Ministry of Environment, Sustainable Development, Disaster and Beach Management in collaboration with The British High Commission

Mauritius 2050 Pathways Calculator – Fact Sheet

INTRODUCTION

The 2050 Pathways Carbon Calculator is a modelling tool, developed with the support of the British Government, which allows Mauritius to analyse how emissions of greenhouse gases (GHGs) emissions can be reduced while still meeting energy needs. The tool explores how changes in technologies and behaviours can impact GHG emissions, energy requirements, fossil fuel imports and costs.

Presently, the energy dependence of Mauritius on imported fossil fuels stands at ~85%, representing over 20% of its total import bill. Government aims to increase the share of sustainable renewable energy sources by at least 35% in the total energy mix by 2025. The 3 main sources of GHG emissions (which amount to 77% of the total) come from production of electricity, the transport and the manufacturing sectors.

THE MAURITIUS 2050 PATHWAYS CALCULATOR

The Mauritius 2050 Pathways Calculator has been customized from the UK 2050 Pathways Calculator developed by the UK Department for Energy and Climate Change (DECC).

The Calculator has an interactive internet-based interface accessible to the general public. Users can explore different scenarios of GHG emissions up to 2050, based on decisions taken today or in the coming years. Given that by 2050 local energy demand may increase threefold, this tool will further allow us to:

- determine the extent to which renewables could meet future energy demand;
- understand the contribution of individual behavioural change;
- estimate the quantity of future fossil fuel imports;
- identify the most feasible pathways to meet emission reduction targets; and
- explore scenarios to reduce emissions as we move towards the next level of economic development.

However, the tool **does not** allow us to:

- determine the impact of a carbon tax on the economy;
- identify the most efficient way of subsidising solar power; and
- calculate the impact on consumers energy bills.

SECTORAL COVERAGE

The calculator will help Mauritius to evaluate different energy options and help establish the achievable renewable energy-mix for Mauritius.

The main supply and demand sectors of the Mauritian economy have been considered.

Energy Supply Sectors:

- ✓ Fossil Fuel fired Plants
- ✓ Renewables
- ✓ Biomass Energy Supply

Energy Demand Sectors:

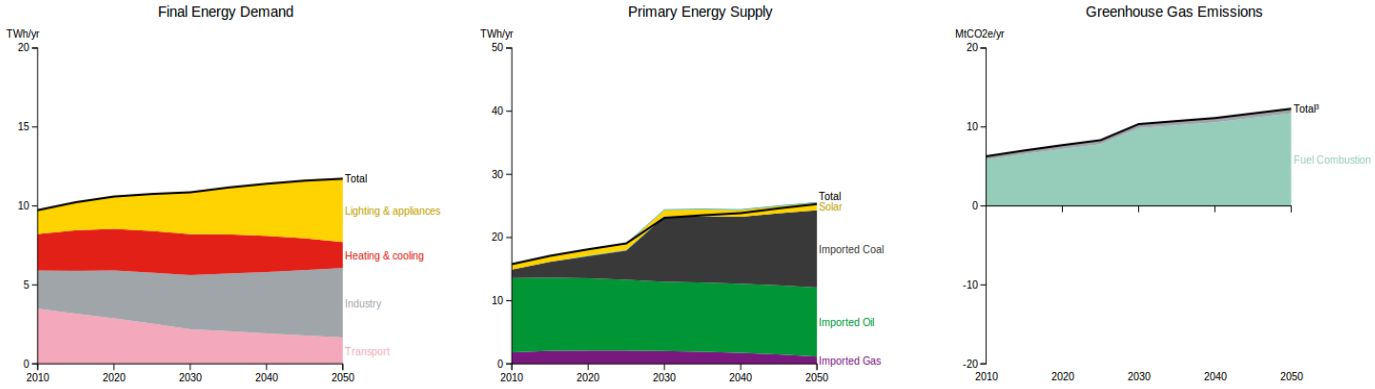
- ✓ Transport
- ✓ Industry
- ✓ Residential
- ✓ Commercial

VERSIONS OF THE CALCULATOR

The Mauritius 2050 Pathways Calculator is available in two versions, the web-tool version and the full Excel version.

INTERACTIVE WEBTOOL VERSION

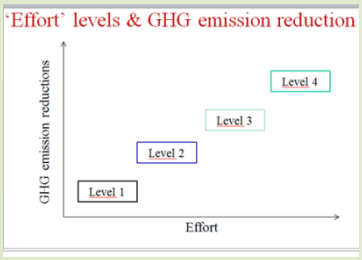
The **interactive webtool version** of the Mauritius 2050 is accessible at:
http://environment.govmu.org/English/Pages/Mauritius-2050-Pathways-Calculator.aspx



CREATE PATHWAYS IN THE CALCULATOR

The Mauritius 2050 Pathways Calculator offers a range of four levels or trajectories for the types of changes that might occur in each energy supply and demand sector.

Level 1	no effort/business as usual
Level 2	effort described by most stakeholders as achievable, showing existing policies for the sector
Level 3	effort needing significant change – hard but deliverable
Level 4	maximum that could potentially be achieved for technical or practical reasons (extreme scenario)



The Calculator allows users to test their own combinations of pathways to try and achieve emissions reduction and ensure energy security based on available resources, technologies and behavioural changes. For example, users can boost energy supply by building more wind turbines and using more solar PV, or they can reduce energy demand by using LED lightings and changing travel behavior and see the impact on GHG emissions.

ANALYSIS OF KEY AREAS FOR 2050

Key Areas	Least Effort Pathway	Extraordinary Effort Pathway	Analysis
Energy Supply (TWh)	**11.7**	**6.9**	**41.0% reduction in Energy Supply**
Energy Demand (TWh)	**25.3**	**18.3**	**27.7% reduction in Energy Demand**
GHG Emissions ($MtCO_2e$)	**7.06**	**3.09**	**56.2% reduction in GHG Emissions**

This transparent and handy tool can help answer the fundamental questions of how the energy system can evolve over the coming decades and its impact on GHG emissions, energy security, and energy mix for electricity generation.

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