

Energy Transition

Guidelines for businesses

We commit to shift to a low-carbon economy to consolidate resilient development



**Signe
Natir**

FOR A SUSTAINABLE & INCLUSIVE MAURITIUS

Energy transition



"IRENA's Renewable Energy Outlook shows the ways to build more sustainable, equitable and resilient economies by aligning short-term recovery efforts with the medium and long-term objectives of the Paris Agreement and the UN Sustainable Development Agenda."

FRANCESCO LA CAMERA

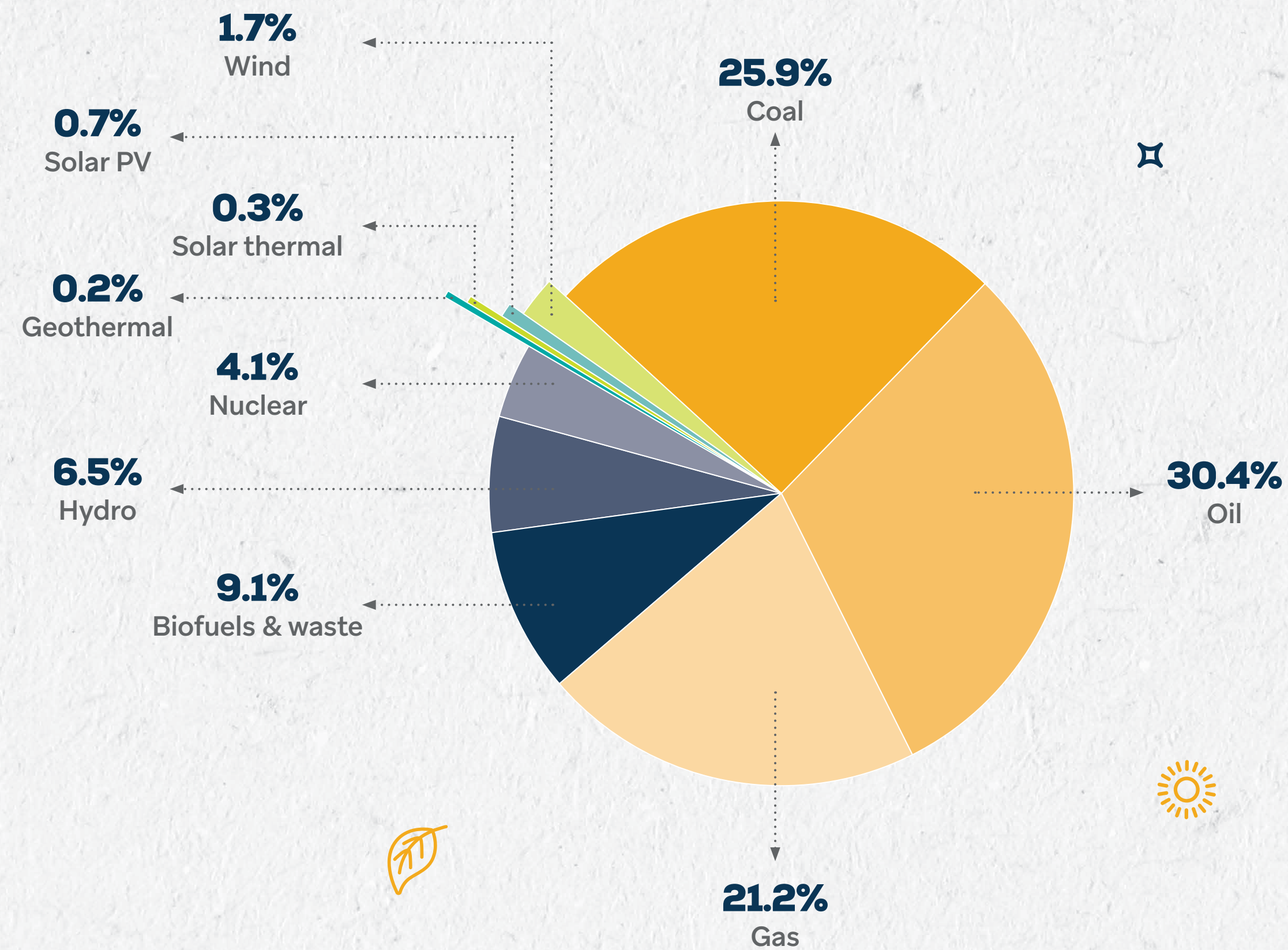
International Renewable Energy Agency Director

The energy transition is a pathway toward transformation of the global energy sector from fossil-based to low-carbon by the second half of this century. At its heart is the need to reduce energy-related CO₂ emissions to limit climate change. Decarbonisation of the energy sector requires urgent action on a global scale, and while a global energy transition is underway, further action is needed to reduce carbon emissions and mitigate the effects of climate change. Renewable energy and energy efficiency measures can potentially achieve 90% of the required carbon reductions.

The energy transition will be enabled by information technology, smart technology, policy frameworks and market instruments.



World primary energy supply by share in 2017.
Data:
Calculated using International Energy Agency report (2019)



Energy Transition and Business

Business can accelerate the transition to an affordable, reliable and sustainable energy system by investing in renewable energy resources, prioritizing energy efficient practices, and adopting clean energy technologies and infrastructure. Also, with investment in R&D, businesses can innovate and pioneer new technologies that change the status quo of the global energy system, becoming the center of climate change solutions.

According to the Economics of Energy Transition released by IRENA in 2017, this transition can unlock global GDP growth of \$19 trillion by 2050, in cumulative economic gains.

Business has the responsibility to keep the world within a safe-operating space of 1.5°C: creating green jobs, delivering economic growth and building a more resilient society. All companies must align with the science and implement climate action plans to reach net-zero before 2050.

Sustainable development goals involved

Energy Transition in Mauritius has a key role to play on Sustainable Development Goals as defined by the United Nations: Affordable and Clean Energy (SDG 7).






Affordable & clean energy

GOAL 7 – Ensure access to affordable, reliable, sustainable and modern energy for all

By 2030, ensure universal access to affordable, reliable and modern energy services, increase substantially the share of renewable energy in the global energy mix, double the global rate of improvement in energy efficiency, and enhance international cooperation to facilitate access to clean energy research and technology.

Along with tracking SDG 7, the Energy Progress Report 2020 identifies the best practices, policies, measures and scenarios to accelerate further progress, simultaneously pursue other SDGs, and ensure broad socio-economic development in line with a resilient recovery. With holistic approaches, targeted policies and international support, substantial gains could be made to improve the lives of millions of people.

Key findings of the tracking SDG 7: Energy progress report for 2020

2010		Latest data
1.2 billion	people without access electricity	 789 million people without access to electricity (2018)
3 billion	people without access to clean cooking	 2.8 billion people without access to clean cooking (2018)
16.3%	share of total final energy consumption from renewables	 17.3% share of total final energy consumption from renewables (2017)
5.9 MJ/USD	primary energy intensity	 5.0 MJ/USD primary energy intensity (2017)
10.1 USD billion	international financial flows to developing countries in support of clean energy	 21.4 USD billion international financial flows to developing countries in support of clean energy (2017)

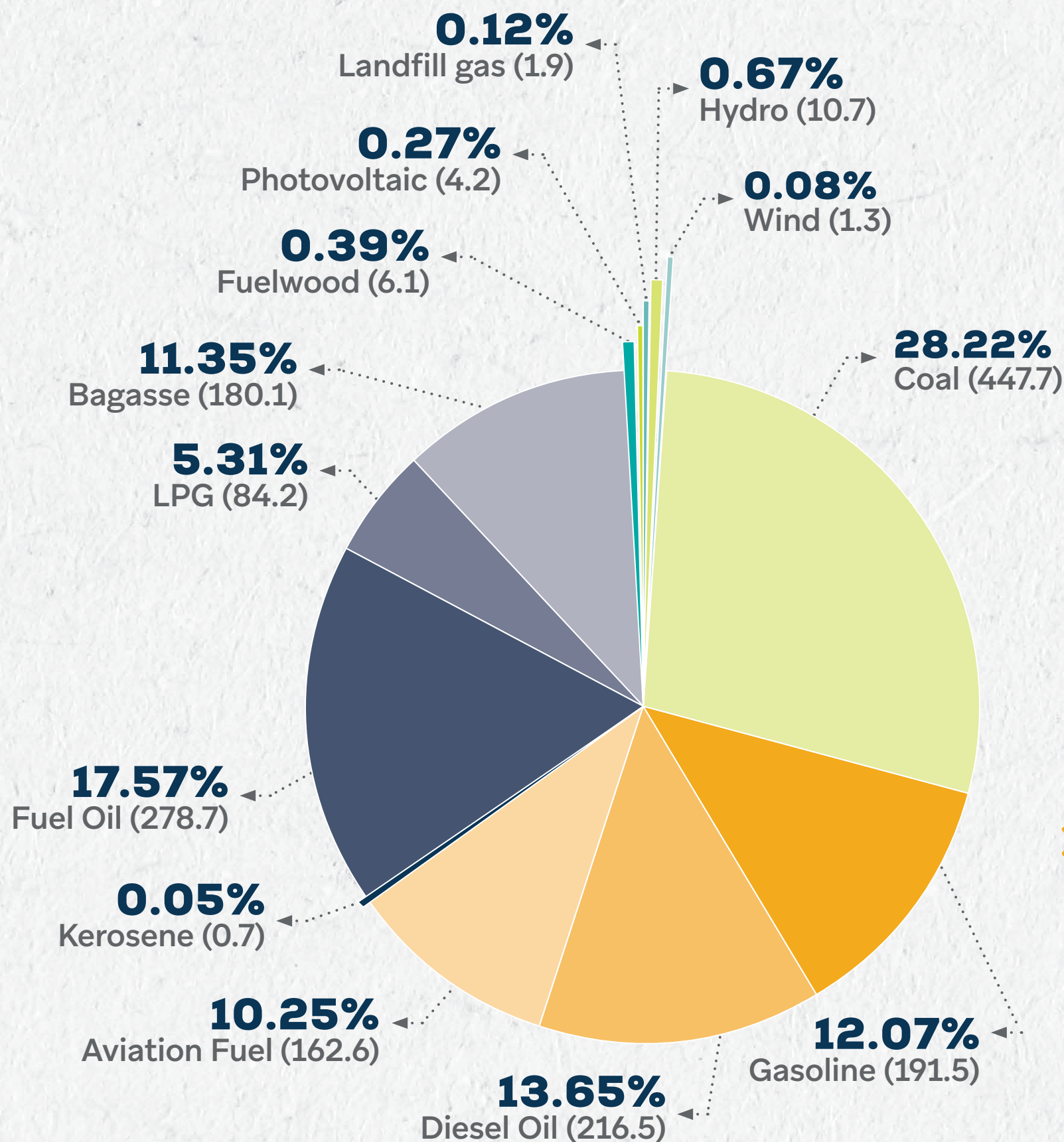
Mauritius – Factsheet



Source – Energy Observatory Report 2018

Source - Renewable Energy (RE) Roadmap 2030

In 2018, the primary energy requirement amounted to 1,586.3 ktoe. The total import bill of energy sources for 2018 amounted to Rs 37,553 M. In Mauritius, the main sources of renewable energy exploited are biomass, in the form of sugar cane bagasse, hydro, PV, wind, landfill gas and fuel wood. A total of 204.4 ktoe of local resources was tapped in 2018 (12,8%).



This Renewable Energy (RE) Roadmap 2030 charts the way for the development of RE technologies, diversifying the electricity mix of the country and adopting cleaner sources of energy. Mauritius is still about 79% dependent on fossil fuels for electricity generation. In an era of developmental changes, increasing energy demand and uncertainty in the energy market, the country should enhance its energy security and reduce its greenhouse gas (GHG) emissions.

Table ES-7: Renewable energy mix in 2030, 40% target

Renewable energy source	Power (MW)	Energy generation (GWh)	% Share in electricity mix
On-shore wind	50.6	86	2.3
Solar energy - Residential	88.4	128.8	3.4
Solar Energy - Commercial	88.8	130.6	3.5
Solar energy - Utility	180.3	256.7	6.8
Biomass - Bagasse	164.2	464	12.3
Biomass - Cane trash		68	1.8
Landfill Gas	3	23	0.6
Waste to energy	20	140	3.7
Off-shore wind	22	90	2.4
Wave	20	30	0.8
Hydro	61	93	2.5
Total	698.3	1510.0	40%



Categories of business actions

The objective of this guideline implemented by Business Mauritius is to help businesses to be more involved in energy transition. It also focusses on the need to demonstrate the impact of actions and suggests several indicators to facilitate impact assessment. The actions have been set out to guide businesses in their effort to bring clear responses. Each category comes with a definition of its objective, assessment criteria, examples of actions that could be taken. The idea is to guide businesses in a very pragmatic manner.

Since 2017, Business Mauritius launched a national initiative to achieve energy transition called “Nou lenerzi”.

There are 6 sub-categories:

CATEGORY 1

Renewable energy

CATEGORY 2

Energy efficiency

CATEGORY 3

Electric mobility

CATEGORY 4

Work from home

CATEGORY 5

Net-zero energy buildings

CATEGORY 6

Carbon sequestration

Category 1

Renewable energy

Renewable energy is energy produced from sources that do not deplete or can be replenished within a human's life time. The most common examples include wind, solar, geothermal, biomass, and hydropower. This is in contrast to non-renewable sources such as fossil fuels.

- * Review the schemes to produce your own electricity developed by the Central Electricity Board <https://ceb.mu/projects/energy-schemes>
- * CEB MSDG RE Scheme or CEB SSDG RE Scheme has been prepared in response to the growing interest for the setting up of small-scale and medium-scale solar photovoltaic (PV) renewable energy (RE) projects.
- * Contact a service provider to discuss about the available technologies on Solar PV and determine the potential installed capacity in your site.
- * Inform Business Mauritius of all regulatory issues blocking your investment.
- * Contact CEB for all large scale projects.
- * Contact MARENA (Mauritius Renewable Energy Agency) for more information.





Category 2

Energy efficiency



Energy efficiency is the goal to reduce the amount of energy required to provide products and services.



* The 'Programme National d'Efficacité Energétique (PNEE) is based on an original partnership between the Ministry of Energy and Public Utilities and Business Mauritius with the technical and financial support of the Agence Française de Développement, the European Union, Switch Africa Green and the Human Resources Development Council. Its objective is in the long run to encourage the emergence of a high-quality energy efficiency market. <http://pnee.mu/en/>

* Creating awareness among users but this requires strong endorsement from management.



* Realising a pre-audit or full energy audit led by an accredited professional.

* Introducing of an Energy Management System (EMS). The EMS is guided by the ISO 50001 energy management standard. Businesses would be well-advised to consult these principles even if they have no intention of applying for certification.




Category 3

Electric mobility

Electric mobility comprises all street vehicles that are powered by an electric motor and primarily get their energy from the power grid. The systemic approach also includes the energy supply side as well as the charging and traffic infrastructure. Smart mobility uses the Internet of Things (IoT) to facilitate communication between modes of transportation and user interfaces.

- ✧ Develop energy efficiency plan to save consumption of fuel in fleet management (training for eco-drivers, optimised flux management, type of fuel).
- ✧ Set up a carpooling mechanism among employees.
- ✧ Develop a “work from home” strategy to minimize number of trip per week.
- ✧ Contribute to smart applications and ‘Mobility as a Service’ solutions.
- ✧ Shift your fleet to electric mobility.



Category 4

Net-zero energy buildings



A net zero carbon building is a building that is highly energy efficient and fully powered from on-site and/or off-site renewable energy sources.

- ✧ Realising a pre or full design of your building led by an accredited professional with some expertise in green building.
- ✧ Ask for specific propositions in your terms of references for new projects. For example:
 - Passive and natural ventilation to stabilize the temperature variations throughout the day.
 - Wide variety of energy efficiency measures, such as high efficiency cooling equipment, appliances.
 - Insulation and windows.
 - Advanced renewable energy solutions such as solar photovoltaics and solar thermal.
- ✧ Design and build your building based on a green certification.



Category 5

Work from home

Work from home or teleworking is about working remotely, either from home or from a designated zone, with access to technology and the internet. This business action is to encourage companies to adopt “work from home” practices whenever possible. Therefore, reducing fuel consumption and pollution (air but also traffic).

- * Provide adequate equipment and facilities for employees to work remotely.
- * Set up processes to formalize work from home.





Category 6

Carbon sequestration

Carbon sequestration is the long-term removal, capture or sequestration of carbon dioxide from the atmosphere to slow or reverse atmospheric CO₂ pollution and to mitigate or reverse global warming. This business action is to encourage companies invest in high technologies of carbon sequestration and storage.

- ✧ Make use of high technologies of carbon sequestration.

1. Renewable energy

Action:

- ✧ Install renewable energy capacity in your company namely solar PV system.

Indicators:

- ✧ Total installed capacity in kW.
- ✧ Total potential installed capacity (kW) but investment locked due to lack of regulatory framework.
- ✧ Total amount (estimated) of CO₂ emissions avoided (tonnes CO₂ equivalent).



2. Energy efficiency

Action:

- ✧ Develop an energy efficiency action plan.

Indicators:

- ✧ Total amount of energy savings achieved (kWh).
- ✧ Percentage of energy savings achieved (%).
- ✧ Total amount (estimated) of CO₂ emissions avoided (tonnes CO₂ equivalent).



3. Electric mobility

Action:

- ✧ Shift your fleet to electric mobility.

Indicators:

- ✧ Number of electric vehicles already deployed.
- ✧ Total amount (estimated) of CO₂ emissions avoided (tonnes CO₂ equivalent).



Actions & indicators

✧ SigneNatir offers companies the opportunity to commit to energy transition by focusing on the 6 actions and its corresponding indicators. Companies can choose one or more actions to demonstrate their commitment.



4. Work from home

Action:

- ✧ Develop a "work from home" strategy.

Indicators:

- ✧ Total number of employees having worked remotely (annually).
- ✧ Estimated km avoided (km).
- ✧ Total amount (estimated) of fuel saved (litres).
- ✧ Total amount (estimated) of CO₂ emissions avoided (tonnes CO₂ equivalent).



5. Net-zero energy buildings

Action:

- ✧ Build a certified Green Building.

Indicators:

- ✧ Number of building projects having a green building certification.
- ✧ Total amount invested in net-zero energy buildings (Rs).
- ✧ Total amount (estimated) of CO₂ avoided (tonnes CO₂ equivalent).



6. Carbon sequestration

Action:

- ✧ Invest in high technologies of carbon sequestration and storage.

Indicators:

- ✧ Number of carbon sequestration and storage projects.
- ✧ Total amount invested in high technologies of carbon sequestration and storage (Rs).
- ✧ Total amount (estimated) of CO₂ captured (tonnes CO₂ equivalent).





**Let's build together a sustainable and
inclusive future for Mauritius**

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www.signenatir.mu



BM-MCCI Building, Rue du Savoir,
Ebène CyberCity, Ebène - 72201

Email signenatir@businessmauritius.org
Tel [230] 466 3600 Fax [230] 465 8200



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