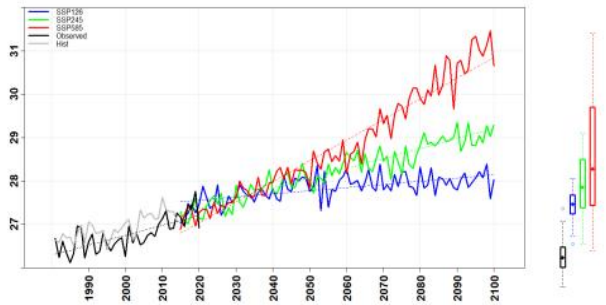


Figure 45 Annual projection on temperature variation

ii. Precipitation

The hydrological cycle of Mauritius has been impacted due to the increase in temperature. While the frequency of wet as well as dry years will increase, there is a rise expected in the daily extreme precipitation by 2100. Another key observation from the modelling indicates that amount of extreme rainfall will not be as high as witnessed in the period of 1981 to 2010, however, the frequency is likely to increase in the coming years.

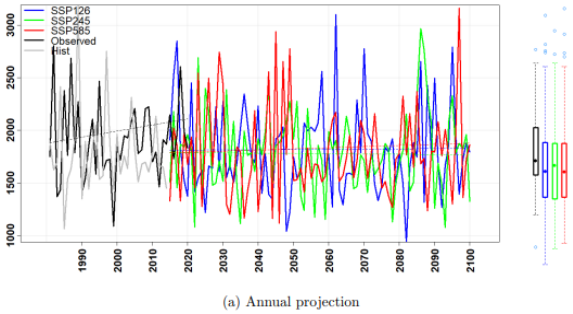


Figure 46 Annual projection on precipitation

iii. Drought

As indicated earlier, the likelihood of dry spells and years is also expected to increase in the future. After the 1990s, the frequency of dry spells increased due to erratic rainfall trends. This led to severe droughts in 1999, 2009, and 2011. The drought of 1999 impacted the economic sectors with a total estimated loss of USD 160 million in the sugarcane industry. Similar impacts are expected in the future as well.

iv. Sea Level Rise

In Port Louis, during 1998 to 2007, the estimated mean sea level rise was at a rate of about 2.1 mm/year (ARTELIA, 2020). The sea level has been rising at an accelerated speed since 2003, with the average rate being 5.6 mm/per year in Mauritius and 9.0 mm/year in Rodrigues (Republic of Mauritius, 2016). The alarming factor about this is that these data points for Mauritius and Rodrigues are much higher than the global estimated rising sea level which were 3.2 mm/year in 1993 to 2015 and 3.6 mm/year in the period of 2006 to 2015 (Oppenheimer et al., 2019). Sea level rise have major implications on the coastal ecosystem and the coastline. It is estimated that beaches around coastal areas have shrunk up by at least 20 m over that last decades due to accentuated beach erosion. For Mauritius, 17 per cent of the coastline has eroded during 1967 to 2012 which accounts to about 13 km of the coastline (JICA). The deterioration of natural asses like beaches could have implications on key sectors like tourism (along with hospitality industry) which contributes to almost 24 per cent of the GDP, with a possibility of losing USD 50 million in value by 2050 (INDC, 2015). The projections highlight a rise of sea levels by an average of 0.43 m under RCP 2.6 and 0.84 m under RCP 8.5 scenario.

v. Cyclones

During 1960 to 2009, the average number of cyclones have doubled in Mauritius (ARTELIA, 2020), while some preliminary projections indicate the intensification of cyclones during shorter periods. Torrential rainfall is usually the associated hazard along with cyclones and it is estimated that during 1990 to 2014, it accounted for about 32.7 per cent of nationally reported losses particularly in terms of mortality. The climate and disaster risk profile of Mauritius highlights that the country is expected to suffer USD 91 million in direct losses from flooding, storms, strong winds, associated with cyclones and around 50 per cent of the losses would originate from residential sector and around 30 per cent from commercial sector. The WB-GFDRR, 2016 estimates almost USD 21 million as annual emergency costs for cyclones. This coupled with an estimated loss of USD 1.9 billion due to tropical cyclones would impact the economy severely.

vi. Floods and Flash Floods

The occurrence of flash floods has increasingly become more frequent and rampant in Mauritius in recent past. For example, unprecedented levels of torrential rains and flash floods of about 408 mm in 24 hours were experienced in the southern part of Mauritius in April 2021. It is estimated that there were around a total of 128 flooding cases in the year 2019, while the long term means values of precipitation exceeded by about 296 per cent in January, 120 per cent in March, and 186 per cent in April of 2018. More recently in April 2024, Mauritius experienced one of the worst cases of flooding which led to significant damage along with collapse of several residential buildings and closure of economic activities. According to the disaster and risk profile of Mauritius, the yearly estimated direct loss from flooding is expected to be USD 22 million, where 22 per cent would originate from the residential sector and 20 per cent from commercial sector. It is estimated that more than USD 5.2 million of average annual emergency costs would be required for flooding and the WB-GFDRR, 2016 indicates a 100-year forecasting of a loss of USD 150 million caused by flooding.

vii. Landslide

Landslides also are a probable hazard mainly caused by erratic rainfall patterns and many areas have been identified as high-risk areas for the same. This along with other factors including reduction vegetation cover and dangerous constructions on sloppy areas increases the risk further.

Mauritius is one of the most successful countries in Africa with second highest GDP in the region and is the largest exclusive economic zone. It well connected globally and relies on sectors like tourism and hospitality along with other key sectors. Yet, a large number of the population relies on natural resources present in the country through activities such as subsistence agriculture, fishery, and other small tourism related enterprises. As a small island, Mauritius remains highly vulnerable to the adverse impacts of climate change posing a threat to its sustainable development initiatives and achievement of national development goals and objectives. An assessment was undertaken to understand the major impacts of climate and risks across the vital sectors in Mauritius, which is highlighted in Table 29.

Table 29: Overview of key climate impacts and risk across six sectors in Mauritius[52]

Sector	Climate Impacts	Risks to Sustainable Development
Water Resources	▪ Decrease of annual rainfall ▪ Increase in extreme precipitation ▪ Increased run-off and evapotranspiration	▪ Water scarcity: Utilizable water resource to decrease by 13% by 2050. Mauritius to become water scarce region by 2030[53]

[52] National Climate Change Adaptation Policy Framework (2021)

[53] In Mauritius, approximately 50% of all potable water abstraction is from coastal aquifers, making the issue of saltwater intrusion even more pronounced

Sector	Climate Impacts	Risks to Sustainable Development
Agriculture	▪ Rising temperatures → shifts in agricultural zones and lower crop productivity and increases in pests and crop disease ▪ Increased rainfall variability → impact on crop development (drought and flooding damage)	▪ Decreased food security, in particular for poor household relying on subsistence farming and with low capacity for investments ▪ Decreased yield of key cash crops – e.g. projected sugar cane yield reduction of up to 48%
Fisheries/blue economy	▪ Increased sea temperature → coral bleaching, algal bloom and changed biodiversity ▪ Increased run-off and sedimentation in lagoons ▪ Increased cyclonic activity	▪ Reduced food security through: ▪ -Lower total catch size[54] ▪ - Increased toxicity of fish catch (algae related) ▪ - Cyclones preventing fishermen going to sea and destroying boats and equipment
Coastal areas	▪ Sea level rise and increased cyclonic activity →temporary coastal flooding and accelerated beach erosion.	▪ Reduced income potential from tourism (up to US$ 50 million/year by 2050)[55] ▪ Loss of coastal infrastructure
Health	▪ Extreme weather events ▪ Heat ▪ Flooding and drought	▪ Direct health impacts of extreme weather events ▪ Increases in water-borne and vector-borne diseases ▪ Nutritional impacts of food and water scarcity
Infrastructure	▪ Extreme weather events ▪ Flooding ▪ Sea level rise	▪ Loss of critical infrastructure, including housing, roads and coastal[56].

C. Adaptation priorities and barriers

Mauritius has been active in setting up objectives plans for key sectors to mainstream adaptive measures in national strategies. However, there are still various barriers that hinder this process. Some of these are mentioned below.

Lack of Adequate Adaptation Planning

Mauritius still is in the process of developing a comprehensive and cross-cutting National Adaptation Plan. Due to the lack and unavailability of complete and comprehensive vulnerability assessments across the identified key sectors, there has been a delay and lack in sufficient planning. Various initiatives and activities are currently ongoing or in the late stages of preparation, yet they do not fully focus on the specified needs of a broader NAP. The usage and adoption of different techniques and methodologies along with different time perspectives poses

[54] During the 21st century, under high emission scenario, the habitat of tropical tuna in the Indian Ocean will gradually shift outside the equatorial regions, to the south (10°S – 30°S), compared to now (10°N - 10°S), thus decreasing the access to tuna in the Mauritius Exclusive Economic Zone.

[55] The coastal zone of the Republic of Mauritius is a valuable national asset with an estimated total annual economic value of USD 33 million (in 2010). According to the third national communication, a projected increase in the mean annual temperature increase, coupled with beach erosion, could lead to a reduction in tourist arrivals accounting for a revenue loss of at least USD 50 million/year by 2050.

[56] The Port Louis harbor, e.g., has been identified as highly vulnerable and is likely to be significantly impacted by storm surges and rising sea levels. This will have severe impact on maritime connectivity and shipping.

a challenge. A comprehensive assessment would enable the development of NAP and sectoral adaptation master plans to help mainstream adaptation into climate strategies.

Inadequate Coordination of Adaptation Initiatives

A lot of the projects and initiatives that are ongoing and even completed ones have been funded by different donors and a lot of time they are not clearly coordinated across donors or sectors and are also not part of the national process to support the development of NAP. The role of the National Climate Change Committee remains restricted despite being the entry point for coordination of adaptation measures. Unavailability of a common reference point such as the NAP, restricted understanding on mainstreaming climate change into sectoral plans amongst line ministries are some of the reasons for it. Additionally, despite the establishment of MauRegistry, an online platform to track NDC action plan, the lack of indicators on adaptation and limited understanding of it makes it difficult for data custodians to populate.

Capacity Constraints

The technical staff still operate on limited capacity and understanding when it involves undertaking risk modelling and vulnerability assessments for climate adaptation. There is no systems approach towards adaptation planning and no strategic framework to encourage and support research and technology needs and requirements for adaptation planning.

Limited Understanding and Consolidation of Risks and Vulnerabilities in Sectors and Cross-Cutting Issues in Rodrigues

Rodrigues holds an autonomous status and has its own unique microclimate as well as ecological and demographic settings, making it an entirely different economic set up as compared to Mauritius. Sectoral assessment of Mauritius may miss or not adequately represent the vulnerabilities and adaptive requirement for Rodrigues. The lack of systematic collection of data makes it more difficult to undertake scenario modelling and assessments.

Barriers to Mobilising the Private Sector

The involvement of the private sector is crucial in driving and implementing adaptive measures in the economy. However, there remains a lack of motivation and perspective in the private sector regarding this. Private investment in adaptation measures and the understanding of climate-induced risks on businesses remains low amongst industry players.

Gaps and Barriers to Prioritising Adaptation Options

Due to limited financial resources and funds, there is a critical requirement to assess, consider, and prioritise the identified adaptation measure. At present, Mauritius lacks a clear process of institutional setting and mandate, or methodology for undertaking cross-sectoral exercises that can rank the adaptation priorities, that is preventing the targeting of resources that are available to the most impactful national adaptation investments.

D. Adaptation strategies, policies, plans, goals and actions to integrate adaptation into national policies and strategies

The adaptation priorities of Mauritius have been elaborated in the National Climate Change Adaptation Policy Framework (NCCAPF) which are based on the climate projections and the current climate situation. Specific policy measures have been developed for the key priority sectors and are mentioned below.

Water

Water is a key sector in Mauritius and several adaptive measures have been identified for it. This primarily entails improving forecasting while at the same time improving the quality of water resources along with better

management and protection practices. It also involves the upgradation or building of new treatment facilities and reservoirs that facilitate the reduction of water losses in the distribution systems. Rainwater harvesting can be encouraged and improved through the procurement and installation of rainwater harvesting systems coupled with improvements in the policy, legal, and regulatory landscapes in Mauritius and Rodrigues. Setting up of desalination plants especially in Rodrigues is also one of the key identified measures.

Infrastructure

Since infrastructure in Mauritius remains highly vulnerable to natural calamities and climate-induced hazards, the overall objective is to understand the disaster risks by enhancing knowledge base related to climate-risks to local communities. Key adaptive measures include improving disaster preparedness and response mechanism, developing and implementing efficient and robust disaster risk strategies, enhancing governance to build and strengthen resilience. It also implies increasing investments in resilience to reduce vulnerabilities to hazards and disaster risks.

Agriculture

Building resilience in agriculture would have major and positive implications on the overall economy of Mauritius. Some of the recommended measures include devising strategies and policies to facilitate the uptake of Integrated Pest and Disease Management (IPDM) practices and examining regulatory frameworks that can encourage the upscale of IPDM technologies as well monitor or regulate the usage and disposal of pesticides. Establishing resilient production systems by developing and adopting climate-smart agriculture and adopting better and efficient irrigation techniques would further climate-proof the sector. It is also critical to build knowledge on climate change risks and their subsequent impact on communities particularly for agriculture sector.

Coastal Ecosystem

Protecting the coastal ecosystem involves generating and enhancing awareness regarding the risks associated with climate change on the coastal zones and ecosystems. It also requires development of storm surge models that can assess the vulnerabilities like coastal inundation and accordingly prepare relevant hazard maps. The proposed measures also include development and implementation of an integrated approach along with other sectors like biodiversity and forestry while also strengthening the regulatory framework of protecting beaches, dunes, and vegetation.

Marine and Terrestrial Biodiversity Resilience

The adaptive measures include improving the management of marine and terrestrial protected areas as well as the expansion of protected area network. This would entail rehabilitation of mangroves, wetlands, coral reefs, seagrass, as well as increasing the tree coverage area. For Rodrigues, it entails developing sustainable landscape management along with nature-based solutions and ecosystem-based adaptation.

Human Health

The health sector requires the mainstreaming of climate adaptive practices and measures especially with the growing population. It is essential to generate awareness amongst communities regarding the climate-induced hazards and risks on human health and the ways to combat them. Thus, building an effective communication and awareness strategy is critical. Measures to also enhance surveillance of climate-related diseases are also suggested. It is imperative to devise and implement a decentralized alert and rapid response mechanism.

Along with the measures developed for the key sectors, there are several initiatives that the government has been undertaking at the national and local levels, which are enlisted below.

- Mauritius Renewable Energy Agency Act of 2015.
- The National Disaster Risk Reduction and Management Act of 2016.

- Land Drainage Authority Act of 2017.
- Local Government (Amendment) Act, 2018.
- Mauritius Meteorological Act, 2019.

E. Progress of implementation of adaptation

The Republic of Mauritius has been actively undertaking and implementing projects and initiatives on adaptation to build resilience against climate-induced impacts and hazards. It has been receiving financial support and assistance from international development agencies (IDAs) mostly in the form of bilateral grants to implement adaptive measures. Funding is received from different donors like Green Climate Fund (GCF), Global Environment Facility (GCF), Adaptation Fund (AF), Agence Francaise de Developpement (AFD), and Global Climate Change Alliance (GCCA+).

Financial support has also been provided by regional blocs like the European Union as well as through the Danish government through the UNEP CCC. Most of the projects pertaining to adaptation and building resilience are in their implementation stages. The initiatives are cross-cutting in nature and take into consideration the key sectors of Mauritius including agriculture, water, infrastructure, coral restoration, tourism, and health. Findings from various initiatives like building resilient health systems, strengthening science-based decision making, climate vulnerability & adaptation study, strengthening meteorological & hydrological climate services, study of coastal risks, restoring marine ecosystem services, will form the basis of developing the NAP.

F. Monitoring and evaluation of adaptation actions and processes

The Inter-Ministerial Council on Climate Change was established under the Climate Change Act of 2020. The council includes the Prime Minister as the Chairperson along with the respective Ministries that are responsible for specific sectors and issues such as agriculture, commerce, marine resources, health, infrastructure, among others. The role of the Council is to develop, set objectives at the national level along with specific goals and targets with the aim to build and strengthen resilience in Mauritius.

The role of the Council is also to review progress and monitor different departments of the government on climate change objectives and programmes while ensuring coordination between different levels of government. The secretary of the Council is the Director of the Department of Climate Change and the issues that require higher levels of deliberations and interventions are brought to the attention of the Council.

G. Information related to averting, minimizing and addressing loss and damage associated with climate change impacts

A study on “assessing and managing loss and damage in two cities” for the duration of eighteen months from 2024 to 2025 has been approved with the budget of USD 75,000. The aim of the study would be to consider the existing climate risks aby analysing the climate risk assessments to understand the loss and damage aspects. The implementation of loss and damage plans related to floodings, landslides, heatwaves, and droughts would be prepared for two locations, where one of which will be Port Louis. The outcome of this would be closely monitored and the developed NAP would ensure that it is aligned with any specific loss and damage plans developed.

H. Cooperation, good practices, experience and lessons learned

There has been a lot of learning through the experiences of developing and implementing projects and initiatives on climate adaptation. Some of the key challenges faced include the issues pertaining to procurement especially the lack of data and the unavailability of experts and expertise in relevant areas. For regional projects, issues pertaining to knowledge sharing and exchanges posed by other participating countries led to restricted availability of knowledge. Some of the lessons learned and suggestions made include ensuring synergy amongst stakeholder for smoother operation and implementation of projects. Enhancing capacity in the

ministries, beneficiaries, and other stakeholders is crucial from the beginning of the project stage. For regional projects, suggestions have been made to tackle the issue of knowledge sharing up front instead of addressing them at the implementation stage as well as taking into account the local and specific contexts for each country in the region at the proposal development stage itself. Collaborative and participatory approaches including contributions from government institutions, NGOs, private sector, amongst others, have proven to be beneficial to ensure better implementation. Benefits have also been observed from including activities that aim at enhancing knowledge and education and raising awareness in the public.

Donor Funded projects

Republic of Mauritius has received funding from various donor agencies to implementation adaptation related projects and details are provided in Chapter 4.

Chapter 4

Information on financial, technology development and transfer and capacity-building support provided and mobilized under Articles 9–11 of the Paris Agreement

Mauritius's First Biennial Transparency Report

under the Paris Agreement

Chapter 4: Financial, technology development and transfer and capacity-building support

Overview

This chapter provides information on the financial support received by Republic of Mauritius for undertaking various adaptation and mitigation activities and capacity building support received from various bilateral and multilateral donor agencies. It also provides information on the support required by Mauritius.

A. National circumstances and institutional arrangements

Project Steering Committee under the chair of the Permanent Secretary of the Ministry of Environment, Solid Waste Management and Climate Change (Environment and Sustainable Development Division) has been set up to provide guidance in terms of the process leading to political and stakeholder acceptance of BTR outcomes and to provide overall quality assurance for the final deliverables of the project, namely the BTR and NIR reports.

A Project Technical Committee under the chair of the Director of Climate Change was set up to provide leadership to the BTR process and to deal principally with all technical aspects of the BTR/NIR and to support the work of the different Technical Working Groups (TWGs).

Five TWGs have been established to oversee the implementation of climate change activities in the various key sector. The scope of the fifth TWG is to identify constraints and gaps, and related financial, technical and capacity needs / technology transfer & development/ capacity building needs of Mauritius. The details of the fifth TWG are given in table below.

Table 30: Table showing governance structure for assessing the financial, technology development and transfer and capacity building support needed and received.

Financial, Technology Development and Transfer and Capacity Building Support needed and received • **Ministry of Finance, Economic Planning and Development - Co –chair** • **Academia (UdM): Co –chair**
• MoESWMCC (DCC) • Mauritius Research & Innovation Council **Sub-chairs of GHGI/NDC Tracking** • Central Electricity Board (Chair – GHGI/MM (Energy: non-Transport) • MLTLR (Chair- GHGI/MM (Energy: Transport) • MESWMCC (National Ozone Unit) (Chair) - GHGI/MM (Industrial Processes & Product Use) • Solid Waste Management Division (co-Chair - GHGI/MM (Waste) - Solid & Liquid Wastes) • Wastewater Management Authority (co-Chair- GHGI/MM (Waste) - Solid & Liquid Wastes) • MAIFS (Forestry Service) (co-Chair) GHGI/MM (Agriculture, Forestry and Other Land Use) • MAIFS (Food and Agricultural Research and Extension Institute) (co-Chair) GHGI/MM (Agriculture, Forestry and Other Land Use) **Sub-chairs of VA&A** • MAIFS (Agricultural Services) (Chair - VA&A Agriculture) • MBEMRFS (Chair- VA&A Fisheries and Marine Ecosystem and Biodiversity) • National Parks and Conservation Services (Chair - VA&A Terrestrial Ecosystem and Biodiversity) • Ministry of National Infrastructure (Engineer/Architect) (Chair - VA&A Infrastructure) • Ministry of Health and Wellness (Chair - VA&A Human Health) • Continental Shelf (MSP) (co-Chair - VA&A Coastal Zone) • MESWMCC (ICZM) (co-Chair - VA&A Coastal Zone) • WRU (Chair - VA&A Water)

Financial, Technology Development and Transfer and Capacity Building Support needed and received • **Ministry of Finance, Economic Planning and Development - Co –chair** • **Academia (UdM): Co –chair**
• Ministry of Tourism and Leisure (Chair - VA&A Tourism)

B. Underlying assumptions, definitions and methodologies

Republic of Mauritius is currently not tagging and recording information separately on finance received and technology transfer. As such, all donor support received is covered under financial support received under Article 9 of Paris Agreement.

C. Information on financial support needed and received under Article 9 of the Paris Agreement

1. Overview

Republic of Mauritius has received bilateral and multilateral financial support for activities related to adaptation and mitigation. From 2017 onwards, Mauritius has received 118.05 million USD both as grant and loan from various donor agencies. Of this, USD 46.3 million was for Adaptation activities and USD 71.7 million for mitigation activities under Article 9 of Paris Agreement.

In its Second NDC submitted to UNFCCC, Mauritius mentioned that total financial needs to implement the NDC targets are estimated at USD 6.5 billion. The total needs for implementing the mitigation and adaptation actions identified in the NDC are estimated respectively at USD 2 billion and USD 4.5 billion. The share for the unconditional and conditional contributions for the USD 6.5 billion is as follows:

a. Unconditional amount of USD 2.3 billion (from government and private sector) representing 35%; and
b. Conditional amount of USD 4.2 billion (from international sources and donor agencies) representing 65%.

Based on the information submitted to UNFCCC in the NDC, Republic of Mauritius requires USD 200 million per year for mitigation activities and USD 500 million per year for adaptation activities. Based on source of funding, USD 470 million is required per annum from bilateral and multilateral donor agencies. Considering the period from 2022 till 2024 (3 years considered as NDC was submitted in October 2021), financial support of USD 1.41 billion was required by Republic of Mauritius to implement adaptation and mitigation activities to meet NDC target. Of this, only USD 0.118 million, representing 8.4% of the requirement has been mobilized till December 2024.

2. Contribution by type of support

Republic of Mauritius received financial support of USD 118.05 million from 2017 till Dec 2024. Of this, 11% representing USD 12.44 million were loan and remaining 89% representing USD 105.6 million were grant. Loans were provided by Abu Dhabi Fund and African development Bank for renewable energy integration projects.

3. Contribution by channels

The donor agency wise support received by Mauritius from 2017 onwards is shown in table below.

Table 31: Agency wise funding support received by Mauritius from 2017 onwards

Agency	Amount (USD mn)
Green Climate Fund	38.51

Agency	Amount (USD mn)
Global Environment Facility	37.35
UNEP CCC - Danish Government	0.13
Adaptation fund	4.44
Agence Française de Développement	9.20
UNDP Climate Promise	0.27
European Union	13.15
Global Climate Change Alliance (GCCA+) and European Union	2.26
United Kingdom	0.25
Southern African Development Community (SADC)	0.05
Abu Dhabi Fund	10.00 (Loan)
African Development Bank	2.44 (Loan)
Total	**118.05**

The details of funding received for various mitigation activities along with associated donor agency is provided in table below.

Table 32: Details of the financial support received from donor agencies for mitigation projects

Funding Agency	Project Title/Objective	Date Approved	Funding Amount (USD)
Green Climate Fund (GCF)	Accelerating the Transformational Shift to a low carbon Economy in the Republic of Mauritius (through UNDP)	Project approved on December 2016	28210000.00
	Readiness and Preparatory Support Programme - Strengthening of the institutional capacities of the NDA	Project approved on 15 February 2019	300000.00
	Nationally Appropriate Mitigation Actions for Low Carbon Island Development Strategy (NAMA)	Project approved on 11 July 2016	1452000.00
	Strengthening the national greenhouse gas inventory of the Republic of Mauritius to improve climate reporting and transparency (CBIT)	Project approved on 03 June 2021	1269850.00
	Realising energy savings and climate benefits of implementing mandatory energy auditing in coordination with HCFC phase-out and HFC avoidance	Project concept approved on 01 May 2017	4532164.00
	Implementing Sustainable Low and non-Chemical Development in SIDS (ISLANDS)	Project Document approved on December 2021	4500000.00
	Promoting Low-carbon Electric Public Bus Transport in Mauritius	Project approved on 06 January 2022	5600607.00
	Accelerating the transition to a net-zero, nature-positive economy in Mauritius [Accelerating the greening of the manufacturing sector for a sustainable Mauritius]	Project concept note approved on 23 June 2023	3286913.00

Funding Agency	Project Title/Objective	Date Approved	Funding Amount (USD)
	Mainstreaming Nature-based Solutions in land-use systems for productive and resilient ecosystems [Scaling up of Agro-Forestry System]	Project concept note approved on 23 June 2023	8406484.00
UNDP Climate Promise	Review of INDC	Project approved in July 2021	300000.00
European Union	Mauritius from Ridge to Reef – Restoration of the native forest cover (including mangroves) as part of an integrated sustainable landscape management initiative to enhance the climate resilience of natural ecosystem, augment carbon sequestration.	Awaiting the signature of Financing Agreement. (EUR 4,000,000)	4720000.00
European Union-Switch Africa	Improving Sustainable Tourism in Mauritius Through Greening the Value Chain of Tour Operators (SUS-ISLAND)	Project approved on May 2018. (EUR 1,200,000)	1405714.00
	Greening of Public sector	Project approved in 2021. Received as technical assistance.	
African Development Bank	Gas Insulated Switchgear (GIS) substations. (The purpose of the loan is to undertake the necessary network expansion investments that will enhance the reliability of the national grid and permit the installation, interconnection, and absorption by the national power system of the envisaged additional renewable energy generating facilities)	Loan approved on 21 July 2023.	2,444,444.00

On the adaptation side, the details of support received, and activities undertaken are provided below.

Table 33 Resources Mobilised from International Funding Agencies for adaptation projects from 2016 to 2024

No	Funding Agency	Project Title/Objective	Date Approved	Funding Amount (USD)	Funding in MUR*
1	Green Climate Fund (GCF)	Climate Change Vulnerability & Adaptation Study for the Port of Port Louis (CTCN)	Project approved on 30 March 2017	324,764.00	12,990,560.00
2		HYDROMET Project - Building Regional Resilience through Strengthened Meteorological, Hydrological and Climate Services in the Indian Ocean Commission Member Countries	Funding proposal approved by GCF Board on 06 April 2021. Rs 2,856,000,000 for IOC. Mauritius component is assumed at USD 12,500,000	12,500,000.00	500,000,000.00

No	Funding Agency	Project Title/Objective	Date Approved	Funding Amount (USD)	Funding in MUR*
3		Building Climate -resilient health systems in Mauritius	Approved by GCF	429,127.00	19,310,715.00
4		Strengthening science-based and climate-informed decision-making processes in Mauritius climate-sensitive sectors for impactful and cost-effective climate change programming	Project approved on 04 November 2022	590,000.00	26,550,000.00
5		Readiness and Preparatory Support Programme - Advancing the agriculture, water and energy pipeline, with increased awareness of key stakeholders and strengthening capacities of the NDA and direct access applicants in the Republic of Mauritius	Recently approved by GCF	749,489.00	33,727,005.00
6	Global Environment Facility (GEF)	Mainstreaming Biodiversity into the Management of the Coastal Zone in the Republic of Mauritius	Project approved on 30 March 2016	4,664,521.00	186,580,840.00
7		Mainstreaming Invasive Alien Species (IAS) Prevention, Control and Management.	Project Approved on 27 June 2019	3,888,265.00	155,530,600.00
8		Mainstreaming Sustainable Land Management and Biodiversity Conservation in the Republic of Mauritius	Project approved on 02 July 2020	1,699,204.00	67,968,160.00
9		Preparation of the Fourth National Communication (NC4) for the Republic of Mauritius under UN Framework Convention on Climate Change (UNFCCC)	Project Cooperation Agreement signed between this ministry and UNEP on 23 July 2020	500,000.00	20,000,000.00
10	UNEP CCC - Danish Government	Piloting Loss and Damage methodology in two cities for the Development of local and national plans	Project recently approved - Duration is 18 months	75,000.00	3,375,000.00
11		Undertake assessment and prepare an implementation plan for a nature-based solution to address urban heat and flooding for an area of the target city	Project recently approved - Duration is 18 months	50,000.00	2,250,000.00

No	Funding Agency	Project Title/Objective	Date Approved	Funding Amount (USD)	Funding in MUR*
12	Adaptation Fund	Restoring marine ecosystem services by restoring coral reefs to meet a changing climate future	Project approved on 15 December 2018	5,000,000.00	200,000,000.00
13	AFD	Study on coastal risks assessment for Mauritius and Rodrigues Bureau de Recherches Géologiques et Minières (BRGM)	Study on coastal risks assessment for Mauritius and Rodrigues by BRGM/AFD FEXTE Etude littoral (CMU1091) was signed on 15 February 2022. (EUR 1000 000)	1,080,000.00	48,600,000.00
14		Faciliter 2050 - Building A Shared “Vision 2050” For A Climate-Resilient and Carbon-Neutral Country By 2050	Agreement signed on 14 July 2022 for the amount of EUR 1100000	1,188,000.00	53,460,000.00
15		Adapt’Action 1 Programme - Land drainage masterplan and coastal vulnerability assessment at 6 sites and technical assistance for disaster risk management	2,000,000 Euros. Signed on 12 December 2017	2,160,000.00	90,000,000.00
16		Support in project preparation in water sector (FAPS)	EUR 500,000.00 Signed on 22 July 2024	540,000.00	22,500,000.00
18		**Subvention en accompagnement du prêt de politique publique eau** Funding is used to prepare the water sector masterplan to enable Mauritius to face new challenges, including climate change. In addition, it will be used to improve quality of water supply in Mauritius and Rodrigues and improve capacity of institutions.	Project approved on 01 December 2023. (EUR 1,520,000). In addition, technical support of Euro 480,000 has been provided as support to MEPU and RRA in the water sector	2,160,000.00	97,200,000.00
19		**Protocole D’entente pour la mise en oeuvre de L’Accord de Paris sur le climat** for a grant of Euro 800,000 under AdaptAction Phase II programme AdaptAction II - The programme aims to manage	Project approved on 26 February 2024. (EUR 800,000)	864,000.00	38,880,000.00

No	Funding Agency	Project Title/Objective	Date Approved	Funding Amount (USD)	Funding in MUR*
		rainwater and control flooding			
20		**Convention de Partenariat Fexte Tripartite for a grant of Euro 1.3 million** The Convention de Partenariat Fexte Tripartite, it was entered into by MOFEPD, the Rodrigues Regional Assembly (RRA), the AFD and the Bureau De Recherches Geologiques et Minieres. The objective of this technical assistance is to conduct hydrological surveys in Rodrigues to improve underground water resource management.	Project approved on 26 February 2024. (EUR 1, 300,000)	1,404,000.00	63,180,000.00
21	European Union	Institutional Gaps and Needs Assessment to operationalise the Climate Change Act 2020		112,320.00	5,054,400.00
22	European Union - Climate Smart Agriculture	The objective is to increase the capacity of vulnerable non-sugar planters and key stakeholders in developing climate smart agriculture in Mauritius and Rodrigues.	Financing Agreement signed on 10 March 2017. (EUR 3,000,000)	3,514,286.00	140,571,440.00
23	European Union-Global Monitoring for Environment and Security (GMES) and Africa Support Programme	The objective is to focus on monitoring and forecasting of Physical and Biological oceanography variables, fishing zones monitoring and protection, aquaculture site monitoring and protection, coastal Ecosystem Mapping, Coastal vulnerability, three day's Marine Weather forecast.	Project approved on 12 July 2018. (EUR 1,400,000)	1,640,000.00	65,600,000.00
24	European Union - DeSIRA initiative	The Overall Objective of the project is to foster innovation in agriculture to raise national food security	Project Concept Note approved on 21 Dec 2018. Full Application form to	3,514,286.00	140,571,440.00

No	Funding Agency	Project Title/Objective	Date Approved	Funding Amount (USD)	Funding in MUR*
		and safety in the context of sustainable development and to contribute to reducing poverty and vulnerability	be submitted by 31 March 2019. (EUR 3,000,000) Project Completed		
25	Global Climate Change Alliance (GCCA+) - European Union	Improving the resilience of small holders in the agricultural sector to climate change	Project approved for an amount of EUR 568,870.40	671,267.07	26,850,682.88
26		Setting up of an integrated organic chilli farm at Montagne du Sable and a lime and Honey farm at Anse Ali		1,180,000.00	47,200,000.00
27		Transformation of Belle Mare into a Climate Smart Agriculture Village for Climate Resilience, Food Security and Poverty Alleviation of its Farmers	Project approved for an amount of EUR 301,695.25	356,000.40	14,240,015.80
28		Supporting Climate Smart Agriculture for smallholders in the Republic of Mauritius • Technical assistance for studies and feasibility studies	Project approved for an amount of EUR 280,000	330,400.00	13,216,000.00
29	United Kingdom	UK Small Islands Developing States Capacity and Resilience Programmes (SIDAR)**	Project approved on 18 October 2023 for an amount of GBP 207,750	250,000.00	11,250,000.00
30	Southern African Development Community (SADC) - RVAA Programme	Mauritius Vulnerability Assessment and Analysis Committee (MVAC) - Vulnerability Assessment in the Agricultural Sector	Project approved on 28 September 2020 for USD 105,000. Actual amount received USD 47,000.	47,000.00	2,115,000.00

In addition to the above-mentioned projects, few additional adaption related projects were also implemented in Mauritius and same is given below.

I. GEF Projects

a. Support for the National Reporting Process of the United Nations Convention to Combat Desertification (UNCCD)

The GEF has provided UNCCD with USD 63,000 with the objective of enabling Country parties to collect necessary biophysical and socioeconomic data, establish sound reporting and monitoring systems at the national level, and report against the United Nations Convention to Combat Desertification (UNCCD) Strategy.

One of the components of the projects includes raising of awareness for land degradation and sustainable land management. In 2023, a workshop was held to build capacity and train stakeholders for data collection and in Geo-spatial analysis tool. A three-day mission was also conducted for Rodrigues for stakeholder training and validation workshop was held in June 2023. The final report has been submitted to the UNCCD secretariat by the Forestry Service.

b. Strengthening National Level Institutional and Professional Capacities of Country Parties Towards Enhanced UNCCD Monitoring and Reporting

The GEF has provided financial support of USD 90,000 to the project on strengthening national level institutional and professional capacities of country parties towards enhanced UNCCD monitoring and reporting. The Forest Service is the National Focal point of the UNCCD for Mauritius.

c. Land Degradation Neutrality Target Setting in Mauritius

Mauritius was one of the countries to commit to set up national voluntary land degradation neutrality (LDN) targets and establish a national baseline and formulate a National Baseline. The project was from 2017 to 2018 and including identification of potential land degradation hotspots. An inception workshop was held on 11th May 2017 and a validation workshop was held on 20th April 2018 and the final draft report was submitted in June 2018.

II. UNESCO Projects

a. Man and Biosphere (MAB) Programme Mauritius 2022- 2023

The MAB programme for Mauritius provides a means of support to activities related to conserving biodiversity, restoring and enhancing ecosystem services, and fostering the sustainable use of natural resources. The UNESCO provided funding of USD 18,000 for the implementation of the activities under this programme, which included knowledge-enhancement through workshops and the distribution of awareness-raising materials. A workshop was hosted by the Forestry Service in November 2023 on ‘Laws governing the Biosphere Reserves’.

III. FAO Projects

a. Enhancing rural livelihoods and agriculture productivity through agroforestry development in Mauritius development in Mauritius

The FAO provided a funding of USD 371,000 to enhance the livelihoods of people through identifying, testing and adopting good agroforestry options in underutilized/abandoned agricultural land and promoting agroforestry enterprises. The project was implemented by the Ministry of Agro-Industry and Food Security/ Forestry Service with a duration of two years from June 2021 to May 2021. However, due to the pandemic the project was extended to December 2021 with the validation workshop being held on 16 December 2021. The key outputs of the project included:

- Building of knowledge on the status of underutilised and abandoned agricultural land
- Developing agroforestry technologies/options at various demonstration sites
- Developing a National Action Plan for the upscaling of agroforestry on underutilised/abandoned agricultural land
- Building and raising capacity and awareness for promotion and adoption of agroforestry

b. SADC Great Green Wall Initiative (GGWI) Project 2023

This is an African partnership that aims at stopping and reversing trends in degradation, desertification, climate change and loss of biodiversity. The FAO is supporting the SADC Secretariat for developing the

National Action Plan per country aligned with the GGWI strategy. Mauritius as part of the SADC and is supported in preparing the NAP. The focus is on restoring productive landscapes for the provision of ecosystem services and resilience against climate shocks. The project began in August 2023 and a National Specialist was recruited to develop the NAP and a validation workshop was held on 30 November 2023 at Labourdonnais Waterfront Hotel in collaboration with the FAO. Post the workshop, the NAP was submitted to the Ministry of Agro-Industry and Food Security for validation by the cabinet and then same will be submitted to the SADC Secretariat.

Other Projects

a. Standards for treated manure from animal waste

The Ministry of Environment, Solid Waste Management and Climate Change secured funds of USD 371,000 from UNEP in the Switch-Africa Green programme for production of quality manure.

b. Setting up of a pilot biogas demonstration project at CLRS for the production of electricity

The project involves the construction of a 45 m3 concrete digester (WASAZA model) for generation of electricity. The project will be used a show case and aims to improve public's opinion by adding value to livestock waste for generating biogas, electricity and liquid fertilizer.

c. Promoting Climate Smart Agriculture Concepts among small livestock holders in the Republic of Mauritius

The project aims to increase resilience of livestock holders through capacity building and promotion of adoption of climate change strategies. It is proposed that livestock holders are trained in smart agriculture practices and become exposed to adapted climate change technologies and practices to ensure sustainability of their production systems to warrant their livelihoods and food security.

d. Performance assessment of home biogas (HBG 4.0) Household Biogas System

The objective of the project is to evaluate the efficiency of this biogas system in terms of biogas production and waste management.

e. Transformative Methane Reduction in Mauritius: Empowering Women for Climate Resilience in livestock sector

This is a grant project with a budget of USD 950,000 and a duration of two years. The project aims at fostering public-private partnerships, strengthening local capacity, and facilitating climate finance access to contribute to national and global climate commitments. The project will focus on reducing methane emissions by promoting the production of biogas from livestock waste and implementing climate smart agricultural practices including improved grazing and waste management. It also focuses on improving local production of livestock which will in turn reduce the reliance on imported beef and thus reducing emissions generated from transportation. This is expected to reduce GHG emissions by 12000 tCO2 every year and would also lead to increase in women employment and building of capacity for communities that are vulnerable. This model is scalable and has the potential of benefitting other African nations as well who are dealing with similar challenges.

4. Support Required

The following projects have been framed by the various Government Departments for mitigation and adaptation related activities and financial support is required from donor agencies for implementation.

Table 34 Financial support needed by Mauritius for project implementation

Sector	Title of the activity programme or Project	Programme Project Description	Estimated Amount, USD	Expected time frame	Expected Financial instrument	Type of Support (Adaptation, Mitigation, Cross Cutting)	Contribution of capacity building objective	Impact	Estimated results
Energy (Port and Shipping)	Electrification of Rubber-Tired Gantry (RTG) Cranes and Tractor Trailers at Mauritius Container Terminal for Sustainable Port Operations	The electrification of Rubber-Tired Gantry (RTG) cranes and tractor trailers at the Mauritius Container Terminal, while a critical step towards reducing emissions and enhancing sustainability, faces several root causes and barriers that need to be addressed.	20 million	4 years	Grant	Cross cutting (10% Adaptation, 90% Mitigation)	Yes	10000 tCO_2 reduction every year	GHG reduction, Sustainable operation, job creation, capacity building of technician every year
Energy (Renewable Energy)	Mauritius Renewable Energy Revolving Fund	The project aims to set up a renewable energy revolving fund, which could be provisioned with 27,000,000 USD. Project underscores Mauritius' commitment to sustainable development pathways outlined in its national climate strategies	27 million USD	5 years	Grant	Mitigation	Yes	Switch to renewables and reduction in GHGs	Energy saving techniques and enhancement of energy efficiency in the country

Sector	Title of the activity programme or Project	Programme Project Description	Estimated Amount, USD	Expected time frame	Expected Financial instrument	Type of Support (Adaptation, Mitigation, Cross Cutting)	Contribution of capacity building objective	Impact	Estimated results
Agriculture (Livestock)	Transformative Methane Reduction in Mauritius: Empowering Women for Climate Resilience in livestock sector	The project strengthens local capacity, fosters public-private partnerships, and facilitates access to climate finance, contributing to both national and global climate goals. Its scalable model can benefit other African nations facing similar challenges.	950000 USD	2 years	Grant	Adaptation	yes	Reduction in GHG by 12000 tCo2 every year	Women employment, GHG reduction, Capacity building for vulnerable communities and waste management

Mauritius is working on Kigali Implementation Plan and the funding support required for the same is provided below.

Table 35 Table showing financial support required for Kigali Implementation Plan

KIP activities	USD		
	2025-26	2027-2029	TOTAL
Establishing & implementing regulatory framework	39000	41000	**80000**
Support for RAC industry	90000	80000	**170000**
Awareness creation	15000	10000	25000
Project monitoring	25000	25000	50000
Total	**169000**	**156000**	**325000**

Funding required for adaptation projects.

There is limited information available regarding the following projects:

i. **Advancing the agriculture, water and energy pipeline, with increased awareness of key stakeholders and strengthening capacities of the NDA and direct access applicants in the Republic of Mauritius**

   This is a GCF project with a funding of USD 749,489 with FAO as the delivery partner. Since this was recently approved, confirmation is required whether the budget has been received as well as the status of the project in terms of implementation currently.

ii. **Strengthening the institutional capacities of the AISCC member states for climate resilience, including loss and damage, vulnerability and hazards risk assessment.**

   This is a project with the budget of USD 250,000 with African Island States Climate Commission (AISCC) as the delivery partner for the period of 2024 to 2027. However, this has not been approved and status update is required for the same.

iii. **Building Regional Resilience through Strengthened Meteorological, Hydrological and Climate Services in the Indian Ocean Commission (IOC)**

   This is a regional project with an approved budget of USD 52.8 million with AFD as the delivery partner. The duration of the project is from 2022 to 2026. However, there is limited information regarding the project in terms of the current status of progress as well as of budget received. Challenges of poor design of the project as the activities dictated by the delivery partner are cited to be not demand driven.

iv. **Ecosystem-based Adaptation in the Indian Ocean**

   This is a regional project with an approved budget for Mauritius as USD 6.33 million with Conservation International and AFD as delivery partners for a duration of 2021 to 2030. However, there is limited information regarding the budget received, challenges faced, and status of the project.

v. **Project for the drafting of a national water policy**

   This is an upcoming project for the duration of 2024 to 2027 with the AFD as the delivery partner. Since the project has not started as recruitment is still underway, there is limited information regarding the budget received.

vi. **Assessing and managing loss and damage in two Cities/Towns**

   This is an eighteen-month project from 2024 to 2025 with the UNEP Copenhagen Climate Centre as the delivery partner and an approved budget of USD 75,000. Since the project has not started as recruitment is still underway, there is limited information regarding the budget received.

D. Information on capacity-building support needed and received under Article 11 of the Paris Agreement

1. Overview

Mauritius received USD 0.96 million as grant funding for capacity building initiatives under Article 11 of Paris Agreement. Of this, USD 0.85 million provided by Global Environment facility (GEF) was to support in development of First Biennial Update Report and Fourth National Communication. Remaining USD 0.112 million provided by European Union was for Institutional Gaps and Needs Assessment to operationalise the Climate Change Act 2020.

2. Technology development and transfer for mitigation

Capacity building support required by Republic of Mauritius is provided in table below.

Table 36 Table showing capacity building requirements of Mauritius

Areas/ Sectors	Capacity Building Needs	Technical Needs
Adaptation	***National Climate Change Adaptation Policy Framework, 2021*** For the water, infrastructure and disaster risk reduction; fisheries and blue economy; coastal zone and tourism sectors; and biodiversity, capacity building need to: – undertake vulnerability assessment. – develop guideline to undertake the risk assessment in each of the sectors. – map hazards and their impacts on the robustness and economics of relevant adaptation sectors (common sensing project). – quantify the associated economic loss and damage due to disaster. – empower officers on the tools developed under the UNFCCC Secretariat; and – Build knowledge on modelling, scenario/projections. ***Third National Communication (TNC)*** – Capacity of institutions on the use of climate related data for infrastructure planning – Capacity building on restoration of landscape integrity and technology development for the infrastructure sector – Enhance fisher's sensitization and training programme	**Agriculture** – Integrated pest and disease management and bio-farming technologies; ways to introduce revenue-generation mechanisms, other technologies (GIS, agro-meteorological stations) – Improve technology transfer in the agriculture sector – Develop efficient irrigation techniques – Promote climate-smart agricultural practices **Coastal Zone and Tourism** – Coastal protection works – site investigation/source identification; planting of native vegetation; re-establishment of marshes; mangroves/seagrass restoration; coral nursery **Water** – Development and use of hydrological models – Reduction of water losses in distribution system – Promote soil and water conservation techniques – Increase water storage capacity – Modernize data acquisition and management system **Biodiversity**

Areas/ Sectors	Capacity Building Needs	Technical Needs
		– Research and development on impacts of climate change on native forests – Maintenance of replanted forests – Removal of invasive alien species – Improving the resilience **Fisheries** – Promote sustainable aquaculture and climate-smart fisheries practices – Set up coral nursery – Create a centralized knowledge repository to promote seagrass restoration and mangrove propagation **Health** – Implementation of early warning system of surveillance to monitor trend of vectors, environmental hazards and climate sensitive diseases – Creation of a Unit for vector-borne and climate-sensitive diseases **Infrastructure** – Use of resilient materials and techniques in flood prone areas
Mitigation	***TNC / First Biennial Update Report (BUR-1)*** – Building capacity on mitigation analysis and quantification of GHG emission. – Additional training of Energy Auditors and on EE enforcement. – Capacity building on waste-to-energy technology. – Training of trainers on energy saving and energy efficiency; and – Human and institutional capacity building for a new generation of appliances and installations. ***ICA Analysis of BUR-1*** – Enhance national capacity to identify and monitor the progress indicators of each specific mitigation action to serve as inputs to the online MRV platform currently being established. – Enhance national capacity to quantify emission reductions from the mitigation actions in all sectors, in particular the forestry sector; and	– Technology transfer for project development and calculation of emissions from waste

Areas/ Sectors	Capacity Building Needs	Technical Needs
	– Enhance national capacity to develop and report appropriate methodologies and assumptions associated with mitigation actions to quantify, track and report their emission reductions, achievements and results.	
GHG Inventory	***TNC/ BUR-1*** – Enhance capacity of researchers and relevant stakeholders as well as provide better laboratory facilities or collaborate with regional institutions and labs on determination of country specific emission factors. – Capacity building on the development of country specific emission factors. – Build human and institutional capacity to gather primary activity data. – Refinement of the GHG inventory system and capturing data on trees outside forest area and ground-truthing on private land; and – Training on remote sensing for land use change. ***ICA Analysis of BUR-1*** – Improve data collection for energy use by households and taxis since 2013. – Develop a consistent time series for the AD used for road transport emission estimates. – Improve data collection in relation to estimating emissions from fuel combustion using both the reference approach and the sectoral approach. – Improve the methodology used to refine data for the iron and steel category (1.A.2.a). – Improve arrangements for collecting and managing data for the livestock categories. – Improve national arrangements for collecting, sharing, archiving and documenting data for estimating non-CO_2 emissions from land. – Improve execution of the chosen methodology for calculating emissions from the livestock categories. – Improve information and data on land use and land-use changes and their associated uncertainties. – Enhance and strengthen national institutional capacity to improve the collection and management of data for the AFOLU sector	***TNC*** – Refinement of the GHG inventory system and capturing data on trees outside forest area and ground-truthing on private land.

Areas/ Sectors	Capacity Building Needs	Technical Needs
	for Rodrigues Island, as well as cooperation between relevant departments. – Enhance national capacity to develop country-specific biochemical oxygen demand values for wastewater, and to refine data on solid waste disposal for 1960–1999. – Enhance national capacity to develop country-specific EFs across all sectors of the inventory. – Enhance national capacity to estimate and report on the impacts of recalculations at the category level and also on the overall impact on the GHG inventory time series. – Enhance the technical capacity of those involved in the QA/QC and approval processes. – Enhance national capacity to implement planned improvements in all sectors in the inventory; and – Enhance national capacity to implement permanent institutional arrangements for preparing the GHG inventory.	
Finance	– Build capacity of stakeholders to prepare project proposals to Enhance Access to Climate Finance.	– Develop robust project proposals for submission to donor agencies to access funds for the implementation of NDC Action Plan
Measurement, Reporting and Verification (MRV)	***BUR-1*** – Build technical capacity of the national team to establish the technical bases and transfer of knowledge required for the design and implementation of the MRV system; and – Enhance national capacity to prepare and implement the requirements of the enhanced transparency framework (ETF).	
Support Institutional Capacity Development	***ICA Analysis of BUR-1*** – Enhance national technical capacity to: - estimate and report the financial needs to address identified constraints and gaps for climate change activities. - identify technology needs to address climate change. - develop efficient processes and tools for tracking and reporting the type of support received (financial, technology transfer, technical and capacity-building) for specific climate change activities; and - further develop sound institutional arrangements for tracking and reporting	

Areas/ Sectors	Capacity Building Needs	Technical Needs
	support received (finance, technology and capacity-building).	
Cross-cutting	***TNC*** – Capacity building programme of officers and gender focal points on gender and its implications on climate change and on adopting a gender lens while planning, implementing and evaluating projects and programmes.	

3. Technology development and transfer for adaptation

Representatives from Statistics Mauritius were provided the following capacity building training:

a. Peer Learning Workshop on National Greenhouse Gas Inventory Management Systems and Tools- Cape Town, South Africa, 2023
b. Capacity-building Initiative for Transparency - Global Support Programme (CBIT-GSP), Tokyo, 2024

E. Information on support needed and received for the implementation of Article 13 of the Paris Agreement and transparency-related activities, including for transparency-related capacity-building

The Capacity Building Initiative for Transparency (CBIT) funded by UNDP is aimed at improving the quality of the national GHG inventory and the data collection, storage and dissemination processes associated, thereby improving reporting and transparency and providing a firmer basis for evidence-based-policymaking. As part of this project, four capacity building programmes for stakeholders have been conducted in Mauritius on the IPCC 2006 Guidelines for National GHG Inventory and its 2019 refinement focusing on Energy, IPPU and AFOLU sectors. Further training programmes will be conducted in 2025.

Under this project, Republic of Mauritius received grant funding of USD 1.269 million.

F. Specific flexibility provisions applied

Since Republic of Mauritius is not separately tagging technology support received and required, all information of support received is reported under financial support received and required.

G. Information on areas of improvement in relation to reporting

The following areas of improvement were identified after discussion with stakeholders:

v. Mauritius has estimated the quantum of external financial support required for meeting NDC target (conditional portion). However, there is no clarity of the support required for individual sectors where reduction targets have been established, like energy (non-transport), transport, IPPU and waste.
vi. Mauritius also needs to identify the type of technology required for meeting its NDC target for each sector.
vii. As finance requirement is key to Mauritius reducing its national GHG emissions by 40% from 2030 BAU level, it is pertinent to explore the possibility of co-operation under Article 6.2 and 6.4 of Paris Agreement.
viii. A dedicated cell can be established under the Climate Change Department of MoESWMCC to monitor and evaluate the type of financial, technology and capacity building support required and received to ensure that the process of collecting and maintaining data is streamlined

H. Report with other relevant information, including information on gender and climate change

In 2023, Mauritius had a population of around 1.2 million of which 50.6% are female and 49.4% are male. More women are enrolled in tertiary services like covering trade, accommodation service, transportation, health, education and other service industries as compared to men. Only 11.4% of working women were heads of business compared to 25.2% among men. Till 2023, women were largely under-represented in decision making at higher sphere of society with the Government having only 4 female ministers out of a total of 23 ministers.

The following agencies in Mauritius gender issues:

- Ministry of Gender Equality and Family Welfare (address gender issues).
- Department of Climate Change, Ministry of Environment, Solid Waste Management and Climate Change (address gender & climate change issues).
- National Women Council (address gender and gender & climate change issues).
- NGO Gender Links (address gender issues).
- Food and Agricultural Research and Extension Unit (address gender & climate change issues); and
- Ministry of Industrial Development, SMEs and Cooperatives (address gender issues).

Few of the key national laws and/or policies that relate to integrating gender in climate action are:

- The updated Mauritius Nationally Determined Contribution which was submitted to the secretariat of the UNFCCC on 05 October 2021 makes provision for gender consideration as a cross-cutting issue**.**
- The Communication Plan and Toolkit under the updated NDC included awareness of women on climate change as a key target group. A total of 9 sessions were carried out targeting around 250 women; and
- A Gender Action Plan prepared in the context of the Nationally Appropriate Mitigation Action (NAMA) project.

The Action Plan gives a review on how gender concerns have been incorporated in the NAMAs and national plans and strategies addressing low carbon strategies and to consider how these issues have been mainstreamed into national planning and where future attention should be focused.

- The Capacity Building Initiative for Transparency project which is presently under implementation is ensuring the need for gender-disaggregated data and indicators to ensure inclusion of gender issues in the GHG inventory processes.
- The National Gender Policy 2022 – 2030 developed by the Ministry of Gender Equality and Family Welfare provides guidelines that will underpin Government's commitment to integrate gender into all development planning, implementation, monitoring and evaluation. In this respect, it provides the basis upon which every sector, department and non-state actors will be guided to develop their gender policies for implementation at sectoral and institutional levels.
- The Climate Change Act 2020 makes provision for commissioning studies on climate change, taking into consideration, inter alia, human rights, cultural heritage and **gender** issues.

As per the National Gender Policy 2022 – 2030, all government organizations must integrate gender into all development planning, implementation, monitoring and evaluation

Appendix

Appendix

Mauritius's First Biennial Transparency Report

under the Paris Agreement

Appendix 1: Common reporting tables for the electronic reporting of the national inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gases

Appendix 2: Common tabular formats for the electronic reporting of the information necessary to track progress in implementing and achieving the NDC and information on financial, technology development and transfer and capacity-building support provided and mobilized

List of abbreviations

AD	Activity data
AFOLU	Agriculture, Forestry and Other Land Use
AfD	Agence Française de Développement
AISCC	African Island States Climate Commission
AR	Assessment Report
BAU	Business as Usual
BTR	Biennial Transparency Report
CBIT	Capacity-building Initiative for Transparency
CCA	Climate Change Act
CEB	Central Electricity Board
CH_4	Methane
CMA	Conference of the Parties serving as the meeting of the parties to the Paris Agreement
CO_2	Carbon dioxide
CTCN	Climate Technology Centre and Network
CTF	Common tabular format
DCC	Department of Climate Change, Mauritius
EEDI	Energy Efficiency Design Index
EEMO	Energy Efficiency Management Office
EEZ	Exclusive Economic Zone
EF	Emission factor
EIA	Environmental impact assessment
EU	European Union
EUR	Euro
FAO	Food and Agriculture Organization
FAREI	Food and Agricultural Research and Extension Institute
GCCA	Global Climate Change Alliance
GDP	Gross Domestic Product
GEF	Global Environment Facility
GFC	Green Climate Fund
Gg	Gigagrams
GGWI	Great Green Wall Initiative
GHG	Greenhouse Gas
GWh	Gigawatt hours
GWP	Global warming potential
HFC	Hydrofluorocarbon
IOC	Indian Ocean Commission

IPCC	Intergovernmental Panel on Climate Change
IPDM	Integrated Pest and Disease Management
IPNS	Interplanetary Naming System
IPPU	Industrial Processes and Product Use
ITMO	Internationally Transferrable Mitigation Outcomes
km	kilometer
LULUCF	Land Use, Land-Use Change and Forestry
MARENA	Mauritius Renewable Energy Agency
MEL	Metro Express Ltd
MEPS	Minimum Energy Performance Standard
MEPU	Ministry of Energy and Public Utilities
MoESWMCC	Ministry of Environment, Solid Waste Management and Climate Change
mm	Millimeter
MPG	Modalities, Procedures, and Guidelines
MRV	Monitoring Reporting and Verification
MUR	Mauritian Rupee
MVAC	Mauritius Vulnerability Assessment and Analysis Committee
N_2O	Nitrous oxide
NAP	National Adaptation Plan
NCCAPF	National Climate Change Adaptation Policy Framework
NCCMSAP	National Climate Change Mitigation Strategy and Action Plan
NDC	Nationally Determined Contributions
NEF	National Environment Fund
NGO	Non-Governmental Organization
NIR	National Inventory Report
ODS	Ozone Depleting Substances
PET	Polyethylene terephthalate
PV	Photovoltaic
QA	Quality assurance
QC	Quality control
RAC	Refrigeration and Air conditioning
RE	Renewable energy
RoM	Republic of Mauritius
RRA	Rodrigues Regional Assembly
SADC	Southern African Development Community
SDG	Sustainable Development Goals
SEEMP	Ship Energy Efficiency Management Plan
SIDS	Small Island Developing States

SMEs	Small and Medium Enterprises
TNC	Third National Communication
toe	tonnes of oil equivalent
TWG	Technical Working Group
UNCCD	United Nations Convention to Combat Desertification
UNEP	United Nations Environment Programme
UNEP CCC	United Nations Environment Programme - Copenhagen Climate Centre
UNFCCC	United Nations Framework Convention on Climate Change
UoM	University of Mauritius
USD	United States Dollar
WMA	Wastewater Management Authority
WB-GFDRR	World Bank - Global Facility for Disaster Reduction and Recovery

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