Environment Statistics - 2018

1. Introduction

This issue of Economic and Social Indicators presents statistics on Environment for year 2018 based on data gathered from various institutions.

The main environment indicators for the years 2017 and 2018 are given in Table 1, while technical notes are given at Annex. Figures presented in the tables may not add up to totals due to rounding.

2. Land Use, Forestry and Agriculture

2.1 Land use

Land use refers to the main activity taking place on an area of land, for example, farming, forestry or housing. Based on latest available data (Table 2) in 2005, sugar cane plantations occupied 38.6% (72,000 hectares) of the total land area of the Island of Mauritius, forest, scrubs and grazing lands 25.3% (47,200 hectares), and built-up areas 24.9% (46,500 hectares).

During the period 1995 to 2005, the land occupied by sugarcane, tea plantations and forestry decreased, while that of built-up areas, other agricultural activities, infrastructure and inland water resource systems went up.

2.2 Forestry

Preservation of forests is vital for the protection of the ecosystem. Total forest area decreased by 18 hectares from 47,066 hectares in 2017 to 47,048 hectares in 2018. Some 22,048 hectares (46.9%) of the total forest area in 2018 was state-owned and the remaining 25,000 hectares (53.1%) was privately-owned (Table 3).

Out of the 22,048 hectares of state-owned forest area, 11,799 hectares (53.5%) were planted areas, while the Black River Gorges National Park and the nature reserves accounted for 6,574 (29.8%) and 802 (3.6%) hectares respectively. “Pas Geometriques” covered about 606 hectares (2.8%), other nature parks, 909 hectares (4.1%), Ramsar sites, 46 hectares (0.2%) and other forest lands, 1,312 hectares (6.0%).

The 25,000 hectares of privately-owned forest lands consisted of 18,447 (73.8%) hectares of plantation, forest lands, scrub and grazing lands, and 6,553 (26.2%) hectares of mountain, rivers and nature reserves.

2.3 Agriculture

The production of sugar cane went down by 15.0% from 3,713,331 tonnes in 2017 to 3,154,516 tonnes in 2018. The area harvested decreased by 4.6% from 49,974 hectares in 2017 to 47,678 hectares in 2018. The average yield has decreased by 11.0% from 74.31 tonnes per hectares in 2017 to 66.16 in 2018 (Table 4).

The production of sugar went down by 9.0% from 355,213 tonnes in 2017 to 323,406 tonnes in 2018. Compared to 9.57% in 2017, the average extraction rate was 10.26% in 2018, representing an increase of 7.2%.

The area under food crops harvested decreased by 1.7% from 7,780 hectares in 2017 to 7,646 hectares in 2018. Production of foodcrops decreased by 9.2% from 106,621 tonnes in 2017 to 96,847 tonnes in 2018 mainly explained by unfavourable climatic conditions.

The area under tea plantation in 2018 was 656 hectares, representing an increaseof 5.5% over the figure of 622 hectares in 2017. The production of green tea leaves went up from 7,309 tonnes in 2017 to 8,056 tonnes in 2018.

2.4 Import of fertilisers and pesticides

Intensive use of chemical based fertilisers and other agro-chemicals may contribute to the pollution of the environment through the leaching of nitrate to ground water.

From 2017 to 2018, import of fertilisers decreased by 23.3% from 44,028 tonnes to 33,750 tonnes. Import of pesticides increased by 6.6% from 2,427 tonnes to 2,587 tonnes (Table 5).

3. Greenhouse Gas (GHG) Emissions

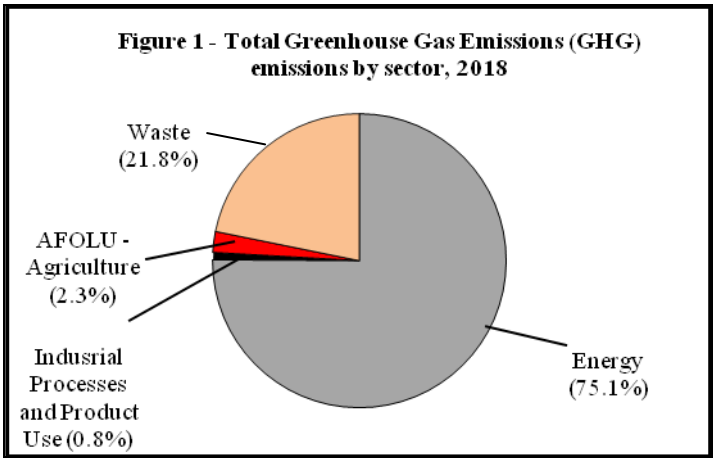
GHG are gases occurring naturally and also resulting from human-induced activities (anthropogenic emissions from production and consumption). They contribute directly or indirectly to global warming. Some main GHG are Carbon Dioxide (CO_2), Methane (CH_4) and Nitrous Oxide (N_2O).

3.1 Total GHG emissions by sector

The total GHG emissions (excluding Forestry and Other Land Use) in 2018 were 5,613.2 Gg carbon dioxide equivalent (CO_2-eq) compared to 5,612.1 Gg CO_2-eq in 2017, representing an increase of 0.02%. In 2018, there was a rise in emissions from the industrial processes and product use and waste sectors, partly offset by a decrease in emission from energy and agriculture (Table 7). The contribution of GHG to total global GHG emission stood at 0.01%.

The energy sector was the largest contributing sector and accounted for 75.1% (4,215.2 Gg CO_2-eq) of the total emissions followed by the waste sector with 21.8 % (1,222.5 Gg CO_2-eq), the agriculture sector with 2.3% (127.6 Gg CO_2-eq) and the industrial processes and product use sector, 0.8% (47.9 Gg CO_2-eq) - (Figure 1).

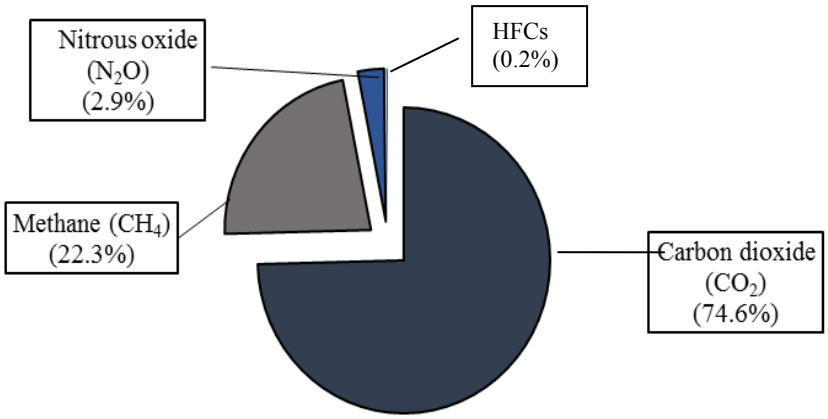
Figure 1 - Total Greenhouse Gas Emissions (GHG) emissions by sector, 2018



3.2 Total GHG emissions by gases

In 2018, carbon dioxide (CO_2) was the main GHG representing 74.6% (4,190.5 Gg) of total GHG emissions. Methane (CH_4) contributed 22.3% (1,250.3 Gg CO_2-eq), nitrous oxide (N_2O) 2.9% (161.2 Gg CO_2-eq), and hydrofluorocarbons (HFCs) 0.2% (11.2 Gg CO_2-eq)-(Figure 2).

Figure 2 - Total GHG emissions by gases, 2018



3.3 Net GHG emissions

The net GHG emissions, after accounting for the removal of Carbon Dioxide by Forestry and Other Land Use sector, stood at around 5,248.2 Gg CO_2.eq in 2018, up by 0.02% from 5,247.4 Gg CO_2.eq in 2017 (Table 7).

3.4 Energy and Greenhouse gas (GHG)

3.4. 1 Energy sector

Though vital for economic development and households, the production and consumption of energy release greenhouse gases. Carbon dioxide is the main component of the greenhouse gases.

3.4.2 Primary energy requirement

Total primary energy requirement (defined as the sum of imported and locally available fuels less re-exports and bunkering after adjusting for stock changes) was 1,586 thousand tonnes of oil equivalent (ktoe) in 2018, some 0.9% less than in 2017 (1,600 ktoe) - (Table 6).

Some 12.9% (204 ktoe) was met from locally renewable energy sources (hydro, wind, landfill gas, bagasse, fuelwood and photovoltaic), while 87.1% (1,382 ktoe) were from imported fossil fuels (petroleum products and coal).

Energy supply from local renewable sources decreased by 5.1% from 215 ktoe in 2017 to 204 ktoe in 2018. There was a decrease of 7.2% in the production of bagasse from 194 ktoe in 2017 to 180 ktoe in 2018. On the other hand, energy sources from hydro increased by 39.0% from 7.7 ktoe to 10.7 ktoe, landfill gas rose by 26.7% from 1.5 ktoe to 1.9 ktoe and photovoltaic, up by 23.5% from 3.4 to 4.2 ktoe. Wind remained same at 1.3 ktoe.

From 2017 to 2018, energy supply from imported fossil fuels went down by 0.2% from 1,385 to 1,382 ktoe. Energy supply from petroleum products increased by 2.2% from 914 ktoe in 2017 to 934 ktoe in 2018. On the other hand, supply of coal decreased by 4.9% from 471 ktoe to 448 ktoe (Table 6).

3.4.3 Electricity generation

Total electricity generated increased by 0.4% from 3,120 GWh in 2017 to 3,132 GWh in 2018. In 2018, around 40.2% of electricity was generated from coal, 39.0% from diesel and fuel oil, and 20.7% from renewable sources. Electricity generated from coal decreased by 4.0% from 1,312 GWh in 2017 to 1,260 GWh in 2018; that from diesel and fuel oil together increased by 3.5% from 1,181 GWh in 2017 to 1,222 GWh in 2018 (Table 9).

Electricity generated from renewable sources increased from 624 GWh to 649 GWh, up by 4.0%. Landfill gas increased by 35.3% from 17 GWh to 23 GWh, hydro by 38.9% from 90 GWh to 125 GWh and photovoltaic by 25.6% from 39 GWh to 49 GWh. Electricity generated from bagasse decreased by 5.6% from 463 GWh to 437 GWh and wind remained almost same at around 15 GWh (Table 9).

3.4.4 Fuel input for electricity generation

Fuel input for electricity generation from petroleum products, coal and bagasse as shown in Table 10 indicates that:

- In 2018, coal (51.7%) was the major fuel used to produce electricity followed by fuel oil (28.6%) and bagasse (19.5%);

- Between 2017 and 2018, fuel input decreased by 3.2% from 855 ktoe to 828 ktoe;

- Input of fuel oil increased by 3.0%, from 230 ktoe in 2017 to 237 ktoe in 2018 and that of coal decreased by 5.1%, from 451 ktoe in 2017 to 428 ktoe in 2018;

- Some 161 ktoe of bagasse was used to produce electricity in 2018 compared to 173 ktoe in 2017, down by 6.9%.

3.4.5 Energy sector emissions

In 2018, GHG emission from the energy sector stood at 4,215 Gg CO_2-eq, down by 0.8% from 4,250 Gg CO_2-eq in 2017. Within the energy sector, the sub-sector that contributed most of the GHG emission was the energy industries (electricity generation) which accounted for 59.3 % (2,498 Gg CO_2-eq) of the total emissions. Next came the transport sector which made up 26.3% (1,109 Gg CO_2-eq) of the total emissions, the manufacturing industries and construction making up another 8.3% (349 Gg CO_2-eq) and the other sectors accounting for the remaining 6.1% (259 Gg CO_2-eq) - (Table 8).

3.4.5.1 Energy industries (electricity generation)

GHG emission from the generation of electricity (energy industries) stood at 2,498 Gg CO_2-eq in 2018 compared to 2,568 Gg CO_2-eq in 2017, representing a decrease of 2.7% (Table 8). This is mainly attributed to a 5.1% decrease (from 451 ktoe to 428 ktoe) in the quantity of coal and 3.0% increase (from 230 ktoe to 237 ktoe) in the amount of fuel oil used to produce electricity (Table 10).

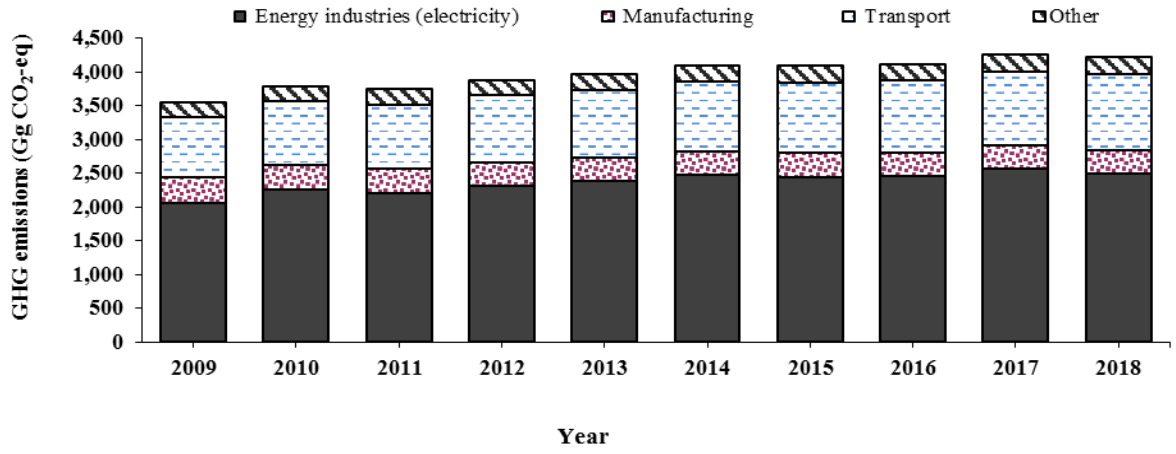
3.4.5.2 Transport industries

In 2018, GHG emission from the transport sector was estimated at 1,109 Gg CO_2-eq compared to 1,083 in 2017, up by 2.4% due to higher fuel consumption. It is to be noted that the number of registered motor vehicles went up by 4.6% from 531,797 in 2017 to 556,001 in 2018 (Table 12). The energy consumed by transport increased by 1.9% from 530 ktoe to 540 ktoe - (Table11).

3.4.5.3 Manufacturing industries and construction

The manufacturing industries and construction sector registered a decrease of 0.2% in GHG emissions in 2018 (from 349.2 to 348.6 Gg CO_2-eq). The amount of coal consumed by the sector decreased from 20.8 ktoe to 19.8 ktoe and consumption of fuel oil, diesel and LPG increased from 77.5 ktoe to 78.5 ktoe (Table11).

Figure 3 - GHG emissions from energy sector (fuel combustion activities), Republic of Mauritius, 2009 - 2018

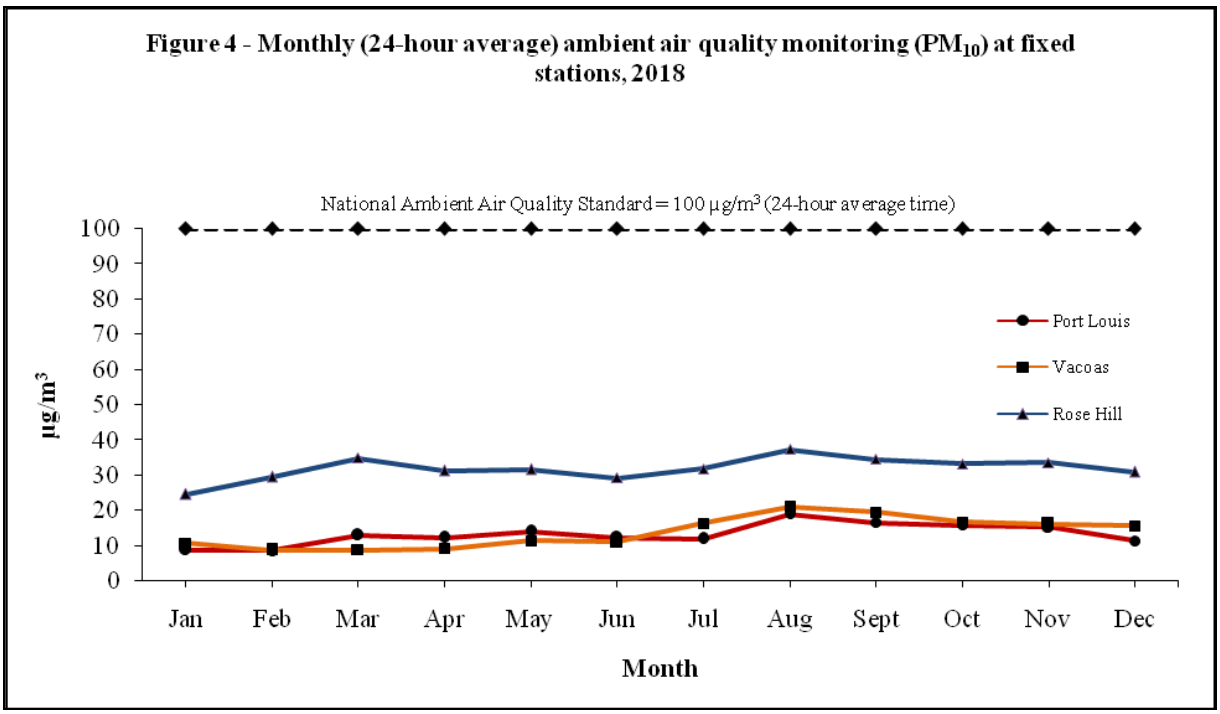


4. Ambient Air Quality

Air quality is understood as an indicator which gives an account of the presence of substances or compounds in the air which can present a potential risk to the environment and to the health of the population exposed to them. It can be expressed by concentration of pollutants such as particulate matter (PM), Carbon Monoxide, Sulphur Dioxide among others.

Figure 4 presents the monthly (24-hour) average of fine particulate matter with a diameter of size less or equal to 10 micrometers (PM_{10}) recorded at the urban background ambient air quality monitoring stations at Port Louis and Vacoas, and at the roadside ambient air quality monitoring station at Rose Hill. The figures indicate that the level of PM_{10} was below 100 µg/m^3, the Ambient Air Quality Standard, Environmental Protection (Standard for Air) Regulations 1998, for all the months of the year.

Figure 4 - Monthly (24-hour average) ambient air quality monitoring (PM_{10}) at fixed stations, 2018



Source: National Environmental Laboratory, Ministry of Social Security, National Solidarity, and Environment and Sustainable Development (Environment and Sustainable Development Division)

5. Temperature

Table 13 indicates that, in 2018, the mean maximum temperature was above the long term (1981-2010) mean for all months of the year except for January. The mean minimum temperature was above the long term mean for all the months of 2018. February was the warmest month of the year with a mean of 27.0 ˚C and July the coolest month with a mean of 21.2 ˚C.

The highest maximum temperature recorded was 35.8 ˚C, recorded on 2 February 2018 at Riviere Noire. The lowest minimum temperature was 9.8 ˚C, which was recorded on 30 August 2018 at Mon Desert Alma.

6. Water

Water, being a basic support element for human life and ecosystems, is of vital environmental and biological importance.

6.1 Rainfall

During the year 2018, the mean amount of rainfall recorded around the Island of Mauritius was 2,816 millimetres (mm), representing a rise of 31.6% compared to 2,140 mm in 2017 and an increase of 40.6% from the long term (1981-2010) mean of 2,003 mm.

The wettest month in 2018 was January with a mean of 794 mm, which represented a surplus of 202% relative to the long term (1981-2010) mean of 263 mm. August was the driest month with a mean of 36 mm of rainfall, registering a deficit of 66% compared to the long term (1981-2010) mean of 106 mm (Table 14).

6.*2 Water Balance*

In 2018, the Island of Mauritius received 5,252 million cubic metres (Mm^3) of water from precipitation (rainfall), 31.6% higher when compared to 3,991 Mm^3 in 2017. Only 10 % (525 Mm^3) of the water went as ground water recharge, while evapotranspiration and surface runoff accounted for 30% (1,576 Mm^3) and 60% (3,151 Mm^3) respectively (Table 15).

6.3 Water utilisation

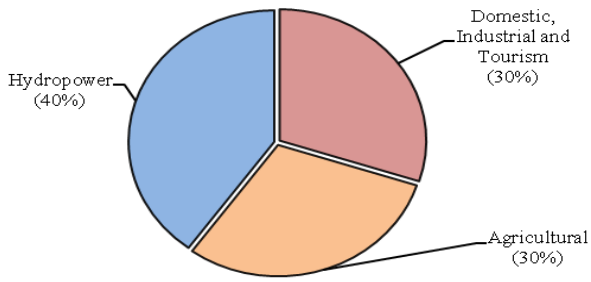
Total water utilisation was estimated at 981 Mm^3 in 2018. Around 84% (826 Mm^3) of the total water utilisation was met from surface water, 15% (150 Mm^3) from ground water and 1% (5 Mm^3) from reuse of treated wastewater.

The agricultural sector accounted for 30% (291 Mm^3) of the water utilised, domestic, industrial and tourism sector 30% (292 Mm^3), and hydropower 40% (398 Mm^3) - (Table 16).

Compared to 2017, water utilisation increased by 5.7%, from 928 to 981 Mm^3 with changes as follows:

- hydropower (+27.6%);
- agriculture (-15.4%); and
- domestic, industrial and tourism (+7.4).

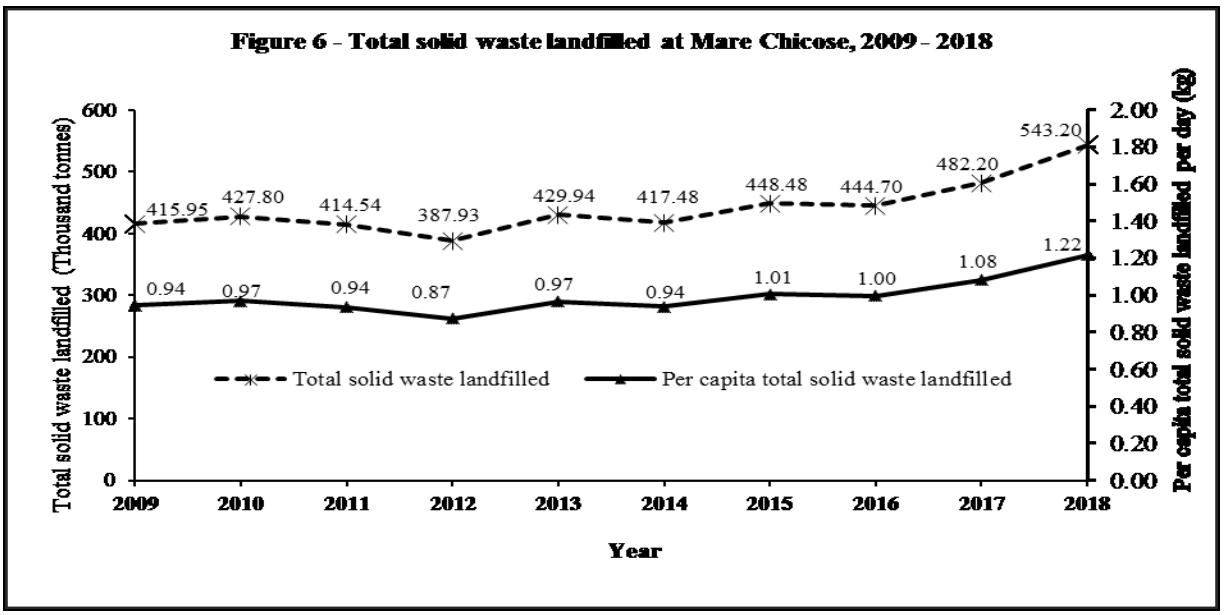
Figure 5 - Water utilisation, 2018



7. Waste

7.1 Waste disposal at Mare Chicose Landfill

The total amount of solid waste landfilled at Mare Chicose increased by 12.7% from 482,196 tonnes in 2017 to 543,197 tonnes in 2018 (Table 17). The trend of the total amount of solid waste landfilled and the per capita solid waste landfilled are as shown in Figure 6. The per capita total solid waste landfilled increased by 29.8% from 0.94 kg/day in 2009 to 1.22 kg/day in 2018.



8. Complaints

Effective environmental management needs appropriate coordination and monitoring of environmental problems. The Environment and Sustainable Development Division of the Ministry of Social Security, National Solidarity, and Environment and Sustainable Development addresses complaints received from the general public according to a complaints handling protocol.

Complaints received at the Pollution Prevention and Control Division of the Ministry of Social Security, National Solidarity, and Environment and Sustainable Development (including those received from the Citizen Support Portal) are categorised at Table 18. The number of complaints received decreased by 18.2% from 765 in 2017 to 626 in 2018. The main categories of complaints were as follows: air pollution (18.1%), noise (14.5%), odour (10.5%), waste water (11.3%), solid waste (9.4%) and bareland (9.3%).

9. Environmental Impact Assessment (EIA) Licences and Preliminary Environmental Report (PER) Approvals

9.1 EIA Licences and PER Approvals

In 2018, some 49 EIA licences were granted, which comprised 17 for coastal hotels and related works, 10 were for land parcelling (morcellement), 8 for "housing/integrated resort scheme/property development scheme/smart city", 2 for photovoltaic farms, 2 for construction of road and highway, 2 for "development in port area" and 8 for "other projects such as chemical blending, storage facilities amongst others" (Table 19).

During the same period, 32 PER approvals were issued, which comprised 11 for poultry, rearing 10 for industrial development, 2 for livestock rearing, 2 for "housing/integrated resort scheme/property development scheme/smart city", 1 for land parcelling and 6 for "other projects such as heliport, manufacture of plastic products amongst others" (Table 20).

Statistics Mauritius

Ministry of Finance and Economic Development

Port Louis

July 2019

Contact Persons

Ms. D. Mewa Hurdowar
Statistician
Mr. A.Dindoyal
Senior Statistical Officer
Ministry of Social Security, National Solidarity, and Environment and Sustainable Development, (Environment and Sustainable Development Division).
Ken Lee Tower
Port Louis
Tel. (230) 210-6186
Website : http://statsmauritius.govmu.org
Email cso_envi@govmu.org

Table 1 - Main environment indicators, 2017 and 2018

Indicator	Unit	2017 [1]	2018 [2]
Republic of Mauritius			
1. Terrestrial protected areas	hectares	14,918	14,918
2. Marine protected areas	hectares	13,953	13,953
3. Total Greenhouse gas (GHG) emission	Gg CO_2-eq	5,612.1	5,613.2
4. Total carbon dioxide emission	000 tons	4,226.2	4,190.5
5. Per capita carbon dioxide emission	tons	3.34	3.31
6. Total electricity generated	GWh	3,120.0	3,131.6
7. Electricity generated from renewable sources	%	20.0	20.7
8. Total primary energy requirement	ktoe	1,599.8	1,586.3
9. Primary energy requirement from renewable sources	%	13.4	12.9
10. Per capita primary energy requirement	toe	1.27	1.25
11. Per capita final energy consumption	toe	0.77	0.78
12. Energy intensity [2]	toe per Rs.100,000 GDP at 2006 prices	0.46	0.44
Island of Mauritius			
13. Forest area	ha	47,066	47,048
14. Total forest area as a % of total land area	%	25.2	25.2
15. Total fish production (fresh-weight equivalent)	tons	23,732	29,208
16. Irrigated land	ha	16,455	17,358
17. Mean annual rainfall	millimetres	2,140	2,816
18. Mean of maximum annual temperature	degrees Celcius	28.3	28.2
19. Mean of minimum annual temperature	degrees Celcius	21.0	20.7
20. Mean annual temperature	degrees Celcius	24.7	24.4
21. Annual fresh water abstraction	Mm^3	610	578
22. Daily per capita domestic water consumption	litres	174	180
23. Daily per capita total solid waste disposed at landfill	Kg	1.08	1.22

[1] Revised [2] Provisional

Table 2 - Land use by category, Island of Mauritius, 1995 and 2005

Land use	1995		2005 [1]		Change	
	Hectares	%	Hectares	%	Hectares	%
Sugar cane plantations	76,840	41.2	72,000	38.6	-4,840	-6.3
Tea plantations	3,660	2.0	674	0.4	-2,986	-81.6
Other agricultural activities	6,000	3.2	8,000	4.3	2,000	33.3
Forests, shrubs and grazing lands	57,000	30.6	47,200	25.3	-9,800	-17.2
Infrastructure	4,000	2.1	4,500	2.4	500	12.5
Inland water resource systems	2,600	1.4	2,900	1.6	300	11.5
Built-up areas	36,400	19.5	46,500	24.9	10,100	27.7
Abandoned cane field	NA	NA	4,726	2.5	NA	NA
Total	**186,500**	**100.0**	**186,500**	**100.0**	**0**	**0**

Source: (i) Sugar Insurance Fund Board - Sugar cane plantation, (ii) Tea Board - Tea Plantation, (iii) Climate Change Activities Report, May 2006 - Other

[1] Estimate

Table 3 - Forest area by category, Island of Mauritius, 2017 - 2018

Hectares

Category of Forest	2017 [1]		2018	
	Hectares	%	Hectares	%
State - owned lands	**22,066**	**46.9**	**22,048**	**46.9**
Plantations	11,802	25.1	11,799	25.1
Nature reserves	799	1.7	799	1.7
Mainland	*200*	*0.4*	*200*	*0.4*
Islets	*599*	*1.3*	*599*	*1.3*
Black River Gorges National Park	6,574	14.0	6,574	14.0
Bras D'Eau National Park	497	1.1	497	1.1
Special Reserves [2]	137	0.3	137	0.3
Vallee d'Osterlog Endemic Garden	275	0.6	275	0.6
Ramsar sites	46	0.1	46	0.1
Rivulet Terre Rouge Estuary Bird Sanctuary	*26*	*0.1*	*26*	*0.1*
Pointe D'Esny Wetland	*20*	*0.0*	*20*	*0.0*
Other Forest Lands	1,313	2.8	1,315	2.8
Pas Geometriques	623	1.3	606	1.3
Plantations	*214*	*0.5*	*214*	*0.5*
Leased for grazing and tree planting	*230*	*0.5*	*230*	*0.5*
Others (mostly rocky)	*179*	*0.4*	*162*	*0.3*
Private - owned lands [3]	**25,000**	**53.1**	**25,000**	**53.1**
Reserves	6,553	13.9	6,553	13.9
Mountain reserves	*3,800*	*8.1*	*3,800*	*8.1*
River reserves	*2,740*	*5.8*	*2,740*	*5.8*
Private Reserves	*13*	*0.0*	*13*	*0.0*
Other [4]	18,447	39.2	18,447	39.2
Total	**47,066**	**100.0**	**47,048**	**100.0**

[1] Revised

[2] "Islet National Parks" renamed as "Special Reserves" as per Native Terrestrial Biodiversity & National Parks Act of 2015

[3] Current figures for privately-owned lands are crude estimates based on expert knowledge from Forestry Service

[4] Includes plantations, forest lands, scrub and grazing lands

Source : Forestry Service, Ministry of Agro Industry and Food Security

Table 4 - Agricultural crops - Area harvested and production, Island of Mauritius, 2017 - 2018

Crops	2017		2018 [2]	
	Area harvested (hectares)	Production (tonnes)	Area harvested (hectares)	Production (tonnes)
Sugar cane	49,974 [1]	3,713,331	47,678	3,154,516
Tea (green leaves)	622 [3]	7,309	656 [3]	8,056
Food crops	7,780	106,621	7,646	96,847
Sugar	Napp	355,213	Napp	323,406

[1] Revised [2] Provisional [3] Area under cultivation

Table 5 - Imports and value (c.i.f)[1] of fertilisers and pesticides, 2017 - 2018

Year	Fertilisers		Pesticides	
	Quantity (tonnes)	Value c.i.f (Rs mn)	Quantity (tonnes)	Value c.i.f (Rs mn)
2017	44,028 [2]	487.0	2,427 [2]	465.0
2018 [3]	33,750	418.0	2,587	505.0

[1] Cost, Insurance, Freight [2] Revised [3] Provisional

Table 6 - Total primary energy requirement, Republic of Mauritius, 2017 - 2018

ktoe (000 Tonne of oil equivalent)

Energy source	2017 [1]		2018 [2]	
	ktoe	%	ktoe	%
Imported (Fossil Fuels)	**1,385.3**	**86.6**	**1,381.9**	**87.1**
Coal	***471.3***	***29.5***	***447.7***	***28.2***
Petroleum products	***914.0***	***57.1***	***934.2***	***58.9***
Gasolene	187.7	11.7	191.5	12.1
Diesel Oil	214.4	13.4	216.6	13.6
Dual Purpose Kerosene	161.3	10.1	163.3	10.3
Kerosene	*1.0*	*0.1*	*0.7*	*0.0*
Aviation Fuel	*160.2*	*10.0*	*162.5*	*10.2*
Fuel Oil	269.3	16.8	278.7	17.6
LPG	81.3	5.1	84.2	5.3
Local (Renewables)	**214.5**	**13.4**	**204.4**	**12.9**
Hydro	7.7	0.5	10.7	0.7
Wind	1.3	0.1	1.3	0.1
Landfill Gas	1.5	0.1	1.9	0.1
Photovoltaic	3.4	0.2	4.2	0.3
Bagasse [3]	194.3	12.1	180.1	11.3
Fuelwood [3]	6.4	0.4	6.1	0.4
Total	**1,599.8**	**100.0**	**1,586.3**	**100.0**

[1] Revised [2] Provisional [3] Estimates

Source: Central Electricity Board and Annual Sugar Industry Energy Survey

Table 7 - National inventory of greenhouse gas emissions [1] by sector, Republic of Mauritius, 2017[2] - 2018[2]

Sector	Gg or Thousand Tonnes						Gg CO_2 - eq		Greenhouse gas emissions (GHG) [3] (Gg CO_2 - eq) excluding Forestry and Other Land Use (FOLU)		% of total GHG emissions	
	Carbon dioxide (CO_2)		Methane (CH_4)		Nitrous oxide (N_2O)		Hydrofluorocarbons (HFCs)					
	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
1. Energy [4]	4,190.80	4,153.74	0.88	0.86	0.13	0.14	..	..	4,249.58	4,215.20	75.7	75.1
2. Industrial Processes and Product Use (IPPU)	35.37	36.72	..	..	..	..	10.06	11.19	45.43	47.91	0.8	0.8
3. Agriculture Forestry and Other Land Use (AFOLU) - Agriculture	..	..	1.50	1.50	0.36	0.31	..	..	143.10	127.60	2.6	2.3
4. Waste	..	..	54.87	57.18	0.07	0.07	..	..	1,173.97	1,222.48	20.9	21.8
Total	**4,226.17**	**4,190.46**	**57.25**	**59.54**	**0.56**	**0.52**	**10.06**	**11.19**	**5,612.08**	**5,613.19**	**100.0**	**100.0**

Emissions	Gg CO_2-eq	
	2017 [2]	2018 [2]
1. GHG emissions excluding Forestry and Other Land Use (FOLU)	5,612.08	5,613.19
2. GHG removals [5] - (FOLU)	364.72	365.00
3. GHG emissions including FOLU (= 1 - 2)	5,247.36	5,248.19

[1] Based on 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines of the United Nations Framework Convention on Climate Change (UNFCCC)

[2] Provisional (To be revised in First Biennial Update Report)

[3] Refers to carbon dioxide, methane, nitrous oxide and hydrofluorocarbons

[4] Transport under Energy sector is based on linear extrapolation of National Inventory Report (NIR) series 2006 - 2013

[5] Excludes the amount of CO_2 sequestrated by trees and vegetations found along rivers, canal reserves and trees along roads

.. : Not occuring, not applicable, not estimated

Table 8 - Greenhouse gas emissions from energy sector (fuel combustion activities), Republic of Mauritius, 2017 - 2018

Gg CO_2- eq

Energy Sector	2017 [1]		2018 [1]	
	Quantity	%	Quantity	%
Energy industries (electricity generation)	2,567.50	60.4	2,498.27	59.3
Manufacturing industries and construction	349.21	8.2	348.57	8.3
Transport [2]	1,082.67	25.5	1,109.46	26.3
Other Sectors [3]	250.20	5.9	258.90	6.1
Total	**4,249.58**	**100.0**	**4,215.20**	**100.0**

[1] Provisional (To be revised in First Biennial Update Report)

[2] Based on linear extrapolation of NIR series 2006 - 2013

[3] Includes Residential, Commercial, Institutional and Agriculture

Table 9 - Electricity generation by source of energy, Republic of Mauritius, 2017 - 2018

Source of energy	2017 [1]		2018 [2]	
	GWh	%	GWh	%
Primary energy	**160.5**	**5.1**	**211.6**	**6.8**
Hydro (renewable energy)	89.8	2.9	124.5	4.0
Wind (renewable energy)	14.6	0.5	15.1	0.5
Landfill gas (renewable energy)	16.9	0.5	22.6	0.7
Photovoltaic (renewable energy)	39.2	1.3	49.4	1.6
Secondary energy	**2,959.2**	**94.9**	**2,920.0**	**93.2**
Gas turbine (kerosene)	2.7	0.1	1.8	0.1
Diesel and Fuel oil	1,181.3	37.9	1,221.6	39.0
Coal	1,312.0	42.1	1,259.5	40.2
Bagasse (renewable energy)	463.2	14.8	437.1	14.0
Total	**3,119.7**	**100.0**	**3,131.6**	**100.0**
of which **:** renewable energy	**623.7**	**20.0**	**648.7**	**20.7**

[1] Revised [2] Provisional

Table 10 - Fuel input for electricity production, Republic of Mauritius, 2017 - 2018

ktoe (000 Tonne of oil equivalent)

Fuel	2017		2018	
	Quantity (ktoe)	%	Quantity (ktoe)	%
Petroleum products	**232.1**	**27.1**	**239.0**	**28.8**
Fuel oil	*229.8*	*26.9*	*237.4*	*28.6*
Diesel oil	*1.3*	*0.1*	*0.9*	*0.1*
Kerosene	*1.0*	*0.1*	*0.7*	*0.1*
Coal	**450.5**	**52.7**	**427.9**	**51.7**
Total petroleum products and coal	***682.6***	***79.8***	***666.9***	***80.3***
Local renewables	**172.6**	**20.2**	**161.4**	**19.5**
Bagasse	*172.6*	*20.2*	*161.4*	*19.5*
Total	**855.2**	**100.0**	**828.3**	**100.0**

Source: Central Electricity Board and Annual Sugar Industry Energy Survey

Table 11 - Final energy consumption by sector and type of fuel, 2017 - 2018

Sector	2017			2018		
	Tonne (except Electricity in GWh)	ktoe	%	Tonne (except Electricity in GWh)	ktoe	%
1. Manufacturing		**205.9**	**21.0**		**203.5**	**20.6**
1.1 excluding bagasse		**184.2**	**18.8**		**184.8**	**18.7**
Fuel oil	37,143	35.7	3.6	38,762	37.2	3.8
Diesel oil	35,525	35.9	3.7	34,804	35.2	3.6
LPG	5,462	5.9	0.6	5,669	6.1	0.6
Coal	33,527	20.8	2.1	31,886	19.8	2.0
Fuel wood [2]	1,242	0.5	0.1	1,200	0.5	0.0
Electricity (*GWh*)	993	85.4	8.7	1,002	86.1	8.7
1.2 bagasse	**135,746**	**21.7**	**2.2**	**116,582**	**18.7**	**1.9**
2. Transport [1]		**530.4**	**54.3**		**540.1**	**54.6**
Land		***360.6***	***36.9***		***367.6***	***37.2***
Gasolene	*169,764*	*183.3*	18.7	*173,021*	*186.9*	*18.9*
LPG	*3,316*	*3.6*	0.4	*3,290*	*3.6*	*0.4*
Diesel oil	*172,010*	*173.7*	17.7	*175,405*	*177.2*	*17.9*
Air						
Aviation Fuel	***154,072***	***160.2***	**16.4**	***156,291***	***162.5***	***16.4***
Sea		***9.6***	***1.0***		***10.0***	***1.0***
Gasolene	*4,038*	*4.4*	0.5	*4,255*	*4.6*	*0.5*
Diesel oil	*1,261*	*1.3*	0.1	*1,291*	*1.3*	*0.1*
Fuel oil	*4,039*	*3.9*	0.4	*4,225*	*4.1*	*0.4*
3. Commercial and Distributive Trade		**99.6**	**10.2**		**101.3**	**10.2**
LPG	16,173	17.5	1.8	*17,214*	18.6	1.9
Charcoal [2]	414	0.3	0.0	*380*	0.3	0.0
Electricity (*GWh*)	952	81.8	8.4	*959*	82.4	8.3
4. Household		**134.3**	**13.7**		**138.1**	**14.0**
Kerosene	63	0.1	0.0	46	0.0	0.0
LPG	50,011	54.0	5.5	51,457	55.6	5.6
Fuelwood [2]	13,442	5.1	0.5	13,089	5.0	0.5
Charcoal [2]	94	0.1	0.0	87	0.1	0.0
Electricity (*GWh*)	873	75.0	7.7	901	77.5	7.8
5. Agriculture		**4.2**	**0.4**		**3.7**	**0.4**
Diesel oil [2]	2,186	2.2	0.2	2,110	2.1	0.2
Electricity (*GWh*)	23	2.0	0.2	19	1.6	0.2
6. Other (n.e.s)		**4.5**	**0.5**		**2.5**	**0.3**
TOTAL		**978.8**	**100.0**		**989.2**	**100.0**

[1] Includes transport for all sectors

[2] Estimates

Table 12 - Stock of registered motor vehicles, Island of Mauritius, 2017 - 2018

Type of vehicle	2017	2018
Cars, Dual Purpose Vehicle, Double cab pick up	272,213	289,676
Auto / Motocycles	205,493	211,125
Heavy Motor Car and Bus	4,446	4,453
Van, lorry and truck	43,145	44,011
Other vehicles[1]	6,500	6,736
Total	**531,797**	**556,001**
of which hybrid vehicles	*6,406*	*9,993*
electric vehicles	*51*	*84*

[1] Includes tractor and dumper, prime mover, trailer, road roller and other

Table 13 - Mean maximum, mean minimum and mean temperature, Island of Mauritius, 2018

Degree Celcius

Temperature	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Annual mean temperature
Maximum temperature													
Long Term Mean (1981-2010)	29.8	29.8	29.4	28.6	27.0	25.2	24.3	24.4	25.3	26.2	28.1	29.3	**27.3**
Monthly Maximum Mean Temperature	29.7	30.7	30.0	29.1	27.8	26.4	24.8	26.0	26.5	27.6	29.2	30.1	**28.2**
Difference from Long Term Mean	-0.1	0.9	0.6	0.5	0.8	1.2	0.5	1.6	1.2	1.5	1.1	0.8	**0.9**
Minimum temperature													
Long Term Mean (1981-2010)	22.3	22.6	22.1	21.2	19.4	17.6	16.9	16.9	17.2	18.3	19.6	21.2	**19.6**
Monthly Minimum Mean Temperature	23.3	23.3	23.4	22.1	20.2	18.8	17.6	18.0	18.9	18.9	21.4	22.3	**20.7**
Difference from Long Term Mean	1.0	0.7	1.3	0.9	0.8	1.2	0.7	1.1	1.7	0.6	1.8	1.1	**1.1**
Mean temperature													
Long Term Mean (1981-2010)	26.1	26.2	25.8	24.9	23.2	21.4	20.6	20.7	21.3	22.3	23.9	25.3	**23.5**
Monthly Mean temperature	26.5	27.0	26.7	25.6	24.0	22.6	21.2	22.0	22.7	23.3	25.3	26.2	**24.4**
Difference from Long Term Mean	0.4	0.8	0.9	0.7	0.8	1.2	0.6	1.3	1.4	1.0	1.4	0.9	**0.9**

Source: Mauritius Meteorological Services

Table 14 - Mean rainfall, Island of Mauritius, 2017 - 2018

Millimetres

Month	Long Term Mean (1981-2010)	2017		2018	
		Monthly Mean	% of Long Term Mean	Monthly Mean	% of Long Term Mean
January	263	146	56	794	302
February	348	332	95	337	97
March	263	264	100	319	121
April	212	272	128	394	186
May	148	367	248	78	53
June	107	152	142	103	96
July	125	160	128	154	123
August	106	145	137	36	34
September	96	56	58	87	91
October	77	69	90	55	71
November	78	105	135	195	250
December	180	72	40	264	147
Total for the year	**2,003**	**2,140**	**107**	**2,816**	**141**

Source: Mauritius Meteorological Services

Table 15 - Water balance, Island of Mauritius, 2017 - 2018

Mm^3

	2017	2018
Rainfall	**3,991**	**5,252**
Surface runoff	*2,395*	*3,151*
Evapotranspiration	*1,197*	*1,576*
Net recharge to groundwater	*399*	*525*

Source: Water Resources Unit, Ministry of Energy and Public Utilities.

Table 16 - Water Utilisation, Island of Mauritius, 2017 - 2018

Mm^3

Utilisation	2017					2018				
	Surface water		Ground water	Reuse of treated waste water	Total	Surface water		Ground water	Reuse of treated waste water	Total
	River-run offtakes	Storage (Reservoirs)				River-run offtakes	Storage (Reservoirs)			
Domestic, Industrial and Tourism (CWA network)	42 [1]	88	130	0	**260**	51 [1]	92	138	0	**281**
Agricultural	279	54 [2]	5	6	**344**	221	60 [2]	5	5	**291**
Hydropower	154 [3]	158 [4]	0	0	**312**	166 [3]	232 [4]	0	0	**398**
Industrial	3	2 [5]	7	0	**12**	2	2 [5]	7	0	**11**
Overall utilisation	**478**	**302**	**142**	**6**	**928**	**440**	**386**	**150**	**5**	**981**
Total water mobilisation	**446**	**252**	**142**	**Napp**	**840**	**383**	**325**	**150**	**Napp**	**858**

[1] 16 Mm^3 used also for Reduit hydropower station
[2] 15 Mm^3 used also for Tamarind Falls and Magenta hydropower stations and 8 Mm^3 for La Ferme hydropower station; [3] 16 Mm^3 used also twice for Le Val and Ferney hydropower stations; [4] 27 Mm^3 used also twice at Midlands and La Nicoliere; [5] Used by IPP (formerly accounted in agricultural purpose)

[1] 33 Mm^3 used also for Reduit hydropower station
[2] 26 Mm^3 used also for Tamarind Falls and Magenta hydropower stations and 5 Mm^3 for La Ferme hydropower station; [3] 24 Mm^3 used also twice for Le Val and Ferney hydropower stations; [4] 30 Mm^3 used also twice at Midlands and La Nicoliere; [5] Used by IPP (formerly accounted in agricultural purpose)

Source: Water Resources Unit, Ministry of Energy and Public Utilities.

Table 17 - Disposal of solid waste by type at Mare Chicose landfill site, 2017 - 2018

Tonnes

Waste material	2017	2018
Domestic and Commercial	462,431	522,292
Construction	2,090	4,872
Other [1]	17,675	16,033
Total	**482,196**	**543,197**

Source: Solid Waste Management Division, Ministry of Social Security, National Solidarity, and Environment and Sustainable Development

[1] Includes mainly industrial waste

Table 18 - Number of complaints [1] attended at the Pollution Prevention and Control (PPC) Division by category, Island of Mauritius, 2017 - 2018

Category	2017 [2]	%	2018	%
Noise	132	17.3	91	14.5
Solid waste	98	12.8	59	9.4
Air pollution	128	16.7	113	18.1
Waste water	78	10.2	71	11.3
Odour	92	12.0	66	10.5
Bareland	76	9.9	58	9.3
Flooding/Obstruction of rivers and drains [3]	Napp	Napp	16	2.6
Other [4]	161	21.0	152	24.3
Total	**765**	**100.0**	**626**	**100.0**

[1] Include number of complaints attended at PPC Division through the Citizen Support Portal.

[2] Revised

[3] Complaints regarding "Flooding/obstruction of rivers and drains" were recorded in "Other" prior to 2018.

[4] Includes backfilling, erosion, illegal construction, objections to projects, law and order, land conversion, land reclamations, landslides etc.
Source: Ministry of Social Security, National Solidarity, and Environment and Sustainable Development (Environment and Sustainable Development Division)

Table 19 - Number of Environmental Impact Assessment (EIA) licences granted by type of project, 2017 - 2018, Island of Mauritius

Project	EIA	
	2017	2018
Land parcelling (morcellement)	8	10
Coastal hotels and related works	7	17
Housing/Integrated Resort Scheme/Property Development Scheme/Smart City	7	8
Photovoltaic Farms	5	2
Development in port area	1	2
Construction of road and highway	3	2
Other projects	8	8
Total	**39**	**49**

Source: Ministry of Social Security, National Solidarity, and Environment and Sustainable Development (Environment and Sustainable Development Division)

Table 20 - Number of Preliminary Environmental Report (PER) approvals granted by type of project, 2017 - 2018, Island of Mauritius

Project	PER	
	2017	2018
Land parcelling (morcellement)	0	1
Poultry rearing	5	11
Industrial development	8	10
Livestock rearing	1	2
Housing/Integrated Resort Scheme/Property Development Scheme/Smart City	2	2
Other projects	2	6
Total	**18**	**32**

Source: Ministry of Social Security, National Solidarity, and Environment and Sustainable Development (Environment and Sustainable Development Division)

Technical notes

Concepts and definitions

Environment

Environment: The totality of all the external conditions affecting the life, development and survival of an organism.

Environment Statistics: Environment statistics are environmental data that have been structured, synthesized and aggregated according to statistical methods, standards and procedures. The scope of environment statistics covers biophysical aspects of the environment and those aspects of the socioeconomic system that directly influence and interact with the environment.

Environmental indicator: Environmental indicators are environment statistics that have been selected for their ability to depict important phenomena or dynamics. Environmental indicators are used to synthesize and present complex environment and other statistics in a simple, direct, clear and relevant way.

Land use, Agriculture and Forestry

Pas Geometriques: Pas Géométriques are a narrow belt, theoretically 81.21 metres (250 French feet) in width, round the coast and are State-owned. There are several cases where the width is less than 81.21 metres or does not exist at all.

Ramsar Sites: The Convention on Wetlands also known as the Ramsar Convention defines wetlands as "Areas of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres". Mauritius became a contracting party to the Ramsar Convention on 30 September 2001.

Land use: Land use reflects both the activities undertaken and the institutional arrangements put in place for a given area for the purposes of economic production, or the maintenance and restoration of environmental functions. Consequently, there are areas of land that are "not in use" by human activities.

Built-up areas: Built-up areas consist of land under houses, industrial zones, quarries or any other facilities, including their auxiliary spaces, deliberately installed so that human activities may be pursued.

Energy and Greenhouse gas

Greenhouse gases (GHG): These gases occur naturally and also result from human-induced activities (anthropogenic production and consumption) that contribute directly or indirectly to global warming. Some main GHG are Carbon Dioxide (CO_2), methane (CH_4) and Nitrous Oxide (N_2O). Other gases such as Carbon monoxide (CO), oxides of Nitrogen (NOx), non methane volatile organic compounds (NMVOC) and Sulphur dioxide (SO_2), contribute indirectly to global warming. GHG act much like a glass greenhouse, trapping heat in the

lower levels of the atmosphere and reflecting the heat back to the earth's surface, causing it to heat up.

Carbon dioxide equivalent (CO_2-eq): It is a measure used to compare the emissions from various greenhouse gases based upon their global warming potential (GWP). The carbon dioxide equivalent of a gas is derived by multiplying the weight of the gas by its associated Global Warming Potential (GWP).

Global Warming Potential (GWP)

The Global Warming Potential (GWP) was adopted from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (SAR – 100 years" time horizon) as in the table below.

GHG	GWP
Carbon Dioxide CO_2	1
Methane CH_4	21
Nitrous Oxide N_2O	310
Hydrofluorocarbon 134a	1300

Primary energy requirement: It is the sum of imported fuels and locally available fuels less re-exports of bunkers and aviation fuel to foreign aircraft after adjusting for stock changes.

Renewable energy: Renewable energy is captured from sources that replenish themselves. It includes solar (photovoltaic and thermal), hydroelectric, geothermal, tidal action, wave action, marine (non-tidal currents, temperature differences and salinity gradients), wind and biomass energy, all of which are naturally replenished, even though their flow may be limited.

Final energy consumption: Energy consumption by final user, i.e energy which is not being used for transformation into other forms of energy.

Water

Water balance: The water balance is based on long term records of annual average rainfall and indicates how freshwater resources are distributed.

Precipitation: Rain falling from the atmosphere and deposited on land or water surfaces.

Evapotranspiration: Combined loss of water by evaporation from the soil or surface water and transpiration from plants and animals.

Surface runoff: The flow of surface water from rainfall, which flows directly to streams, rivers and lakes. Runoff may cause soil erosion.

Groundwater recharge: Process by which water is added from outside to fresh water found beneath the earth surface.

Waste

Solid waste: Solid waste includes domestic garbage, industrial and commercial waste, sewage sludge, wastes resulting from agricultural and animal husbandry operations and other connected activities, demolition wastes and mining residues.

Landfill: Final placement of waste in or on the land in a controlled or uncontrolled way according to different sanitary, environmental protection and other safety requirements.

Environmental impact assessment

Environmental impact assessment (EIA): Analytical process that systematically examines the possible environmental consequences of the implementation of projects, programmes and policies.

Preliminary environmental report

Preliminary environmental report (PER): PER is a short form of EIA and this preliminary analysis is undertaken to identify the impacts associated with the proposed development and the means of mitigation.

Economy

Gross Domestic Product (GDP): GDP is the aggregate money value of all goods and services produced within a country out of economic activity during a specified period, usually a year, before provision for the consumption of fixed capital.

Energy intensity: Energy intensity provides a measure of the efficiency with which energy is being used in production or energy used (tonnes of oil equivalent) per Rs 100,000 GDP (at constant prices)

Abbreviations

Rs	Rupees
Rs mn	Rupees million
%	Percentage
000	Thousand
Mm^3	Million cubic metres
Gg	Gigagram(thousand tonnes)
toe	Tonne of oil equivalent
ktoe	Thousand tonnes of oil equivalent
GWh	Gigawatt hour
PER	Preliminary environmental report
EIA	Environmental impact assessment
$\mu g/m^3$	Micrograms per cubic metre

Symbols

0	Nil
NA	Not available
Napp	Not applicable

Conversion factor

1 square kilometre = 100 hectares