

Environment Statistics - 2013

1. Introduction

This issue of Economic and Social Indicators presents statistics on Environment for year 2013 based on data gathered from various institutions.

The main environment indicators over the ten-year period, 2004 – 2013 are given in Table 1 while technical notes are given at Annex.

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 39% (72,000 hectares) of the total land area of the Island of Mauritius forest, scrubs and grazing lands 25% (47,200 hectares) and built up areas another 25% (46,500 hectares).

During the period 1995 to 2005, the land occupied by sugarcane, tea plantations and forestry decreased mainly at the expense of built up areas.

2.2 Forest area is decreasing

Preservation of forests is vital for the protection of the ecosystem. Total forest area decreased by 35 hectares from 47,143 hectares in 2012 to 47,108 hectares in 2013. Some 47% (22,108 hectares) of the total forest area in 2013 was state-owned and the remaining 53% (25,000 hectares) was privately-owned. (Table 3)

Out of the 22,108 hectares of state-owned forest area, 11,867 hectares (53.7%) were planted areas while the Black River Gorges National Park and the nature reserves accounted for 6,574 (29.7%) and 799 (3.6%) hectares respectively. “Pas Geometriques” covered about 630 hectares (2.8%), other nature parks and other forest lands, the remaining 2,238 hectares (10.2%).

The 25,000 hectares of privately-owned forest lands consisted of 18,447 (74%) hectares of plantation, forest, scrub and grazing lands and 6,553 (26%) hectares of mountain, rivers and nature reserves.

2.3 Area harvested under sugar cane and tobacco cultivation goes down

From 2012 to 2013, the area under sugar cane cultivation harvested decreased by 0.5% from 54,140 hectares to 53,871 hectares.

In 2013, only 2 hectares under tobacco cultivation was harvested compared to 173 hectares in the preceding year. This is explained by the fact that all flue-cured growers stopped planting as from second season of the 2012/2013 crop given that the activity will cease in 2015.

The area under tea cultivation in 2013 was 672 hectares, representing an increase of 0.4% over the figure of 669 hectares in 2012.

2.4 Import of pesticides rises but import of fertilisers falls

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.

Between 2012 and 2013,

- import of fertilisers fell by 12.9% (from 52,739 to 45,924 tonnes) and
- import of pesticides went up by 7.7 % (from 2,029 to 2,185 tonnes) (Table 5).

3. Energy and Greenhouse gas (GHG)

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.

3.1 Total primary energy requirement increases

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 1,455 thousand tonnes of oil equivalent (ktoe) in 2013, 1.9 % more than in 2012.

Some 15.1% (219 ktoe) was met from locally renewable energy sources while 84.9% (1,235 ktoe) were from imported petroleum products and coal.

Energy supply from local sources (hydro, wind, landfill gas, bagasse, fuel wood and photovoltaic) declined by 1.4 % from 222 to 219 ktoe while energy supply from imported fuels (petroleum products and coal) went up by 2.5 % from 1,205 to 1,235 ktoe. (Table 6)

3.2 Net carbon dioxide emission increases slightly.

Total emissions and removals of greenhouse gases are given in Table 7 while the national inventory of greenhouse gas (GHG) emissions by source category is given in Table 8. The tables show that:

- carbon dioxide remains the main contributor of greenhouse gas emissions and stood at 3,836.8 thousand tonnes, contributing 0.0096% to global emissions;
- removal of carbon dioxide (CO₂) was around 294 thousand tonnes in 2013; and
- net carbon dioxide emissions, after accounting for the removal of CO₂ by forests, increased by 2.6% from 3,452 thousand tonnes in 2012 to 3,543

thousand tonnes in 2013; the increase was due to a rise in emission from the energy sector mainly energy industries (electricity production).

3.3 Carbon dioxide (CO₂) emission from the energy sector (fuel combustion activities)

In 2013, CO₂ emission from the energy sector stood at 3,835.4 thousand tonnes, up by 2.5% from 3,743.3 thousand tonnes in 2012. The energy industries (electricity generation) remained the largest source of CO₂ emissions and accounted for 61.6% (2,363.8 thousand tonnes) of the total CO₂ emissions of the energy sector in 2013 (Table 9). Next came the transport sector which made up 25.3% (969.5 thousand tonnes) of the total emissions and the manufacturing industries making up another 8.3% (317.2 thousand tonnes).

3.3.1 Energy industries (electricity generation)

Carbon dioxide emission from the energy industries (electricity generation) stood at 2,363.8 thousand tonnes in 2013 compared to 2,280.5 thousand tonnes in 2012, representing an increase of 3.7%. This is mainly attributed to increase in petroleum products and coal used to produce electricity. In fact electricity generated from coal increased by 4.5% from 1,162 GWh in 2012 to 1,214 GWh in 2013 and that from petroleum products by 0.9% from 1,068 GWh in 2012 to 1,078 GWh.

Table 10 shows the fuel input (petroleum products, coal and bagasse) for electricity generation and indicates that:

- In 2013, coal (52.8%) was the major fuel used to produce electricity followed by fuel oil (25.9%) and bagasse (21.1%);
- Input of coal increased by 5.2% (from 402.5 ktoe in 2012 to 423.6 ktoe in 2013), while that of fuel oil increased by 1.5% (from 204.5 ktoe in 2012 to 207.5 ktoe in 2013); and
- Some 169.0 ktoe of bagasse was used to produce electricity in 2013 as compared to 172.5 ktoe in 2012, down by 2.0%. This can be attributed to a fall of 3.3% in sugar cane production from 3,947 thousand tonnes in 2012 to 3,816 thousand tonnes in 2013.

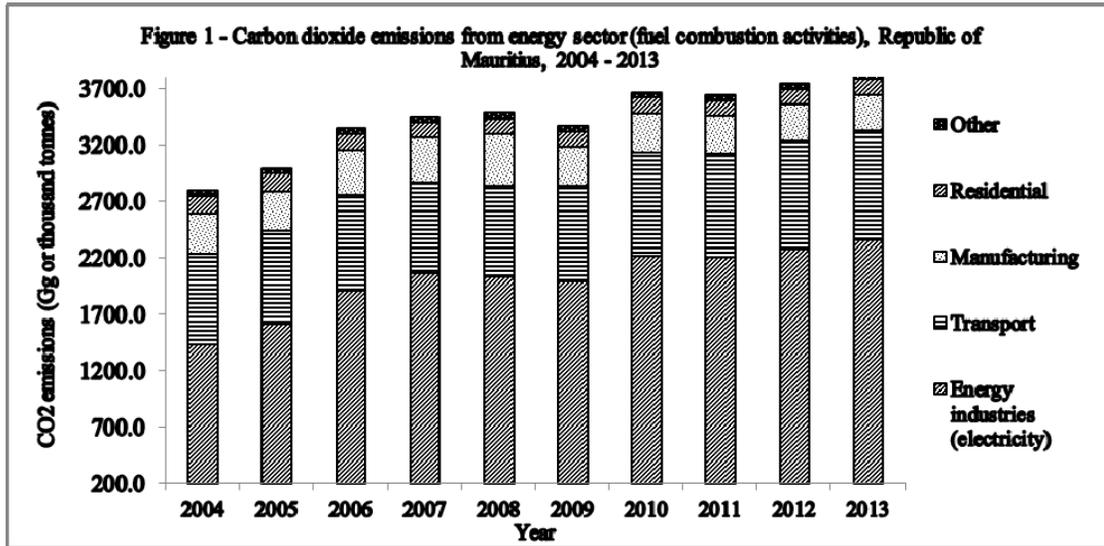
To note that in 2013, electricity generated from renewable sources accounted for 21% of the total electricity generation. Electricity from renewable sources increased from 567 GWh to 594 GWh, up by 4.8%. Main changes were as follows: hydro (+27.9%), landfill gas (+12.4%), bagasse (+0.5%) and photovoltaic (+200%). Also, based on the Continuous Multi-Purpose Household Survey, around 20% of households were equipped with solar water heaters in 2012.

3.3.2 Transport industries

In 2013, carbon dioxide emission from the transport sector stood at 969.5 thousand tonnes compared to 954.1 in 2012, up by 1.6% due to higher fuel consumption. It is to be noted that the number of registered motor vehicles went up by 5.1% from 421,926 in 2012 to 443,495 in 2013 (Table 12). Consequently the energy consumed by land transport increased from 304.2 ktoe to 310.1 ktoe (+1.9%). (Table13)

3.3.3 Manufacturing industries

The manufacturing sector registered a decrease of 4.1% in CO₂ emissions in 2013 (from 330.8 to 317.2 thousand tonnes). The amount of fuel consumed by the sector went down from 215.5 ktoe in 2012 to 212.3 ktoe in 2013. (Table 11)



4. Water

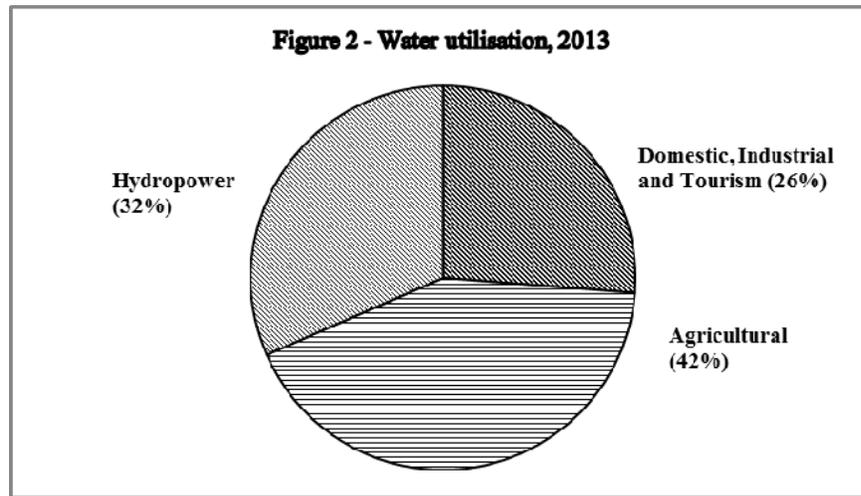
Water, being a basic support element for human life and ecosystems, is of vital environmental and biological importance.

In 2013, the Island of Mauritius received 3,821 million cubic metres (Mm³) of precipitation (rainfall), 27.3% higher than in 2012 when 3,001 Mm³ of rainfall were obtained. Only 10 % of the precipitation went as ground water recharge, while evapotranspiration and surface runoff accounted for 30% and 60% respectively. (Table 14)

Total water utilisation was estimated at 888 Mm³ in 2013. The agricultural sector accounted for 42% (375 Mm³) of the water utilised, hydropower 32% (280 Mm³), and domestic, industrial and tourism sector 26% (233 Mm³). (Table 15)

Compared to 2013, water utilisation increased by 11%, from 800 to 888 Mm³ with increases as follows:

- domestic, industrial and tourism 7.4%;
- hydropower 28.4%; and
- agricultural 2.7%.



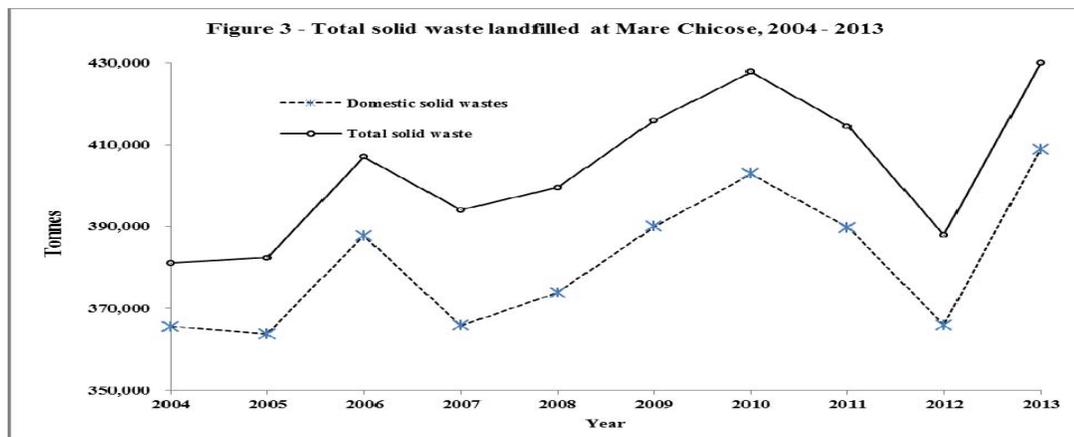
Around 86% of the total water utilisation was met from surface water and the remaining 14% from ground water.

5. Waste

5.1 Waste disposal at Mare Chicose Landfill rises

The total amount of solid waste landfilled at Mare Chicose increased to 429,935 tonnes in 2013 from 387,925 tonnes in 2012, up by 10.8 %. (Table 16)

Domestic waste constituted 95% of the total solid waste landfilled in 2013. The trend of the amount of solid waste landfilled is as shown in figure 3.



6. Complaints

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

6.1 *The number of complaints received on the rise*

Table 17 lists the number of complaints by category received by the Pollution Prevention and Control Division of the Ministry of Environment and Sustainable Development for 2012 and 2013. The number of complaints received increased by 3.8% from 662 in 2012 to 687 in 2013. The complaints were mainly due to: noise (22%), air pollution (17%), solid waste (14%), waste water (12%) and odour (11%).

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

7.1 EIA Licences and PER Approvals

In 2013, some 27 EIA licences were granted of which 7 were for land parcelling (morcellement), 6 for coastal hotels and related works and 6 for industrial development. (Table 18)

During the same period, 13 PER approvals were issued, of which 4 were for poultry rearing and another 4 for industrial development. (Table 19)

Statistics Mauritius

Ministry of Finance and Economic Development

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Table 1 - Main environment indicators, 2004 and 2013

Indicator	Units	2004	2013 ¹
1. Forest area	ha	47,200	47,108
2. Total forest area as a % of total land area	%	25.3	25.3
3. Irrigated land	ha	21,417	...
4. Land Protected Areas	ha	13,973	14,879
5. Marine Protected Areas	ha	7,216	7,216
6. Threatened plant species (NPCS) ²	%	...	88
7. Threatened animal species (NPCS) ²	%	...	89
8. Total fish catch	tons	9,471	5,125
9. Mean catch per fisherman day	kg	4.2	5.0
10. Total carbon dioxide emission	Gg	2,795.7	3,836.8
11. Per capita carbon dioxide emission	tons	2.3	3.0
12. Mean annual rainfall	millimetres	2,271	2,049
13. Annual fresh water abstraction	Mm ³	725	608
14. Daily per capita domestic water consumption	litres	165	165
15. Daily per capita solid waste disposed at landfill	Kg	0.88	0.97
16. Total electricity generated	GWh	2,165	2,885
17. Electricity generated from renewable sources	%	27.4	20.6
18. Total primary energy requirement	ktoe	1,255.8	1,454.8
19. Primary energy requirement from renewable sources	%	22.0	15.1
20. Per capita primary energy requirement	toe	1.03	1.16
21. Per capita final energy consumption	toe	0.69	0.69
22. Energy intensity	toe per Rs 100,000 GDP at 2000 prices	0.88	0.73

¹ Provisional² National Parks and Conservation Service

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

Land Use Distribution	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
Forests, shrubs and grazing lands	57,000	30.6	47,200	25.3	-9,800	-17.2
Other agricultural activities	6,000	3.2	8,000	4.3	2,000	33.3
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	4,726	2.5
Total	186,500	100.0	186,500	100.0		

Source: SIFB - Sugar cane plantation, Tea Board - Tea Plantation, Climate change Activities Report, May 2006 - Other

¹ Estimate

Table 3 - Forest area by category, Island of Mauritius, 2012 - 2013

Category of Forest	Hectares			
	2012		2013	
	Hectares	%	Hectares	%
State - owned lands	22,143	47.0	22,108	46.9
Plantations	11,900	25.2	11,867	25.2
Nature reserves	799	1.7	799	1.7
<i>On mainland</i>	200	0.4	200	0.4
<i>Islets</i>	599	1.3	599	1.3
Black River Gorges National Park	6,574	13.9	6,574	14.0
Bras D'Eau National Park ¹	497	1.1	497	1.1
Islet National Parks ²	134	0.3	134	0.3
Vallee d'Osterlog Endemic Garden ³	275	0.6	275	0.6
Other Forest Lands	1,333	2.8	1,332	2.8
Pas Geometriques	631	1.3	630	1.3
<i>Plantations</i>	222	0.5	221	0.5
<i>Leased for grazing and tree planting</i>	230	0.5	230	0.5
<i>Others (mostly rocky)</i>	179	0.4	179	0.4
Private - owned lands	25,000	53.0	25,000	53.1
Reserves	6,553	13.9	6,553	13.9
<i>Mountain reserves</i>	3,800	8.1	3,800	8.1
<i>River reserves</i>	2,740	5.8	2,740	5.8
<i>Private Reserves</i>	13	0.0	13	0.0
Other ⁴	18,447	39.1	18,447	39.2
Total	47,143	100.0	47,108	100.0

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

¹ Bras D'Eau & Poste La Fayette Reserves was proclaimed Bras D'Eau National Park in 2011.

² Islet National Parks were proclaimed in 2004.

³ Vallee D'Osterlog Endemic Garden was proclaimed in 2007.

⁴ includes plantations, forest lands, scrub and grazing lands.

Table 4 - Agricultural crops - Area harvested and production, Island of Mauritius, 2012 - 2013

Crops	2012 ¹		2013 ²	
	Area harvested (hectares)	Production (tonnes)	Area harvested (hectares)	Production (tonnes)
Sugarcane	54,140	3,947,285	53,871	3,815,782
Tea (green leaves)	669 ³	7,947	672 ³	7,981
Tobacco	173	245	2	1

¹ Revised² Provisional³ Area under cultivation**Table 5 - Imports of fertilisers and pesticides, Island of Mauritius, 2012 - 2013**

Year	Fertilisers		Pesticides	
	Quantity (tonnes)	Value	Quantity (tonnes)	Value
		CIF (Rs mn)		CIF (Rs mn)
2012 ¹	52,739	834.9	2,029	343.4
2013 ²	45,924	596.4	2,185	370.0

¹ Revised² Provisional

CIF: Cost, Insurance, Freight

Table 6 - Primary energy requirement by energy source, Republic of Mauritius, 2012- 2013

ktoe (000 Tonne of oil equivalent)		
Energy Source	2012 ¹	2013 ²
Imported (fossil fuels)	1,205.3	1,235.3
Oil ³	714.2	719.8
Liquefied petroleum gas (LPG)	72.7	74.9
Coal	418.4	440.6
Local (Renewables)	222.3	219.5
Hydro / Wind	6.7	8.5
Landfill Gas	1.5	1.7
Bagasse	206.5	201.7
Fuel wood *	7.5	7.3
Photovoltaic	0.1	0.2
Total	1,427.6	1,454.8

¹ Revised

² Provisional

³ Includes gasolene, diesel oil, dual purpose kerosene and fuel oil

* estimates

Table 7- Total emissions and removals of greenhouse gases and other related gases, Republic of Mauritius, 2012- 2013

Gg or thousand tonnes		
Greenhouse gas	2012 ¹	2013 ²
Emissions		
Carbon Dioxide	3,745.13	3,836.75
Methane	35.92	39.94
Oxides of Nitrogen	18.80	19.15
Nitrous Oxide	1.08	1.08
Carbon Monoxide	68.57	70.32
NMVOC ³	25.02	23.57
Sulphur Dioxide	33.78	34.31
Removals		
Carbon Dioxide ⁵	292.90	293.90
Net emissions		
Carbon Dioxide	3,452.23	3,542.85
Gg or thousand tonnes CO ₂ -eq		
Total GHG⁴ emissions	4,834.25	5,010.29

¹ Revised

² Provisional

³ Non-methane volatile organic compound

⁴ Refers to carbon dioxide, methane and nitrous oxide

⁵ Excludes the amount of CO₂ sequestered by trees and vegetations found along rivers and canal reserves and trees along roads

Table 8 - National inventory of greenhouse gas emissions by source categories, Republic of Mauritius, 2012¹ - 2013²

Gg or thousand tonnes

Source	Carbon dioxide (CO ₂)				Methane (CH ₄)		Nitrous oxide (N ₂ O)		Oxides of nitrogen (NO _x)		Carbon monoxide (CO)		NMVOC ³		Sulphur dioxide (SO ₂)	
	Emissions		Removals		2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
	2012	2013	2012	2013												
1. Energy	3,743.31	3,835.44	-	-	0.62	0.61	0.08	0.08	18.80	19.15	68.57	70.32	10.71	11.07	33.78	34.31
Fuel combustion activities																
(a) Energy industries (electricity)	2,280.49	2,363.79	-	-	0.29	0.28	0.06	0.06	7.58	7.82	8.61	8.64	0.53	0.53	28.26	28.79
(b) Manufacturing industries	330.75	317.17	-	-	0.07	0.07	0.01	0.01	1.08	1.04	6.67	6.42	0.11	0.11	3.20	3.18
(c) Transport	954.06	969.53	-	-	0.15	0.15	0.01	0.01	9.71	9.85	51.70	53.70	9.88	10.25	2.23	2.25
(d) Other sectors	178.01	184.95	-	-	0.11	0.11	0.00	0.00	0.43	0.44	1.59	1.56	0.19	0.18	0.09	0.09
2. Industrial processes	1.82	1.31	-	-	-	-	-	-	-	-	-	-	14.31	12.50	-	-
3. Solvent and other product use	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Agriculture	-	-	-	-	0.90	1.00	1.00	1.00	-	-	-	-	-	-	-	-
5. Land use change and forestry	-	-	292.90	293.9	-	-	-	-	-	-	-	-	-	-	-	-
6. Waste ⁴	-	-	-	-	34.40	38.33	-	-	-	-	-	-	-	-	-	-
Total	3,745.13	3,836.75	292.90	293.90	35.92	39.94	1.08	1.08	18.80	19.15	68.57	70.32	25.02	23.57	33.78	34.31

¹ Revised

² Provisional

³ Non - methane volatile organic compound

⁴ Exclude waste water

Table 9 - Carbon dioxide emissions from energy sector (fuel combustion activities), Republic of Mauritius, 2012- 2013

Gg or thousand tonnes

Energy Sector	2012 ¹		2013 ²	
	Quantity	%	Quantity	%
Energy industries (electricity)	2280.5	60.9	2363.8	61.6
Manufacturing industries	330.8	8.8	317.2	8.3
Transport	954.1	25.5	969.5	25.3
Residential	134.7	3.6	137.6	3.6
Other ³	43.3	1.2	47.4	1.2
Total	3,743.3	100.0	3,835.4	100.0

¹ Revised ² Provisional

³ includes Agriculture and Trade

Table 10 - Fuel input for electricity production, Republic of Mauritius, 2012 - 2013

ktoe (000 Tonne of oil equivalent)

Fuel	2012		2013 ¹	
	Quantity (Ktoe)	%	Quantity (Ktoe)	%
Petroleum products	210.0	26.7	209.5	26.1
<i>Fuel oil</i>	204.5	26.0	207.5	25.9
<i>Diesel oil</i>	1.9	0.2	1.3	0.2
<i>Kerosene</i>	3.6	0.5	0.7	0.1
Coal	402.5	51.3	423.6	52.8
Total petroleum products and coal	612.5	78.0	633.1	78.9
Local renewables	172.5	22.0	169.0	21.1
Bagasse	172.5	22.0	169.0	21.1
Total	785.0	100.0	802.1	100.0

Source: Central Electricity Board and Sugar Industry Energy Survey

¹ Provisional

Table 11 - Final energy consumption by sector, Republic of Mauritius, 2012 - 2013

ktoe (000 Tonne of oil equivalent)

Sector	2012 ¹		2013 ²	
	Quantity (Ktoe)	%	Quantity (Ktoe)	%
Manufacturing	215.5	25.2	212.3	24.4
Transport	427.3	50.0	438.8	50.4
Household	120.1	14.1	123.4	14.2
Commercial	83.7	9.8	88.1	10.1
Agriculture	4.5	0.5	4.5	0.5
Other (n.e.s & losses)	3.4	0.4	3.5	0.4
Total	854.5	100.0	870.6	100.0

¹ Revised² Provisional**Table 12 - Stock of registered motor vehicles, Island of Mauritius, 2012 - 2013**

Type of vehicle	2012	2013
Cars and Dual Purpose Vehicle (DPV)	197,849	210,431
Auto / Motorcycles	173,508	180,785
Heavy Motor Car and Bus	4,201	4,213
Van and Lorry	40,195	40,685
Other vehicles ¹	6,173	7,381
Total	421,926	443,495

¹ Includes tractor and dumper, prime mover, trailer, road roller and other**Table 13 - Fuel used by the transport sector, Republic of Mauritius, 2012 - 2013**

ktoe (000 Tonne of oil equivalent)

Fuel	2012 ¹	2013 ²
Land	304.2	310.1
Gasolene	133.2	139.2
Liquefied Petroleum Gas (LPG)	4.7	4.4
Diesel oil	166.3	166.5
Air		
Aviation fuel	115.0	120.7
Sea	8.0	8.0
Gasolene	3.4	3.4
Diesel oil	1.1	1.2
Fuel oil	3.5	3.4
Total	427.2	438.8

¹ Revised² Provisional

Table 14 - Water balance, Island of Mauritius, 2012 - 2013Mm³

	2012	2013
Rainfall	3,001	3,821
<i>Surface runoff</i>	<i>1,801</i>	<i>2,293</i>
<i>Evapotranspiration</i>	<i>900</i>	<i>1,146</i>
<i>Net recharge to groundwater</i>	<i>300</i>	<i>382</i>

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

Table 15 - Water Utilisation, Island of Mauritius, 2012 - 2013Mm³

Utilisation	2012				2013			
	Surface water		Ground water	Total	Surface water		Ground water	Total
	River-run offtakes	Reservoirs			River-run offtakes	Reservoirs		
Domestic, Industrial ¹ and Tourism	35 ³	62	109	206	34 ³	78	108	220
Industrial ²	5	-	6	11	5	2	6	13
Agricultural	299	59 ⁴	7	365	312	56 ⁴	7	375
Hydropower	114	104 ⁵	-	218	146	134 ⁵	-	280
Overall utilisation	453	225	122	800	497	270	121	888
Total water mobilisation	435	190	122	747	465	224	121	810

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

¹ Used through CWA² Used by water right owners and ground water licensees³ includes water used by Reduit hydropower station⁴ includes water used by Tamarind Falls & Magenta hydropower stations⁵ includes water used for Tamarind Falls, Le Val & Ferney hydropower stations

Table 16 - Solid waste landfilled at Mare Chicose by source of waste material, Island of Mauritius, 2012 - 2013

Tonnes		
Waste material	2012	2013 ¹
Domestic	365,867	408,858
Construction	5,601	6,141
Other ²	16,457	14,936
Total	387,925	429,935

Source: Ministry of Local Government and Outer Islands

¹ Provisional

² Includes mainly industrial waste.

Table 17 - Number of complaints received at the Pollution Prevention and Control Division by category, Island of Mauritius, 2012 - 2013

Category	2012	2013 ¹
Noise	131	150
Solid waste	100	93
Air pollution	105	120
Waste water	71	82
Odour	79	79
Other ²	176	163
Total	662	687

Source: Department of Environment of the Ministry of Environment and Sustainable Development

¹ Provisional

² includes Backfilling, erosion, illegal construction, objections to projects, law and order, land conversions, land reclamation, land slides etc

Table 18 - Number of Environment Impact Assessment (EIA) licences granted by type of project, 2012 - 2013, Island of Mauritius

Project	EIA	
	2012	2013
Land parcelling (morcellement)	7	7
Industrial development	1	6
Coastal hotels & related works	10	6
Housing	2	-
Stone crushing plants	-	3
Development in port area	4	2
Other	2	3
Total	26	27

Source: Department of Environment of the Ministry of Environment and Sustainable Development

Table 19 - Number of Preliminary Environmental Report (PER) approvals granted by type of project, 2012 - 2013, Island of Mauritius

Project	PER	
	2012	2013
Land parcelling (morcellement)	3	1
Poultry rearing	7	4
Industrial development	12	4
Coastal hotels & related works	1	-
Livestock rearing	4	-
Housing	1	-
Other	6	4
Total	34	13

Source: Department of Environment of the Ministry of Environment and Sustainable Development

Technical notes

Concepts and definitions

Environment

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

An *environmental indicator*: A parameter or a value derived from parameters that points to, provides information about and/or describes the state of the environment, and has a significance extending beyond that directly associated with any given parametric value.

Land use, Agriculture and Forestry

Land use: Land use refers to the main activity taking place on an area of land, for example, farming, forestry or housing.

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.

Nutrient: A nutrient is a substance, element or compound necessary for the growth and development of plants.

Biodiversity

Threatened species is a plant, animal or other living thing which is in danger of becoming extinct.

Greenhouse gas emissions

Greenhouse gases (GHG): GHG are gases occurring naturally and resulting from human activities (production and consumption) that contribute directly or indirectly to global warming. Some main naturally existing GHG are Carbon Dioxide (CO₂), Methane (CH₄) and Nitrous Oxide (N₂O). Other gases such as Carbon Monoxide (CO), Oxides of Nitrogen (NO_x), Non Methane volatile organic compounds (NMVOC) and Sulphur Dioxide (SO₂) contribute indirectly to global warming. GHGs 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 (CO₂-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).

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 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) 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 AND SYMBOLS

Abbreviations

Rs	Rupees
Rs mn	Rupees million
%	Percentage
f.o.b	free on board
c.i.f	Cost, insurance, freight
000	Thousand
Mm ³	Million cubic metres
Gg	Gigagram (thousand tonnes)
Toe	Tonne of oil equivalent
ktoe	Thousand tonnes of oil equivalent
EIA	Environmental impact assessment
PER	Preliminary environmental report
NPCS	National Parks and Conservation Service

Symbols

-	Nil or negligible
...	Not available

Conversion factor

1 square kilometre = 100 hectares