Environment Statistics - 2012

1. Introduction

This issue of Economic and Social Indicators presents Statistics on Environment for year 2012 based on data gathered from various institutions.

The main environment indicators over the ten-year period, 2003 – 2012 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 on land use (Table 2) sugar cane plantations occupied 39% (72,000 hectares) of the total land area of the Island of Mauritius in 2005, 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 Slight increase in forest area

Preservation of forests is vital for the protection of the ecosystem. Total forest area increased marginally by 3 hectares from 47,140 hectares in 2011 to 47,143 hectares in 2012. Some 47% (22,143 hectares) of the total forest area in 2012 was state-owned and the remaining 53% (25,000 hectares) was privately-owned (Table 3).

2.3 Drop in effective area under sugar cane and tobacco cultivation

From 2011 to 2012, the effective area under sugar cane cultivation decreased by 4.1% from 59,724 hectares to 57,300 hectares. During the same period, area under tobacco plantation dropped by 22.1% from 222 hectares to 173 hectares while that under tea cultivation increased by 2.8% from 651 to 669 hectares (Table 4).

2.4 Import of fertilisers and pesticides goes down

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 2011 and 2012, imports of fertilisers fell by 3.0% from 54,356 to 52,739 tonnes. This trend was also observed for imports of pesticides which declined by 9.2 % (from 2,107 tonnes in 2011 to 1,913 tonnes in 2012) (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 Increase in total energy supply

Between 2011 and 2012, the total primary energy requirement, (defined as the sum of imported and locally available fuels less re-exports and bunkering after adjusting for stock changes) which can be construed as the energy supply of the country increased by 2.2% from 1,427 to 1,459 thousand tonnes of oil equivalent (ktoe).

Energy supply from locally available sources (hydro, wind, landfill gas, bagasse, fuel wood and photovoltaic) which are all renewable and less polluting declined from 231 to 222 ktoe (-3.9%) while that from imported fuels (petroleum products and coal) went up from 1,196 to 1,237 ktoe (+3.4%) (Table 6).

In 2012, some 15% (222 ktoe) of the total primary energy requirement was met from locally renewable energy sources while 85% (1,237) were obtained from imported petroleum products and coal.

3.2 Net carbon dioxide emission rises

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

- carbon dioxide (CO_2) remains the main contributor of greenhouse gas emissions;
- net CO_2 emissions, after accounting for the removal of CO_2 by forests, increased by 3.0% from 3,351 thousand tonnes in 2011 to 3,452 thousand tonnes in 2012; and
- the non-carbon dioxide emissions comprised mainly carbon monoxide and methane.

3.3 Carbon dioxide (CO_2) emission from fuel combustion activities (energy sector)

In 2012, CO_2 emission from the energy sector stood at 3,743 thousand tonnes, up by 2.9% from 3,639 thousand tonnes in 2011. The energy industries (electricity generation) remained the largest source of CO_2 emissions and accounted for nearly 61% (2,281 thousand tonnes) of the total energy sector CO_2 emissions in 2012 (Table 9). This was followed by the transport sector which made up 25% (954 thousand tonnes) of the total emissions and the manufacturing industries making up another 9% (331 thousand tonnes).

3.3.1 Energy industries

Carbon dioxide emission from the energy industries (electricity generation) stood at 2,281 thousand tonnes in 2012, compared to 2,206 thousand tonnes in 2011, representing an increase of 3.4%. This was mainly attributed to a rise in the amount of petroleum products and coal used to produce electricity. In fact electricity generated from petroleum products and coal increased by 1.8% from 2,179 GWh in 2011 to 2,218 GWh in 2012.

Table 10 shows the different type of fuel used for electricity generation and it indicates that:

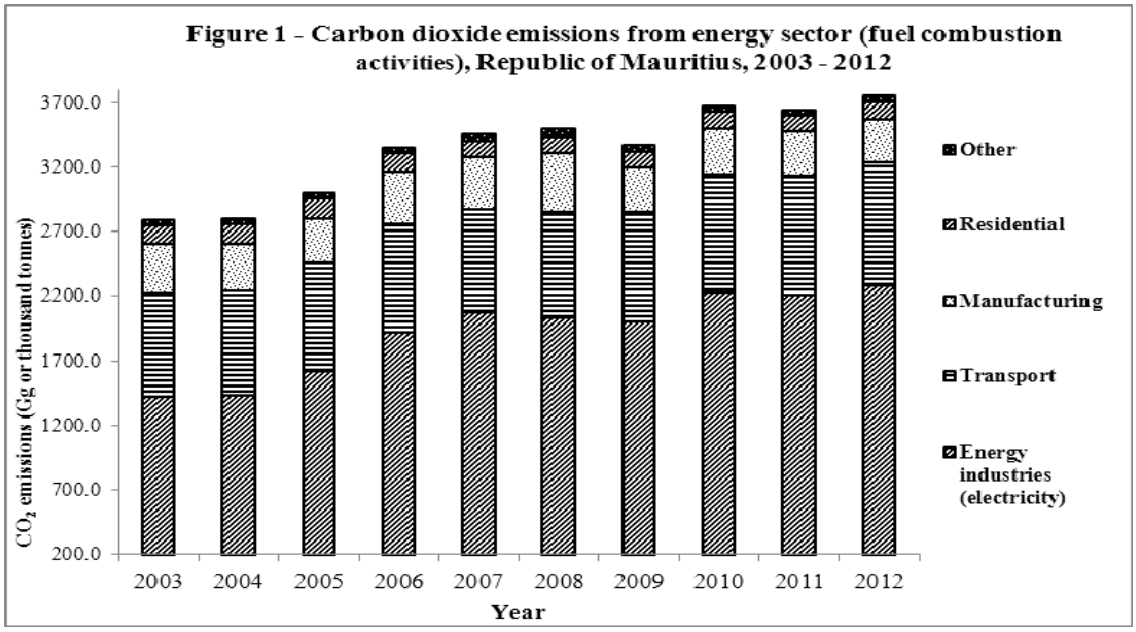
- Between 2011 and 2012, fuel input increased by 1.6% from 773 ktoe to 785 ktoe;
- In 2012, coal (51.3%) was the major fuel used to produce electricity followed by fuel oil (26.0%);
- Input of coal increased by 5.2% (from 382.7 ktoe in 2011 to 402.5 ktoe in 2012), while that of fuel oil decreased by 0.7% (from 205.9 ktoe in 2011 to 204.5 ktoe in 2012); and
- Some 172.5 ktoe of bagasse was used to produce electricity in 2012 as compared to 179.1 ktoe in 2011, down by 3.7%.

3.3.2 Transport sector

In 2012, carbon dioxide emission from the transport sector stood at 954 thousand tonnes compared to 922 in 2011, up by 3.5% due to higher fuel consumption. It is to be noted that the number of registered motor vehicles went up by 5.2% from 400,919 in 2011 to 421,926 in 2012 (Table 12). Consequently the energy consumed by land transport increased from 293.2 ktoe to 304.2 ktoe (+3.8%) (Table13).

3.3.3 Manufacturing sector

The manufacturing sector registered a decrease of 1.5% in CO_2 emissions (from 336 to 331 thousand tonnes). This could be explained by a fall in the amount of fuel consumed by the sector from 221.7 ktoe in 2011 to 215.4 ktoe in 2012 (Table 11).



4. Ambient Air Quality

The ambient air quality, as monitored by mobile stations of the Ministry of Environment and Sustainable Development, was assessed in terms of the amount of pollutants present in the air. The main pollutants under investigation in 2012 were dust, Sulphur Dioxide, Nitrogen Dioxide and Carbon Monoxide.

The results of the monitoring exercise (Table 14) indicate that the air quality was at an acceptable level when compared to the existing national standards.

5. Water

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

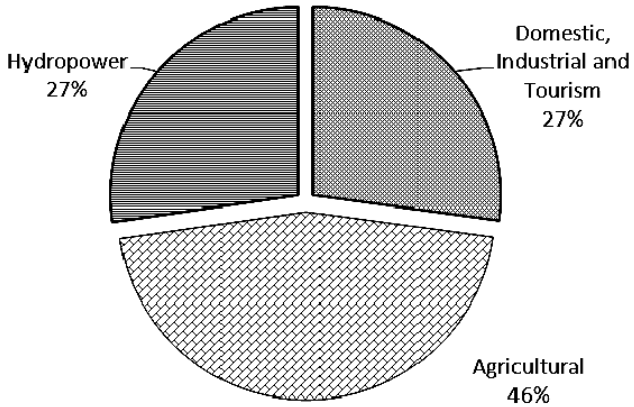
In 2012, the Island of Mauritius received 3,001 million cubic metres (Mm^3) of precipitation (rainfall), 17.3% lower than in 2011 when 3,627 Mm^3 of rainfall were obtained. Only 10 % of the precipitation went as ground water recharge, while evapotranspiration and surface runoff accounted for 30% and 60% respectively (Table 15).

Total water utilisation was estimated at 800 Mm^3 in 2012. The agricultural sector accounted for 46% (365 Mm^3) of the water utilised, hydropower 27% (218 Mm^3) while the remaining 27% (217 Mm^3) was used by the domestic, industrial and tourism sectors (Table 16).

Compared to 2012, water utilisation increased by 6.4 % from 752 to 800 Mm^3 with increases noted in all sectors as follows:-

- domestic, industrial and tourism +0.9%,
- hydropower +20.4%, and
- agricultural +2.5%.

Figure 2 - Water utilisation, 2012



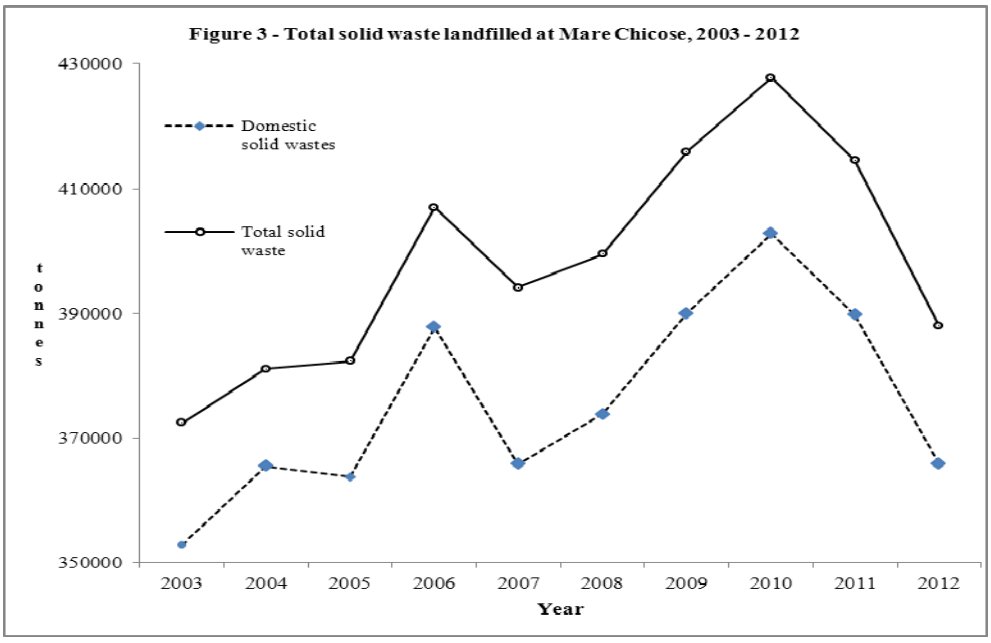
Around 85% of the total water utilisation was met by surface water and the remaining 15 % by ground water.

6. Waste

6.1 Drop in waste disposal at Mare Chicose Landfill

The total amount of solid waste landfilled at Mare Chicose decreased to 387,925 tonnes in 2012 from 414,543 tonnes in 2011, down by 6.4 % (Table 17). The drop in the amount of solid waste disposed at Mare Chicose landfill can be attributed to waste supplied for composting at La Chaumiere Compost Plant.

Domestic waste constituted 94% of the total solid waste landfilled in 2012. The trend of the amount of solid waste landfilled is as shown in figure 3.



7. Complaints

Effective environmental management needs appropriate coordination and monitoring of environmental problems. The Ministry of Environment and Sustainable Development is entrusted to address environmental complaints received from the general public.

7.1 Drop in the number of complaints received

Table 18 lists the number of complaints by category received by the Pollution Prevention and Control Division of the Ministry of Environment and Sustainable Development for 2011 and 2012**.** The number of complaints received decreased by 9.4% from 731 in 2011 to 662 in 2012. The complaints were mainly: noise (20%), air pollution (16%), solid waste (15%), odour (12%) and waste water (11%).

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

8.1 EIA Licences and PER Approvals

In 2012, some 26 EIA licences were granted of which 10 were for coastal hotels and related works, 7 for land parcelling (morcellement) and 4 for development in port area.

During the same period, 34 PER approvals were issued of which 12 were for industrial development, 7 for poultry rearing and 4 for livestock rearing (Table 19).

Statistics Mauritius
Ministry of Finance and Economic Development
Port Louis
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Table 1 - Main environment indicators, 2003 and 2012

Indicator	Units	2003	2012 [1]
1. Forest area	ha	56,608	47,143
2. Total forest area as a % of total land area	%	28.7	23.9
3. Irrigated land	ha	21,619	19,459
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	9,709	4,393
9. Mean catch per fisherman day	kg	4.3	5.9
10. Total carbon dioxide emission	Gg	2,783.5	3,745.1
11. Per capita carbon dioxide emission	tons	2.3	2.9
12. Mean annual rainfall	millimetres	1,973	1,621
13. Annual fresh water abstraction	Mm^3	725	582
14. Daily per capita domestic water consumption	litres	166	160
15. Daily per capita solid waste disposed at landfill	Kg	0.86	0.85
16. Total electricity generated	GWh	2,082	2,796
17. Electricity generated from renewable sources	%	27.2	20.7
18. Total primary energy requirement	ktoe	1,222.8	1,458.8
19. Primary energy requirement from renewable sources	%	21.8	15.2
20. Per capita primary energy requirement	toe	1.0	1.1
21. Per capita final energy consumption	toe	0.67	0.69
22. Energy intensity	toe per Rs 100,000 GDP at 2000 prices	0.90	0.76

[1] Provisional

[2] 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, 2011 - 2012

Hectares

Category of Forest	2011		2012	
	Hectares	%	Hectares	%
State - owned lands	**22,140**	**47.0**	**22,143**	**47.0**
Plantations	11,897	25.2	11,900	25.2
Nature reserves	799	1.7	799	1.7
On mainland	*200*	*0.4*	200	*0.4*
Islets	*599*	*1.3*	599	*1.3*
Black River Gorges National Park	6,574	13.9	6,574	13.9
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	1,333	2.8
Pas Geometriques	631	1.3	631	1.3
Plantations	*222*	*0.5*	222	*0.5*
Leased for grazing and tree planting	*230*	*0.5*	230	*0.5*
Others (mostly rocky)	*179*	*0.4*	179	*0.4*
Private - owned lands	**25,000**	**53.0**	**25,000**	**53.0**
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	39.1	18,447	39.1
Total	**47,140**	**100.0**	**47,143**	**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 - Effective area under cultivation, Island of Mauritius, 2011 - 2012

Hectares

Crops	2011	2012 [1]
Sugarcane	59,724	57,300
Tea	651	669
Tobacco	222	173

[1] *Provisional*

Table 5 - Imports of fertilisers and pesticides, Island of Mauritius, 2011 - 2012

Year	Fertilisers		Pesticides	
	Quantity (tonnes)	Value CIF (Rs mn)	Quantity (tonnes)	Value CIF (Rs mn)
2011 [1]	54,356	816.2	2,107	355.1
2012 [2]	52,739	834.9	1,913	343.4

CIF: Cost, Insurance, Freight

[1] *Revised*

[2] *Provisional*

Table 6 - Primary energy requirement by energy source, Republic of Mauritius, 2011- 2012

ktoe (000 Tonne of oil equivalent)

Energy Source	2011 [1]	2012 [2]
Imported (fossil fuels)	**1,195.7**	**1,236.5**
Oil[3]	726.9	745.4
Liquefied petroleum gas (LPG)	71.1	72.7
Coal	397.7	418.4
Local (Renewables)	**231.1**	**222.3**
Hydro / Wind	5.1	6.7
Landfill Gas	0.3	1.5
Bagasse	218.1	206.5
Fuel wood *	7.6	7.5
Photovoltaic	….	0.1
Total	**1,426.8**	**1,458.8**

[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, 2011- 2012

Gg or thousand tonnes

Greenhouse gas	2011 [1]	2012 [2]
Emissions		
Carbon Dioxide	3,640.26	3,745.13
Methane	38.44	35.92
Oxides of Nitrogen	18.30	18.80
Nitrous Oxide	1.08	1.08
Carbon Monoxide	67.47	68.57
NMVOC[3]	20.81	24.57
Sulphur Dioxide	33.67	33.78
Removals		
Carbon Dioxide	289.62	292.90
Net emissions		
Carbon Dioxide	3,350.64	3,452.23

Gg or thousand tonnes CO_2-eq

Total GHG [4] emissions	4,782.30	4,834.25

[1] *Revised*

[2] *Provisional*

[3] *Non-methane volatile organic compound*

[4] *Refers to carbon dioxide, methane and nitrous oxide*

Table 8 - National inventory of greenhouse gas emissions by source categories, Republic of Mauritius, 2011[1] - 2012[2]

Gg or thousand tonnes

Source	Carbon dioxide (CO_2)				Methane (CH_4)		Nitrous oxide (N_2O)		Oxides of nitrogen (NO_x)		Carbon monoxide (CO)		NMVOC [3]		Sulphur dioxide (SO_2)	
	Emissions		Removals													
	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012
1. Energy sector (Fuel combustion activities)	3,638.88	3,743.31	-	-	0.63	0.62	0.08	0.08	18.30	18.80	67.47	68.57	10.30	10.71	33.67	33.78
(a) Energy industries (electricity)	*2,205.80*	*2,280.49*	-	-	*0.30*	*0.29*	*0.06*	*0.06*	*7.38*	*7.58*	*8.90*	*8.61*	*0.55*	*0.53*	*28.12*	*28.26*
(b) Manufacturing industries	*336.44*	*330.75*	-	-	*0.08*	*0.07*	*0.01*	*0.01*	*1.12*	*1.08*	*7.61*	*6.67*	*0.13*	*0.11*	*3.29*	*3.20*
(c) Transport	*921.73*	*954.06*	-	-	*0.14*	*0.15*	*0.01*	*0.01*	*9.38*	*9.71*	*49.34*	*51.70*	*9.43*	*9.88*	*2.16*	*2.23*
(d) Other sectors	*174.91*	*178.01*	-	-	*0.11*	*0.11*	*0.00*	*0.00*	*0.42*	*0.43*	*1.62*	*1.59*	*0.19*	*0.19*	*0.10*	*0.09*
2.Industrial processes	1.38	1.82	-	-	-	-	-	-	-	-	-	-	10.51	13.86	-	-
3.Agriculture	-	-	-	-	0.91	0.90	1.00	1.00	-	-	-	-	-	-	-	-
4.Land use change and forestry	-	-	289.62	292.90	-	-	-	-	-	-	-	-	-	-	-	-
5.Waste[4]	-	-	-	-	36.90	34.40	-	-	-	-	-	-	-	-	-	-
Total	**3,640.26**	**3,745.13**	**289.62**	**292.90**	**38.44**	**35.92**	**1.08**	**1.08**	**18.30**	**18.80**	**67.47**	**68.57**	**20.81**	**24.57**	**33.67**	**33.78**

[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, 2011- 2012

Gg or thousand tonnes

Energy Sector	2011 [1]		2012 [2]	
	Quantity	%	Quantity	%
Energy industries (electricity)	2,205.8	60.6	2280.5	60.9
Manufacturing industries	336.4	9.2	330.8	8.8
Transport	921.7	25.3	954.1	25.5
Residential	133.5	3.7	134.7	3.6
Other [3]	41.5	1.1	43.3	1.2
Total	**3,638.9**	**100.0**	**3,743.3**	**100.0**

[1] *Revised* [2] *Provisional*

[3] *includes Agriculture and Trade*

Table 10 - Fuel input for electricity production, Republic of Mauritius, 2011 - 2012

ktoe (000 Tonne of oil equivalent)

Fuel	2011		2012 [1]	
	Quantity (Ktoe)	%	Quantity (Ktoe)	%
Petroleum products	**211.2**	**27.3**	**210.0**	**26.7**
Fuel oil	*205.9*	*26.6*	*204.5*	*26.0*
Diesel oil	*1.5*	*0.2*	*1.9*	*0.2*
Kerosene	*3.8*	*0.5*	*3.6*	*0.5*
Coal	**382.7**	**49.5**	**402.5**	**51.3**
Total petroleum products and coal	***593.9***	***76.8***	***612.5***	***78.0***
Local renewables	**179.1**	**23.2**	**172.5**	**22.0**
Bagasse	179.1	23.2	172.5	22.0
Total	**773.0**	**100.0**	**785.0**	**100.0**

Source: Central Electricity Board and Sugar Industry Energy Survey

[1] *Provisional*

Table 11 - Final energy consumption by sector, Republic of Mauritius, 2011 - 2012

ktoe (000 Tonne of oil equivalent)

Sector	2011 [1]		2012 [2]	
	Quantity (Ktoe)	%	Quantity (Ktoe)	%
Manufacturing	221.7	25.7	215.4	24.3
Transport	435.3	50.5	458.5	51.8
Household	117.4	13.6	120.1	13.6
Commercial	80.7	9.4	83.7	9.5
Agriculture	4.3	0.5	4.5	0.5
Other (n.e.s & losses)	3.0	0.3	3.4	0.3
Total	**862.4**	**100.0**	**885.6**	**100.0**

[1] *Revised*

[2] *Provisional*

Table 12 - Stock of registered motor vehicles, Island of Mauritius, 2011 - 2012

Type of vehicle	2011	2012
Cars and Dual Purpose Vehicle (DPV)	185,357	197,849
Auto / Motocycles	165,706	173,508
Heavy Motor Car and Bus	4,142	4,201
Van and Lorry	39,629	40,195
Other vehicles[1]	6,085	6,173
Total	**400,919**	**421,926**

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

Table 13 - Fuel used by the transport sector, Republic of Mauritius, 2011- 2012

ktoe (000 Tonne of oil equivalent)

Fuel	2011 [1]	2012 [2]
Land	**293.2**	**304.2**
Gasolene	126.8	133.2
Liquefied Petroleum Gas (LPG)	4.9	4.7
Diesel oil	161.5	166.3
Air		
Aviation fuel	**134.3**	**146.2**
Sea	**7.7**	**8.0**
Gasolene	3.3	3.4
Diesel oil	1.1	1.1
Fuel oil	3.3	3.5
Total	**435.2**	**458.4**

[1] *Revised*

[2] *Provisional*

Table 14 - Ambient air quality monitoring by mobile stations, Island of Mauritius, 2012

Region	Period	Pollutant [1]	Unit [2]	Readings		Standard for ambient air quality [3] (Average)
				Minimum	Maximum	
SSR Street, Port Louis (Roadside)	18 Jan - 08 Feb 2012	Dust (TSP)	µg/m^3	54.9	92.9	150 (24 hour)
		Dust (PM_{10})	µg/m^3	36.5	60.2	100 (24 hour)
		Sulphur Dioxide	ppb	1.7	9.2	70 (24 hour)
		Sulphur Dioxide	ppb	0.1	48.1	122 (1 hour)
		Carbon Monoxide	ppm	0	6.38	20 (1 hour)
		Nitrogen Dioxide	ppb	0	15.8	98 (24 hour)
SSR Street, Port Louis (Roadside)	07 Nov 2012 - 22 Nov 2012	Dust (TSP)	µg/m^3	76.1	107.8	150 (24 hour)
		Dust (PM_{10})	µg/m^3	39.6	68.6	100 (24 hour)
		Sulphur Dioxide	ppb	0.59	2.88	70 (24 hour)
		Sulphur Dioxide	ppb	0.01	7.76	122 (1 hour)
		Carbon Monoxide	ppm	0	4.35	20 (1 hour)
		Nitrogen Dioxide	ppb	7.56	19.37	98 (24 hour)
Port Louis (Residential area)	31 Jan - 11 Feb 2012	Dust (TSP)	µg/m^3	3	20.5	150 (24 hour)
		Dust (PM_{10})	µg/m^3	10.7	15.2	100 (24 hour)
Port Louis (Residential area)	16 Feb - 06 Mar 2012	Sulphur Dioxide	ppb	0.6	4	70 (24 hour)
		Sulphur Dioxide	ppb	0.3	26.5	122 (1 hour)
		Nitrogen Dioxide	ppb	0	2.5	98 (24 hour)
Baie Du Tombeau (Industrial area)	15 Mar 2012 - 12 Apr 2012	Dust (TSP)	µg/m^3	12.7	45.1	150 (24 hour)
		Dust (PM_{10})	µg/m^3	12.7	56.4	100 (24 hour)
		Sulphur Dioxide	ppb	0.71	40.5	70 (24 hour)
		Sulphur Dioxide	ppb	0.63	87.7	122 (1 hour)
		Carbon Monoxide	ppm	0.07	2.41	20 (1 hour)
		Nitrogen Dioxide	ppb	0.73	6.31	98 (24 hour)
Belle Vue (Industrial area)	21 Mar 2012 - 17 Apr 2012	Dust (TSP)	µg/m^3	16.2	30.16	150 (24 hour)
		Dust (PM_{10})	µg/m^3	13.3	31.2	100 (24 hour)
Terre Rouge (Industrial area)	9 May 2012 - 04 Jul 2012	Dust (TSP)	µg/m^3	8.5	40.4	150 (24 hour)
		Sulphur Dioxide	ppb	0	18.75	70 (24 hour)
		Sulphur Dioxide	ppb	0	44.6	122 (1 hour)
		Carbon Monoxide	ppm	0.04	0.87	20 (1 hour)
		Nitrogen Dioxide	ppb	0.44	4.5	98 (24 hour)
Brabant Street , Port Louis (Roadside)	19 Jun 2012 - 20 Aug 2012	Dust (TSP)	µg/m^3	20.21	51.22	150 (24 hour)
		Sulphur Dioxide	ppb	0	4.1	70 (24 hour)
		Sulphur Dioxide	ppb	0	15	122 (1 hour)
		Carbon Monoxide	ppm	0.2	3.9	20 (1 hour)
		Nitrogen Dioxide	ppb	7.5	27	98 (24 hour)
Midlands (Industrial area)	18 Sep 2012 - 30 Oct 2012	Dust (TSP)	µg/m^3	5.67	53.89	150 (24 hour)
		Dust (PM_{10})	µg/m^3	4.05	36.5	100 (24 hour)
		Sulphur Dioxide	ppb	0	1.05	70 (24 hour)
		Sulphur Dioxide	ppb	0	3.36	122 (1 hour)
		Carbon Monoxide	ppm	0.16	1.02	20 (1 hour)
		Nitrogen Dioxide	ppb	0.17	1.35	98 (24 hour)
Cassis (Industrial area)	19 Sep 2012 - 25 Oct 2012	Dust (TSP)	µg/m^3	18.81	32.19	150 (24 hour)
		Sulphur Dioxide	ppb	2.2	17.5	70 (24 hour)
		Sulphur Dioxide	ppb	1.5	56	122 (1 hour)
		Carbon Monoxide	ppm	0	2.8	20 (1 hour)
		Nitrogen Dioxide	ppb	1.9	10	98 (24 hour)

[1] TSP stands for Total Suspended Particles

PM_{10} stands for Particle Matter of Size less or equal to 10 microns

[2] ppb stands for Parts per Billion

ppm stands for Parts per Million

[3] Based on existing national standards

Source: Minstry of Environment & Sustainable Development

Table 15 - Water balance, Island of Mauritius, 2011 - 2012

Mm^3

	2011	2012
Rainfall	3,627	3,001
Surface runoff	*2,176*	*1,801*
Evapotranspiration	*1,088*	*900*
Net recharge to groundwater	*363*	*300*

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

Table 16 - Water Utilisation, Island of Mauritius, 2011 - 2012

Mm^3

Utilisation	2011				2012			
	Source of water			Total	Source of water			Total
	Surface water		Ground water		Surface water		Ground water	
	River-run offtakes	Reservoirs			River-run offtakes	Reservoirs		
Domestic, Industrial [1] and Tourism	35 [2]	59	111	**205**	35 [2]	62	109	**206**
Industrial [3]	5	-	5	**10**	5	-	6	**11**
Agricultural	305	45 [4]	6	**356**	299	59 [4]	7	**365**
Hydropower	113	68 [5]	-	**181**	114	104 [5]	-	**218**
Overall utilisation	**458**	**172**	**122**	**752**	**453**	**225**	**122**	**800**
Total water mobilisation	**437**	**148**	**122**	**707**	**435**	**190**	**122**	**747**

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

[1] used through CWA

[2] includes water used by Reduit hydropower station

[3] used by water right owners and ground water licensees

[4] includes water used by Tamarind Falls & Magenta hydropower stations

[5] includes water used for Tamarind Falls, Magenta, Le Val & Ferney hydropower stations

Table 17 - Solid waste landfilled at Mare Chicose by source of waste material, Island of Mauritius, 2011 - 2012

Tonnes

Waste material	2011	2012 [1]
Domestic	389,743	365,867
Construction	5,306	5,601
Other[2]	19,494	16,457
Total	**414,543**	**387,925**

Source: Ministry of Local Government and Outer Islands

[1] *Provisional*

[2] *Includes mainly industrial waste.*

Table 18 - Number of complaints received at the Pollution Prevention and Control Division by category, Island of Mauritius, 2011 - 2012

Category	2011	2012 [1]
Noise	170	131
Solid waste	127	100
Air pollution	96	105
Waste water	84	71
Odour	77	79
Other [2]	177	176
Total	**731**	**662**

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 19 - Number of Environment Impact Assessment (EIA) licences and Preliminary Environmental Report (PER) approvals, granted by type of project, 2011 - 2012, Island of Mauritius

Project	EIA		PER	
	2011	2012	2011	2012
Land parcelling (morcellement)	4	7	-	3
Poultry rearing	-	-	9	7
Industrial development	2	1	7	12
Coastal hotels & related works	10	10	-	1
Livestock rearing	-	-	2	4
Housing	2	2	1	1
Stone crushing plants	3	-	-	-
Development in port area	4	4	-	-
Other	5	2	5	6
Total	**30**	**26**	**24**	**34**

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

ANNEX

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 (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. 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 (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 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): A formal process used to examine the environmental consequences both beneficial and adverse of a proposed development project. It identifies, predicts and evaluates the environmental impacts and ensures that mitigating measures or environmental safeguards are incorporated in the project design.

Preliminary Environmental Report

Preliminary Environmental Report (PER) is a short form of EIA and applies to less polluting activities.

Air Quality

Ambient air quality is the quality of the air that surrounds us and which we breathe.

Air quality standards: Levels of air pollutants prescribed by regulations that may not be exceeded during a specified time in a defined area.

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
US$	US dollar
%	Percentage
f.o.b	free on board
c.i.f	Cost, insurance, freight
000	Thousand
n.e.s	Not elsewhere specified
Mm^3	Million cubic metres
Gg	Gigagram (thousand tonnes)
Toe	Tonne of oil equivalent
ktoe	Thousand tonnes of oil equivalent
$\mu g/m^3$	Micrograms per cubic metre
ppb	Part per billion
ppm	Part per million
SIFB	Sugar Insurance Fund Board
TSP	Total suspended particles
PM_{10}	Particles Matter of size less or equal to 10 microns
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