Environment Statistics - 2020

1. Introduction

This issue of Economic and Social Indicators presents statistics on Environment for year 2020 based on data gathered from various institutions.

The main environment indicators for the years 2019 and 2020 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. Forestry and Agriculture

2.1 Forestry

Preservation of forests is vital for the protection of the ecosystem. Total forest area decreased by 20 hectares from 47,031 hectares in 2019 to 47,011 hectares in 2020. Some 22,011 hectares (46.8%) of the total forest area in 2020 was state-owned and the remaining 25,000 hectares (53.2%) was privately-owned (Table 2).

Out of the 22,011 hectares of state-owned forest area, 11,779 hectares (53.5%) were planted areas, while the Black River Gorges National Park and the nature reserves accounted for 6,574 (29.9%) and 799 (3.6%) hectares respectively. "Pas Geometriques" covered about 589 hectares (2.7%), other nature parks, 908 hectares (4.1%), Ramsar sites, 46 hectares (0.2%) and other forest lands, 1,316 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.

2.2 Agriculture

The area harvested of sugar cane decreased from 45,054 hectares in 2019 to 43,711 hectares in 2020. The production of sugar cane went down by 23.0% from 3,405,250 tonnes in 2019 to 2,620,874 tonnes in 2020. The average yield has decreased by 20.7% from 75.58 tonnes per hectares in 2019 to 59.96 in 2020 (Table 3).

The production of sugar went down by 18.2% from 331,105 tonnes in 2019 to 270,875 tonnes in 2020, in spite of a higher extraction rate of 10.34% in 2020, compared to 9.73% in 2019.

The area under food crops harvested increased by 1.7% from 7,334 hectares in 2019 to 7,456 hectares in 2020. Production of foodcrops increased by 0.7% from 93,736 tonnes in 2019 to 94,410 tonnes in 2020.

The area under tea plantation increased by 4.4% from 656 hectares in 2019 to 685 hectares in 2020. The production of green tea leaves went down from 8,329 tonnes in 2019 to 5,105 tonnes in 2020, representing a decrease of 38.7% .

2.3 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 2019 to 2020, import of fertilisers decreased by 19.1% from 33,354 tonnes to 26,991 tonnes. Import of pesticides increased by 4.3% from 2,590 tonnes to 2,700 tonnes (Table 4).

3. Greenhouse Gas (GHG) Emissions

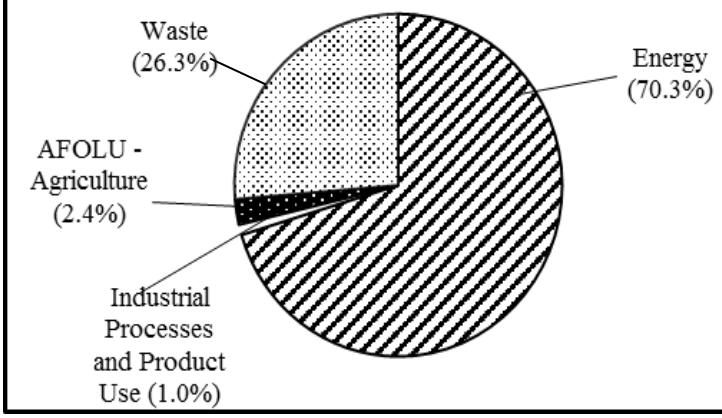
GHG are gases occurring naturally and also resulting from human-induced activities (anthropogenic emissions from production and consumption). They contribute directly or indirectly to global warming. Some main GHG are Carbon Dioxide (CO_2), Methane (CH_4) and Nitrous Oxide (N_2O).

3.*1 Total GHG emissions by sector*

The total GHG emissions (excluding Forestry and Other Land Use) in 2020 were 5200.3 Gg carbon dioxide equivalent (CO_2-eq) compared to 5777.0 Gg CO_2-eq in 2019, representing a decrease of 10.0 %. In 2020, there was a rise in emissions from sectors, namely; industrial processes and product use, agriculture, forestry and other land use and waste (Table 6). However, a decrease of 14.7% in emissions has been observed in the energy sector in 2020. The contribution of GHG to total global GHG emission stood at 0.01% (Source: United Nations Environment Programe(UNEP), Emissions Gap Report 2020).

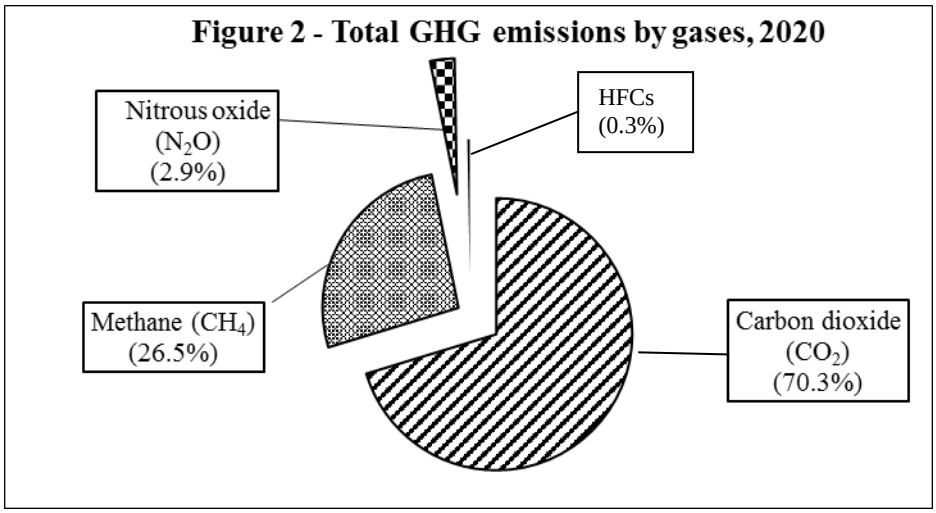
The energy sector remains the largest contributing sector and accounted for 70.3 % (3,657.9 Gg CO_2-eq) of the total emissions followed by the waste sector with 26.3 % (1,367.8 Gg CO_2-eq), the agriculture sector with 2.4 % (123.4 Gg CO_2-eq) and the industrial processes and product use sector, 1.0% (51.2 Gg CO_2-eq) - (Figure 1).

Figure 1 - Total Greenhouse Gas Emissions (GHG) emissions by sector, 2020



3.2 Total GHG emissions by type gases

In 2020, carbon dioxide (CO_2) was the main GHG representing 70.3 % (3654.0 Gg) of total GHG emissions. Methane (CH_4) contributed 26.5 % (1,378.5 Gg CO_2-eq), nitrous oxide (N_2O) 2.9 % (153.1 Gg CO_2-eq), and hydrofluorocarbons (HFCs) 0.3% (14.8 Gg CO_2-eq)- (Figure 2).



3.3 Net GHG emissions

In 2020, GHG emissions have decreased mainly due to a lower fuel consumption in the Energy sector. On the other hand, an increase was observed in GHG removals due to a decrease in the local production of logs, poles and fuelwood. The overall net GHG emissions, after accounting for the removal of Carbon Dioxide by Forestry and Other Land Use sector, stood at around 4,837.3 Gg CO_2-eq in 2020, down by 10.7% from 5,416.1 Gg CO_2-eq in 2019. (Table 6).

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 greenhouse gases.

3.4.2 Primary energy requirement

Total primary energy requirement (total primary energy requirement = local production + imports of primary energy - re-exports of primary energy – international bunkers – stock changes) was 1,333.9 thousand tonnes of oil equivalent (ktoe) in 2020, 16.6% lower than in 2019 (1,600.3 ktoe) - (Table 5).

In 2020, some 13.3% (177 ktoe) was met from locally renewable energy sources (hydro, wind, landfill gas, bagasse, fuelwood and photovoltaic), while 86.7% (1,157 ktoe) were from imported fossil fuels (petroleum products and coal).

In 2020, there was a decrease of 13.3 % in energy supply from local renewable sources. Energy sources from bagasse decreased by 17.1% from 177 ktoe in 2019 to 147 ktoe in 2020, hydro increased by 17.6% from 8.5 ktoe to 10.0 ktoe, landfill gas increased by 23.5% from 1.7 ktoe to 2.1 ktoe, photovoltaic increased by 12.6% from 11.1 to 12.5 ktoe while wind increased by 23.1% from 1.3 to 1.6 ktoe.

From 2019 to 2020, energy supply from imported fossil fuels went down by 17.1% from 1,396 to 1,157 ktoe. Energy supply from petroleum products decreased by 24.1% from 984 ktoe in 2019 to 747 ktoe in 2020. Supply from coal decreased by 0.5% from 412 ktoe to 410 ktoe (Table 5).

3.4.3 Electricity generation

Total electricity generated decreased by 10.9% from 3,237 GWh in 2019 to 2,882 GWh in 2020. In 2020, around 39.5% of electricity was generated from coal, 36.6% from diesel and fuel oil, and 23.9% from renewable sources. Electricity generated from coal decreased by 3.1% from 1,174 GWh in 2019 to 1,138 GWh in 2020; that from diesel and fuel oil together decreased by 21.7% from 1,349 GWh in 2019 to 1,056 GWh in 2020 (Table 8).

Electricity generated from renewable sources decreased from 702 GWh to 688 GWh, down by 2.0%. Landfill gas increased by 25.3% from 20 GWh to 25 GWh, hydro increased by 17.4% from 99 GWh to 116 GWh and photovoltaic increased by 13.4% from 129 GWh to 146 GWh. Electricity generated from bagasse decreased by 12.7% from 440 GWh to 384 GWh and wind increased by 18.3% from 15 GWh to 18 GWh (Table 8).

3.4.4 Fuel input for electricity generation

Fuel input for electricity generation from petroleum products, coal and bagasse as shown in Table 9 indicates that:

- In 2020, coal (53.2%) was the major fuel used to produce electricity followed by fuel oil (28.1%) and bagasse (18.6%);
- Between 2019 and 2020, fuel input decreased by 11.6% from 820 ktoe to 725 ktoe;
- Input of fuel oil decreased by 22.3%, from 262 ktoe in 2019 to 204 ktoe in 2020 and that of coal decreased by 2.0%, from 393 ktoe in 2019 to 386 ktoe in 2020;
- Some 135 ktoe of bagasse was used to produce electricity in 2020 compared to 160 ktoe in 2019, down by 15.8%.

3.4.5 Energy sector emissions

In 2020, GHG emission from the energy sector stood at 3,658 Gg CO_2-eq, down by 14.7% from 4,289 Gg CO_2-eq in 2019. Within the energy sector, the sub-sector that contributed most of the GHG emission was the electricity generating industries which accounted for 60.6 % (2,215 Gg CO_2-eq) of the total emissions. Next came the transport sector which made up 23.3% (851 Gg CO_2-eq) of the total emissions, the manufacturing industries and construction making up another 9.2% (337 Gg CO_2-eq) and the other sectors accounting for the remaining 7.0% (255 Gg CO_2-eq) - (Table 7).

3.4.5.1 Energy industries (electricity generation)

GHG emission from the generation of electricity (energy industries) stood at 2,215 Gg CO_2-eq in 2020 compared to 2,450 Gg CO_2-eq in 2019, representing a decrease of 9.6% (Table 7). This is mainly attributed to a 22.3% decrease (from 262 ktoe to 204 ktoe) in the amount of fuel oil used to produce electricity (Table 9).

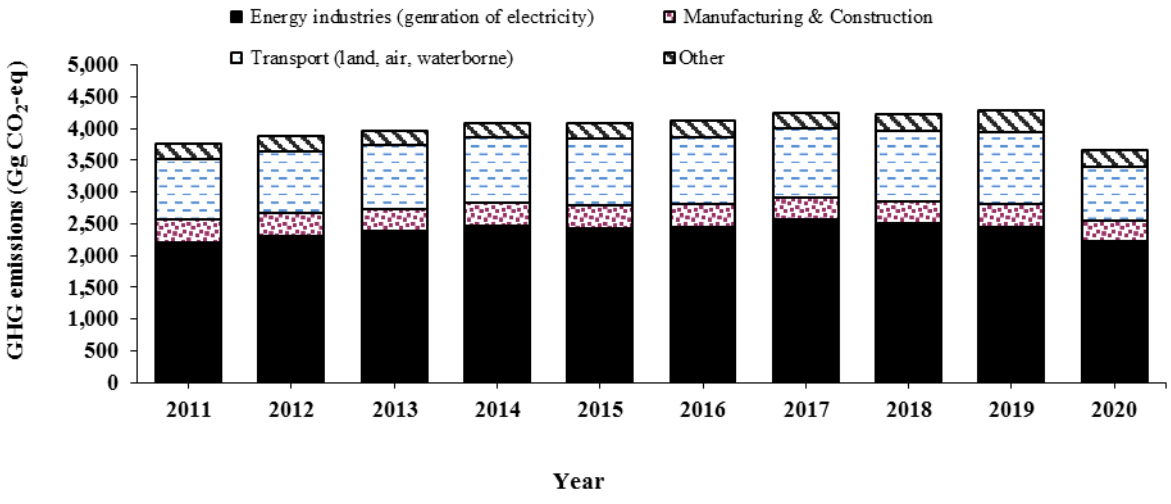
3.4.5.2 Transport industries

In 2020, GHG emission from transport industries was estimated at 851 Gg CO_2-eq compared to 1,132 in 2019, down by 24.8% (Table 7). It is to be noted that, though the number of registered motor vehicles went up by 3.4% from 580,629 in 2019 to 600,053 in 2020 (Table 11), the energy consumed by transport sector decreased by 28.3% from 552 ktoe to 396 ktoe - (Table10).

3.4.5.3 Manufacturing industries and construction

Manufacturing industries and construction registered a decrease of 5.2% in GHG emissions in 2020, from 356 to 337 Gg CO_2-eq (Table 7). The amount of coal consumed by the sector increased from 18.4 ktoe to 24.1 ktoe and consumption of fuel oil, diesel and LPG decreased from 82.6 ktoe to 70.4 ktoe (Table10).

Figure 3 - GHG emissions from energy sector (fuel combustion activities), Republic of Mauritius, 2011 - 2020

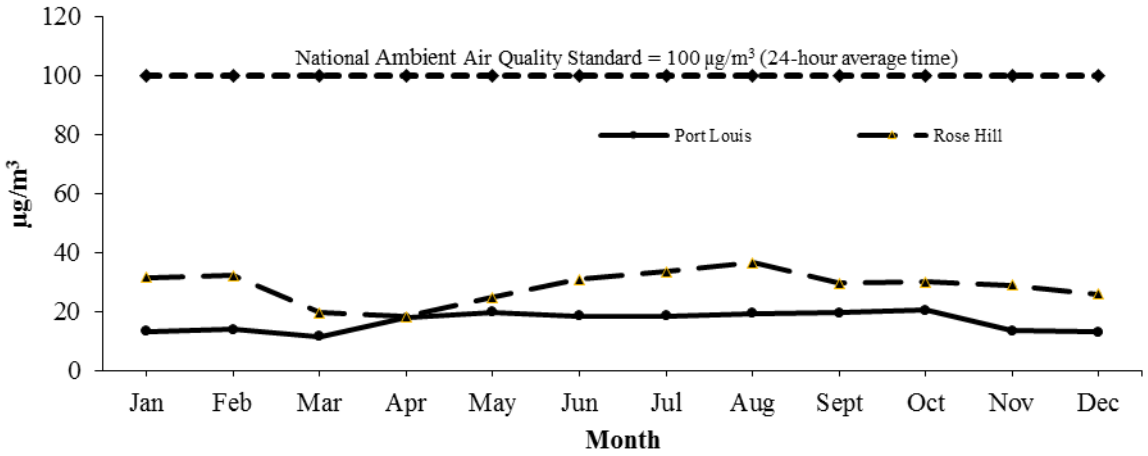


4. Ambient Air Quality

Air quality is an indicator 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 and 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 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, 2020



Source: National Environmental Laboratory, Ministry of Environment, Solid Waste Management and Climate Change

5. Temperature

Table 12 indicates that, in 2020, the annual mean temperature, the annual maximum mean temperature and the annual mean minimum temperature were all above their respective long term (1981-2010) means. February was the warmest month of the year with an average maximum of 26.5 ˚C and August the coolest month with an average minimum of 20.8 ˚C.

The highest maximum temperature recorded was 35.1 ˚C, recorded on 13 February 2020 at Rivière Noire and on 03 March 2020 at Champ de Mars. The lowest minimum temperature was 9.2 ˚C, which was recorded on 11 August 2020 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 2020, the mean amount of rainfall recorded around the Island of Mauritius was 1,993 millimetres (mm), representing a decrease of 6.4% compared to 2,130 mm in 2019. The average rainfall was almost the same as the long term (1981-2010) mean of 2,003 mm.

The wettest month in 2020 was March with a mean of 405 mm, which represented a surplus of 54% relative to the long term (1981-2010) mean of 263 mm. October was the driest month with a mean of 49 mm of rainfall, registering a deficit of 36% compared to the long term (1981-2010) mean of 77 mm (Table 13).

6.*2 Water Balance*

In 2020, the Island of Mauritius received 3,717 million cubic metres (Mm^3) of water from precipitation (rainfall), 6.4% lower when compared to 3,972 Mm^3 in 2019. Nearly 10 % (372 Mm^3) of the water went as ground water recharge, while evapotranspiration and surface runoff accounted for 30% (1,115 Mm^3) and 60% (2,230 Mm^3) respectively (Table 14).

6.3 Water utilisation

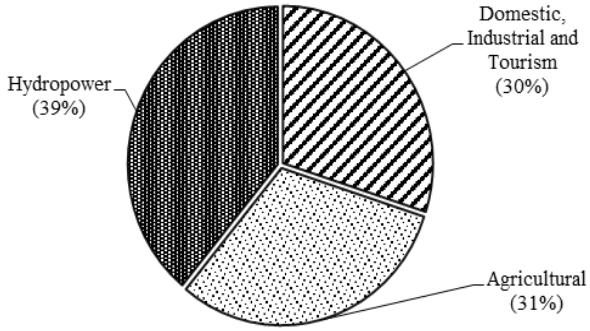
Total water utilisation was estimated at 997 Mm^3 in 2020. Around 85% (846 Mm^3) of the total water utilisation was met from surface water and 15% (150 Mm^3) from ground water.

The agricultural sector accounted for 31% (305 Mm^3) of the water utilised, domestic, industrial and tourism sector 30% (303 Mm^3), and hydropower 39% (389 Mm^3) - (Table 15).

Compared to 2019, water utilisation increased by 5.7%, from 928 to 997 Mm^3 with changes as follows:

- agriculture (+1.3%);
- domestic, industrial and tourism (+2.0%); and
- hydropower (+17.9%).

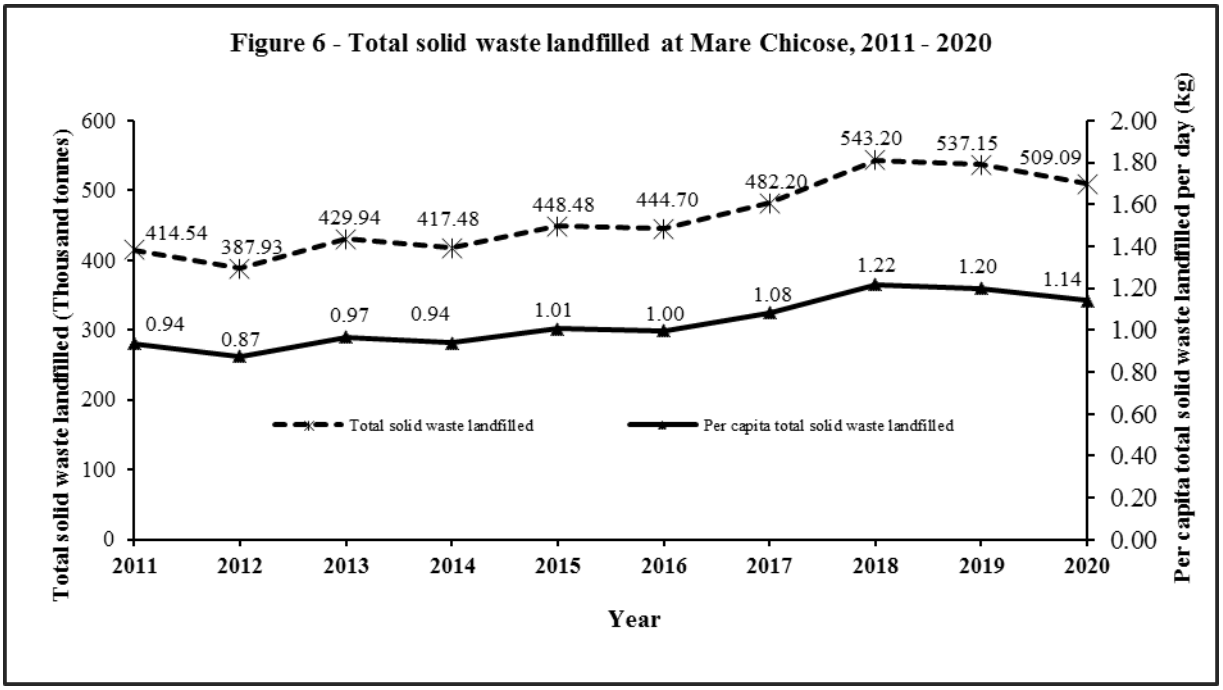
Figure 5 - Water utilisation, 2020



7. Waste

7.1 Waste disposal at Mare Chicose Landfill

The total amount of solid waste landfilled at Mare Chicose decreased by 5.2% from 537,147 tonnes in 2019 to 509,094 tonnes in 2020 (Table 16). 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 21.3% from 0.94 kg/day in 2011 to 1.14 kg/day in 2020.



8. Complaints

Effective environmental management needs appropriate coordination and monitoring of environmental problems. The Ministry of Environment, Solid Waste Management and Climate Change addresses complaints received from the general public according to a complaints handling protocol.

Complaints attended by the Pollution Prevention and Control Division of the Ministry of Environment, Solid Waste Management and Climate Change (including those received from the Citizen Support Portal) are categorised at Table 17. The number of complaints attended decreased by 22.0% from 490 in 2019 to 382 in 2020. The main categories of complaints were as follows: air pollution (19.4%) , noise (13.1%), waste water (10.7%), odour (9.2%), solid waste (7.1%) and bareland (7.1%).

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

9.1 EIA Licences and PER Approvals

In 2020, some 26 EIA licences were granted, which comprised 8 for coastal hotels and related works, 6 were for land parcelling (morcellement), 3 for industrial development, 2 for photovoltaic farms, 2 for stone crushing plants, 1 for development in port area, 1 for "housing/integrated resort scheme/property development scheme/smart city" and 3 for "other projects (Table 18).

During the same period, 6 PER approvals were issued, which comprised 4 for poultry rearing, 1 for industrial development, and 1 for "housing/integrated resort scheme/property development scheme/smart city"(Table 19).

Statistics Mauritius

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Table 1 - Main environment indicators, 2019 and 2020

Indicator	Unit	2019 [1]	2020 [2]
Republic of Mauritius			
1. Terrestrial protected areas	hectares	14,915	14,915
2. Marine protected areas	hectares	13,953	13,953
3. Total Greenhouse gas (GHG) emission	Gg CO_2-eq	5,777.0	5,200.3
4. Total carbon dioxide emission	000 tons	4,264.2	3,654.0
5. Per capita carbon dioxide emission	tons	3.4	2.9
6. Total electricity generated	GWh	3,236.6	2,882.0
7. Electricity generated from renewable sources	%	21.7	23.9
8. Total primary energy requirement	ktoe	1,600.3	1,333.9
9. Primary energy requirement from renewable sources	%	12.8	13.3
10. Per capita primary energy requirement	toe	1.3	1.1
11. Per capita final energy consumption	toe	0.8	0.6
12. Energy intensity	toe per Rs.100,000 GDP at 2006 prices	0.4	0.4
Island of Mauritius			
13. Forest area	ha	47,031	47,011
14. Total forest area as a % of total land area	%	25.2	25.2
15. Total fish production (fresh-weight equivalent)	tons	35,055	22,943
16. Irrigated land	ha	15,640	15,846
17. Mean annual rainfall	millimetres	2,130	1,993
18. Mean of maximum annual temperature	degrees Celcius	28.2	27.5
19. Mean of minimum annual temperature	degrees Celcius	20.8	20.2
20. Mean annual temperature	degrees Celcius	24.5	23.8
21. Annual fresh water abstraction	Mm^3	595	607
22. Daily per capita domestic water consumption	litres	181	182
23. Daily per capita total solid waste disposed at landfill	Kg	1.2	1.1

[1] Revised [2] Provisional

Table 2 - Forest area by category, Island of Mauritius, 2019 - 2020

Hectares

Category of Forest	2019		2020	
	Hectares	**%**	**Hectares**	**%**
State - owned lands	**22,031**	**46.8**	**22,011**	**46.8**
Plantations	11,799	25.1	11,779	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 [1]	497	1.1	497	1.1
Special Reserves [2]	136	0.3	136	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	1,316	2.8	1,316	2.8
Pas Geometriques	589 [3]	1.3	589	1.3
Plantations	*197* [3]	*0.4*	*197*	*0.4*
Leased for grazing and tree planting	*230*	*0.5*	*230*	*0.5*
Others (mostly rocky)	*162*	*0.3*	*162*	*0.3*
Private - owned lands [4]	**25,000**	**53.2**	**25,000**	**53.2**
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 [5]	18,447	39.2	18,447	39.2
Total	**47,031**	**100.0**	**47,011**	**100.0**

[1] Bras D'Eau National Park was proclaimed in 2011. From 2002 to 2010, it was known as Bras D'Eau & Poste La Fayette Reserves

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

[3] Revised

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

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

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

Table 3 - Agricultural crops - Area harvested and production, Island of Mauritius, 2019 - 2020

Crops	2019		2020 [1]	
	Area harvested (hectares)	Production (tonnes)	Area harvested (hectares)	Production (tonnes)
Sugar cane	45,054	3,405,250	43,711	2,620,874
Tea (green leaves)	656 [2]	8,329	685 [2]	5,105
Food crops	7,334	93,736	7,456	94,410
Sugar	Napp	331,105	Napp	270,875

[1] Provisional [2] Area under cultivation

Table 4 - Imports and value (c.i.f)[1] of fertilisers and pesticides, 2019 - 2020

Year	Fertilisers		Pesticides	
	Quantity (tonnes)	Value c.i.f (Rs mn)	Quantity (tonnes)	Value c.i.f (Rs mn)
2019	33,354	438.2	2,590	582.2
2020	26,991	378.3	2,700	613.5

[1] Cost, Insurance, Freight

Table 5 - Total primary energy requirement, Republic of Mauritius, 2019 - 2020

ktoe (000 Tonne of oil equivalent)

Energy source	2019 [1]		2020 [2]	
	ktoe	%	ktoe	%
Imported (Fossil Fuels)	**1,395.8**	**87.2**	**1,156.5**	**86.7**
Coal	***411.6***	***25.7***	***409.5***	***30.7***
Petroleum products	***984.2***	***61.5***	***747.0***	***56.0***
Gasolene	208.9	13.1	184.1	13.8
Diesel Oil	223.7	14.0	185.8	13.9
Dual Purpose Kerosene	156.6	9.7	58.6	4.4
Kerosene	*3.9*	*0.2*	*0.2*	*0.0*
Aviation Fuel	*152.7*	*9.5*	*58.4*	*4.4*
Fuel Oil	303.8	19.0	236.4	17.7
LPG	91.2	5.7	82.1	6.2
Local (Renewables)	**204.5**	**12.8**	**177.4**	**13.3**
Hydro	8.5	0.5	10.0	0.7
Wind	1.3	0.1	1.6	0.1
Landfill Gas	1.7	0.1	2.1	0.2
Photovoltaic	11.1	0.7	12.5	1.0
Bagasse [3]	177.0	11.1	146.8	11.0
Fuelwood [3]	4.9	0.3	4.4	0.3
Total	**1,600.3**	**100.0**	**1,333.9**	**100.0**

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

Source: Central Electricity Board and Annual Sugar Industry Energy Survey

Table 6 - National inventory of greenhouse gas emissions [1] by sector, Republic of Mauritius, 2019[2] - 2020[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)					
	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
1. Energy [4]	4,227.48	3,617.51	0.86	0.55	0.14	0.09	..	..	4,288.79	3,657.91	74.2	70.3
2. Industrial Processes and Product Use (IPPU)	36.72	36.45	..	..	..	..	12.05	14.76	48.77	51.21	0.8	1.0
3. Agriculture Forestry and Other Land Use (AFOLU) - Agriculture	..	..	1.07	1.03	0.30	0.33	..	..	116.37	123.37	2.0	2.4
4. Waste	0.00	..	61.92	64.06	0.07	0.07	..	..	1,323.12	1,367.83	22.9	26.3
Total	**4,264.20**	**3,653.96**	**63.86**	**65.64**	**0.52**	**0.49**	**12.05**	**14.76**	**5,777.04**	**5,200.32**	**100.0**	**100.0**

Emissions	Gg CO_2-eq	
	2019 [2]	2020 [2]
1. GHG emissions excluding Forestry and Other Land Use (FOLU)	5,777.04	5,200.32
2. GHG removals [5] - (FOLU)	360.90	363.01
3. GHG emissions including FOLU (= 1 - 2)	5,416.14	4,837.30

[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 7 - Greenhouse gas emissions from energy sector (fuel combustion activities), Republic of Mauritius, 2019 - 2020

Gg CO_2- eq

Energy Sector	2019 [1]		2020 [1]	
	Quantity	%	Quantity	%
Energy industries (electricity generation)	2,449.90	57.1	2,215.27	60.6
Manufacturing industries and construction	355.78	8.3	337.27	9.2
Transport [2]	1,131.99	26.4	850.79	23.3
Other Sectors [3]	351.12	8.2	254.58	7.0
Total	**4,288.79**	**100.0**	**3,657.91**	**100.0**

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

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

[3] Includes Residential, Commercial, Institutional and Agriculture

Table 8 - Electricity generation by source of energy, Republic of Mauritius, 2019 - 2020

Source of energy	2019		2020	
	GWh	%	GWh	%
Primary energy	**262.2**	**8.1**	**304.4**	**10.6**
Hydro (renewable energy)	98.6	3.0	115.8	4.0
Wind (renewable energy)	15.3	0.5	18.1	0.6
Landfill gas (renewable energy)	19.8	0.6	24.8	0.9
Photovoltaic (renewable energy)	128.5	4.0	145.7	5.1
Secondary energy	**2,974.4**	**91.9**	**2,578.0**	**89.4**
Gas turbine (kerosene)	11.7	0.3	0.5	0.0
Diesel and Fuel oil	1,349.0	41.7	1,056.3	36.6
Coal	1,174.1	36.3	1,137.6	39.5
Bagasse (renewable energy)	439.6	13.6	383.6	13.3
Total	**3,236.6**	**100.0**	**2,882.4**	**100.0**
of which **:** renewable energy	**701.9**	**21.7**	**688.0**	**23.9**

Table 9 - Fuel input for electricity production, Republic of Mauritius, 2019 - 2020

ktoe (000 Tonne of oil equivalent)

Fuel	2019		2020	
	Quantity (ktoe)	%	Quantity (ktoe)	%
Petroleum products	**266.7**	**32.6**	**204.8**	**28.2**
Fuel oil	*262.2*	*32.0*	*203.7*	*28.1*
Diesel oil	*0.7*	*0.1*	*0.8*	*0.1*
Kerosene	*3.8*	*0.5*	*0.3*	*0.0*
Coal	**393.2**	**47.9**	**385.5**	**53.2**
Total petroleum products and coal	***659.9***	***80.5***	***590.3***	***81.4***
Local renewables	**160.3**	**19.5**	**135.0**	**18.6**
Bagasse	*160.3*	*19.5*	*135.0*	*18.6*
Total	**820.2**	**100.0**	**725.3**	**100.0**

Source: Central Electricity Board and Annual Sugar Industry Energy Survey

Table 10 - Final energy consumption by sector and type of fuel, 2019 - 2020

Sector	2019 [1]			2020		
	Tonne (except Electricity in GWh)	ktoe	%	Tonne (except Electricity in GWh)	ktoe	%
1. Manufacturing		**203.3**	**19.5**		**180.9**	**22.2**
1.1 excluding bagasse		**186.6**	**17.9**		**169.0**	**20.7**
Fuel oil	38,926	37.4	3.6	30,532	29.3	3.6
Diesel oil	37,810	38.2	3.7	35,644	36.0	4.4
LPG	6,518	7.0	0.7	4,721	5.1	0.6
Coal	29,668	18.4	1.7	38,796	24.1	3.0
Fuel wood [2]	1,100	0.4	0.0	1,000	0.4	0.0
Electricity (*GWh*)	991	85.2	8.2	863	74.2	9.1
1.2 bagasse	**104,285**	**16.7**	**1.6**	**74,165**	**11.9**	**1.5**
2. Transport [3]		**552.1**	**53.0**		**395.6**	**48.6**
Land		***388.4***	***37.3***		***328.0***	***40.3***
Gasolene	*188,824*	*203.9*	*19.6*	*166,369*	*179.7*	*22.1*
LPG	*3,052*	*3.3*	*0.3*	*2,495*	*2.7*	*0.3*
Diesel oil	*179,356*	*181.2*	*17.4*	*144,157*	*145.6*	*17.9*
Air						
Aviation Fuel	***146,851***	***152.7***	***14.7***	***56,129***	***58.4***	***7.2***
Sea		***11.0***	***1.1***		***9.2***	***1.1***
Gasolene	*4,645*	*5.0*	*0.5*	*4,100*	*4.4*	*0.5*
Diesel oil	*1,655*	*1.7*	*0.2*	*1,450*	*1.5*	*0.2*
Fuel oil	*4,459*	*4.3*	*0.4*	*3,475*	*3.3*	*0.4*
3. Commercial and Distributive Trade		**111.3**	**10.6**		**87.0**	**10.7**
LPG	*22,668*	24.5	2.3	*16,410*	17.7	2.2
Charcoal [2]	*350*	0.3	0.0	*325*	0.2	0.0
Electricity (*GWh*)	*1,006*	86.5	8.3	*803*	69.1	8.5
4. Household		**141.2**	**13.9**		**142.3**	**17.5**
LPG	51,780	55.9	5.5	52,070	56.2	6.9
Fuelwood [2]	10,120	3.8	0.4	8,955	3.4	0.4
Charcoal [2]	64	0.1	0.0	55	0.0	0.0
Electricity (*GWh*)	947	81.4	8.0	962	82.7	10.2
5. Agriculture		**3.7**	**0.4**		**3.4**	**0.4**
Diesel oil [2]	2,040	2.1	0.2	1,935	2.0	0.2
Electricity (*GWh*)	19	1.6	0.2	16	1.4	0.2
6. Other (n.e.s)		**4.4**	**0.4**		**4.6**	**0.6**
TOTAL		**1,016.0**	**100.0**		**813.8**	**100.0**

[1] Revised [2] Estimates [3] Includes transport for all sectors

Table 11 - Stock of registered motor vehicles, Island of Mauritius, 2019 - 2020

Type of vehicle	2019	2020
Cars, Dual Purpose Vehicle, Double cab pick up	307,081	320,064
Auto / Motocycles	216,863	221,988
Heavy Motor Car and Bus	4,457	4,478
Van, lorry and truck	45,211	46,256
Other vehicles[1]	7,017	7,267
Total	**580,629**	**600,053**
of which hybrid vehicles	*13,762*	*17,069*
electric vehicles	*195*	*331*

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

Table 12 - Mean maximum, mean minimum and mean temperature, Island of Mauritius, 2020

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	29.8	30.0	29.7	28.6	27.3	25.0	24.4	24.5	25.4	27.5	28.0	29.5	**27.5**
Difference from Long Term Mean	0.0	0.2	0.3	0.0	0.3	-0.2	0.1	0.1	0.1	1.3	-0.1	0.2	0.2
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	22.9	23.0	23.0	21.3	19.2	18.6	17.7	17.1	17.8	19.4	19.6	22.4	**20.2**
Difference from Long Term Mean	0.6	0.4	0.9	0.1	-0.2	1.0	0.8	0.2	0.6	1.1	0.0	1.2	0.6
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	26.4	26.5	26.4	25.0	23.3	21.8	21.0	20.8	21.6	23.5	23.8	25.9	**23.8**
Difference from Long Term Mean	0.3	0.3	0.6	0.1	0.1	0.4	0.4	0.1	0.3	1.2	-0.1	0.6	0.3

Source: Mauritius Meteorological Services

Table 13 - Mean rainfall, Island of Mauritius, 2019 - 2020

Millimetres

Month	Long Term Mean (1981-2010)	2019		2020	
		Monthly Mean	% of Long Term Mean	Monthly Mean	% of Long Term Mean
January	263	263	100	352	134
February	348	232	67	269	77
March	263	144	55	405	154
April	212	339	160	169	80
May	148	126	85	68	46
June	107	185	173	192	179
July	125	171	137	76	61
August	106	119	112	61	58
September	96	81	84	70	73
October	77	89	116	49	64
November	78	86	110	65	83
December	180	295	164	217	121
Total for the year	**2,003**	**2,130**	**106**	**1,993**	**100**

Source: Mauritius Meteorological Services

Table 14 - Water balance, Island of Mauritius, 2019 - 2020

Mm^3

	2019	2020
Rainfall	**3,972**	**3,717**
Surface runoff	*2,383*	*2,230*
Evapotranspiration	*1,192*	*1,115*
Net recharge to groundwater	*397*	*372*

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

Table 15 - Water Utilisation, Island of Mauritius, 2019 - 2020

Mm^3

Utilisation	2019				2020			
	Surface water		Ground water	Total	Surface water		Ground water	Total
	River-run offtakes	Storage (Reservoirs)			River-run offtakes	Storage (Reservoirs)		
Domestic, Industrial and Tourism (CWA network)	52 [1]	94	141	**287**	51 [1]	103	140	**294**
Agricultural	237	56 [2]	5	**301** [5]	234	66 [2]	4	**305** [5]
Hydropower	163 [4]	167 [3]	0	**330**	175 [4]	214 [3]	0	**389**
Industrial	2	1	7	**10**	2	1	6	**9**
Overall utilisation	**454**	**318**	**153**	**928** [5]	**462**	**384**	**150**	**997** [5]
Total water mobilisation	**420**	**266**	**153**	**839**	**415**	**307**	**150**	**872**

[1] 18 Mm^3 used also for Reduit hydropower station;
[2] 21 Mm^3 used also for Tamarind Falls and Magenta hydropower stations and 5 Mm^3 for La Ferme hydropower station;
[3] 26 Mm^3 used also twice at Midlands and La Nicoliere;
[4] 16 Mm^3 used also twice for Le Val and Ferney hydropower stations;
[5] Includes 3 Mm^3 re-use of treated waste water

[1] 24 Mm^3 used also for Reduit hydropower station
[2] 40 Mm^3 used for Tamarind Falls and Magenta hydropower stations and 4 Mm^3 for La Ferme hydropower station;
[3] 33 Mm^3 used at Midlands and La Nicoliere;
[4] 23 Mm^3 used at Le Val and Ferney hydropower stations;
[5] Includes 0.7 Mm^3 re-use of treated waste water

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

Table 16 - Disposal of solid waste by type at Mare Chicose landfill site, 2019 - 2020

Tonnes

Waste material	2019 [1]	2020
Domestic and Commercial	514,020	475,942
Construction	9,578	16,082
Other [2]	13,549	17,070
Total	**537,147**	**509,094**

Source: Ministry of Environment, Solid Waste Management and Climate Change

[1] Revised [2] Includes mainly industrial waste

Table 17 - Number of complaints [1] attended at the Pollution Prevention and Control (PPC) Division by category, Island of Mauritius, 2019 - 2020

Category	2019	%	2020	%
Noise	57	11.6	50	13.1
Solid waste	77	15.7	27	7.1
Air pollution	68	13.9	74	19.4
Waste water	32	6.5	41	10.7
Odour	73	14.9	35	9.2
Bareland	74	15.1	27	7.1
Flooding/Obstruction of rivers and drains [2]	23	4.7	11	2.9
Other [3]	86	17.6	117	30.6
Total	**490**	**100.0**	**382**	**100.0**

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

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

[3] Includes backfilling, erosion, illegal construction, objections to projects, law and order, land conversion, land reclamations, landslides etc.

Source: Ministry of Environment, Solid Waste Management and Climate Change

Table 18 - Number of Environmental Impact Assessment (EIA) licences granted by type of project, 2019 - 2020, Island of Mauritius

Project	EIA	
	2019	2020
Land parcelling (morcellement)	8	6
Industrial development	2	3
Coastal hotels and related works	12	8
Housing/Integrated Resort Scheme/Property Development Scheme/Smart City	7	1
Photovoltaic Farms	0	2
Stone crushing plants	1	2
Development in port area	0	1
Construction of road and highway	0	0
Other projects	4	3
Total	**34**	**26**

Source: Ministry of Environment, Solid Waste Management and Climate Change

Table 19 - Number of Preliminary Environmental Report (PER) approvals granted by type of project, 2019 - 2020, Island of Mauritius

Project	PER	
	2019	2020
Land parcelling (morcellement)	1	0
Poultry rearing	13	4
Industrial development	13	1
Livestock rearing	3	0
Housing/Integrated Resort Scheme/Property Development Scheme/Smart City	3	1
Other projects	3	0
Total	**36**	**6**

Source: Ministry of Environment, Solid Waste Management and Climate Change

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