Environment Statistics - 2011

1. Introduction

This issue of Economic and Social Indicators presents Statistics on Environment for year 2011 based on data gathered from various institutions.

The main environment indicators over the ten-year period, 2002 – 2011 are given in Table 1 while technical notes are given at Annex.

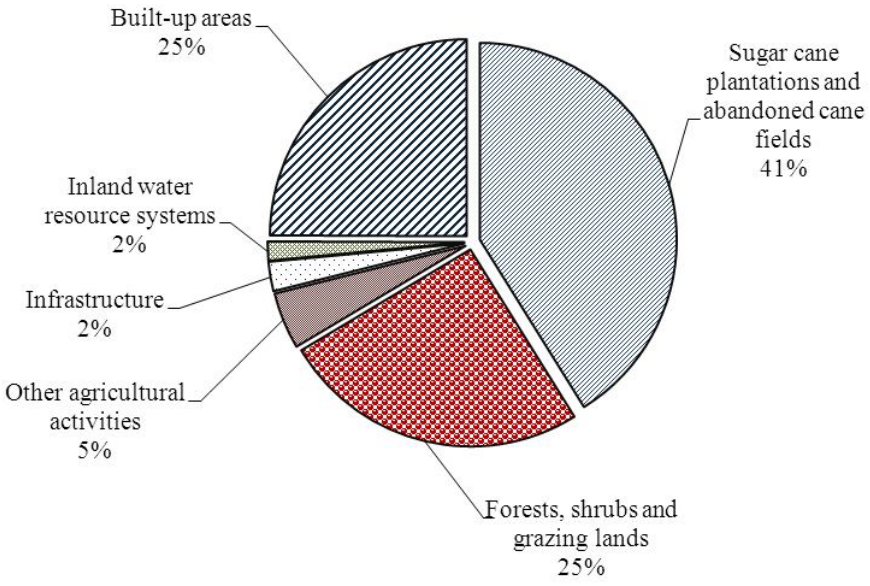
2. Land use, Forestry and Agriculture

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 (Figure 1 and 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.

Figure 1 - Land Use, Island of Mauritius, 2005



2.2 Decrease in forest area

Preservation of forests is vital for the protection of the ecosystem. However, the total forest area has been declining from 47,159 hectares in 2010 to 47,140 hectares in 2011. Some 47% of the total forest lane in 2011 was state owned and the remaining 53% was privately-owned (Table 3).

2.3 Drop in effective area under sugar cane and tea cultivation

From 2010 to 2011, the effective area under sugar cane and tea cultivation decreased by 3.8% (from 62,100 to 59,724 hectares) and 6.7% (from 698 to 651 hectares) respectively while that under tobacco cultivation increased by 4.2% from 213 to 222 hectares (Table 4).

2.3.1 *Import of fertilisers rises but export of pesticides falls*

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

Between 2010 and 2011,

- import of fertilisers increased by 17.4% from 46,282 to 54,356 tonnes while
- import of pesticides dropped by 11.6% from 2,384 to 2,107 tonnes (Table 5).

3. Energy and Greenhouse gas (GHG)

Though vital for economic development and households, the production and consumption of energy cause air pollution, and alter the ambient temperature. They are by far the most important contributors of air pollutants through the emission of carbon dioxide (CO_2) and other greenhouse gases.

3.1 Decrease in energy supply

Between 2010 and 2011, 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 decreased marginally by 0.3% from 1,431 to 1,427 thousand tonnes of oil equivalent (ktoe).

Energy from locally available sources (hydro, wind, landfill gas, bagasse and fuelwood) which are all renewable and less polluting declined from 242 to 231 ktoe while energy from imported fuels (petroleum products and coal) went up from 1,189 to 1,196 ktoe (Table 6).

3.2 Net Carbon Dioxide emission falls slightly

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, dropped slightly from to 3,375 thousand tonnes in 2010 to 3,351 thousand tonnes in 2011; and
- the non-carbon dioxide emissions consisted mainly of carbon monoxide and methane.

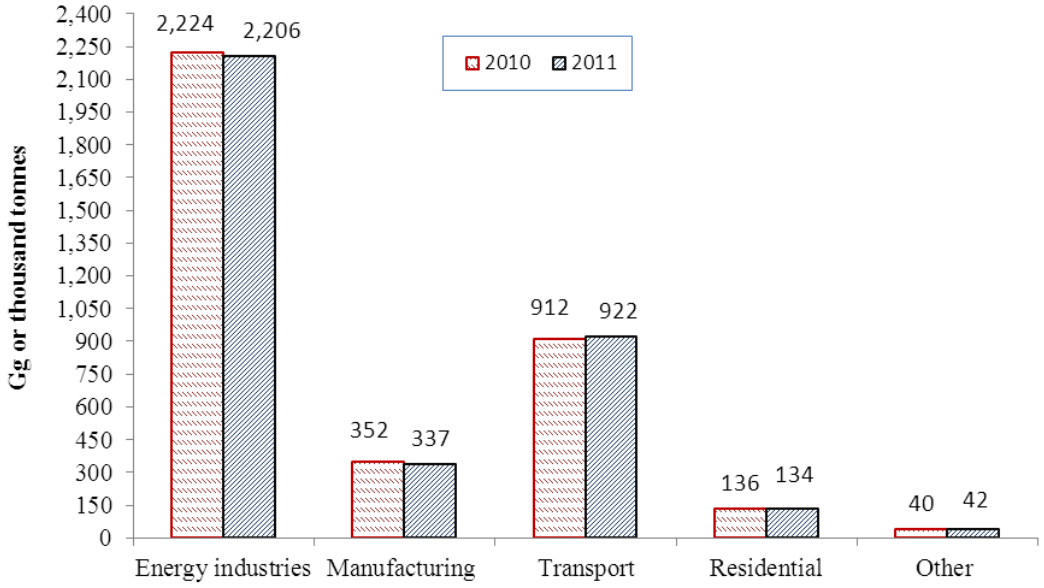
3.3 Carbon dioxide (CO2) emissions from fuel combustion activities

Fuel combustion by the energy industries remained the largest source of GHG emissions and accounted for 61% (2,206 thousand tonnes) of the total GHG emissions in 2011 (Table 9). Next came the transport sector which made up 25% (922 thousand tonnes) of total GHG emissions and the manufacturing industries making up another 9% (337 thousand tonnes).

Compared to 2010, CO_2 emissions from fuel combustion registered a slight decline from 3,664 to 3,639 thousand tonnes (-0.7%). A breakdown by sector indicates that:

- CO_2 emissions in the energy industries decreased slightly by 0.8% (from 2,224 to 2,206 thousand tonnes) mainly attributed to a decrease in the amount of fuel input (petroleum products and coal) to produce electricity (Table 10);
- the manufacturing sector registered a decrease of 4.3% in CO_2 emissions (from 352 to 337 thousand tonnes). This could be explained by a fall in the amount of fuel consumed by the sector (Table 11);
- CO_2 emissions by the transport sector went up by 1.1% (from 912 to 922 thousand tonnes) due to higher fuel consumption. In fact, the number of registered motor vehicles went up by 4.4% (from 384,115 to 400,919) (Table 12 and 13).

Figure 2 - Sectoral Carbon dioxide emissions from fuel combustion activities, Republic of Mauritius, 2010 - 2011



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 2011 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.

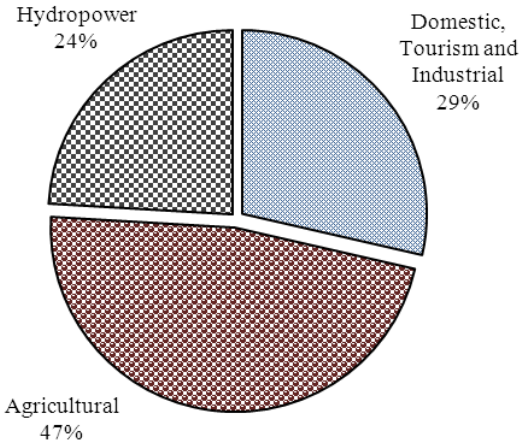
In 2011, the Island of Mauritius received 3,627 million cubic metres (Mm^3) of precipitation (rainfall), compared to 3,368 Mm^3 obtained in 2010 (+7.7%). Only 10 % of the precipitation went as ground water recharge, while evapotranspiration and surface runoff accounted for 30% and 60% respectively (Table 15).

Total water utilisation was estimated at 752 Mm^3 in 2011. The agricultural sector accounted for 47% of the water utilised (356 Mm^3). Hydropower accounted for 24% (181 Mm^3). Water utilised by the domestic, industrial and tourism sector represented the remaining 29% (215 Mm^3) (Table 16).

Compared to 2010, water utilisation dropped by 19.6 %, from 935 to 752 Mm^3 with falls in each sector as follows:-

- domestic, industrial and tourism: -7.7%,
- hydropower -39.3% , and:
- agricultural -11.9%.

Figure 3 - Water utilisation, 2011



Around 84% of the total water utilisation was met by surface water and the remaining 16 % by ground water.

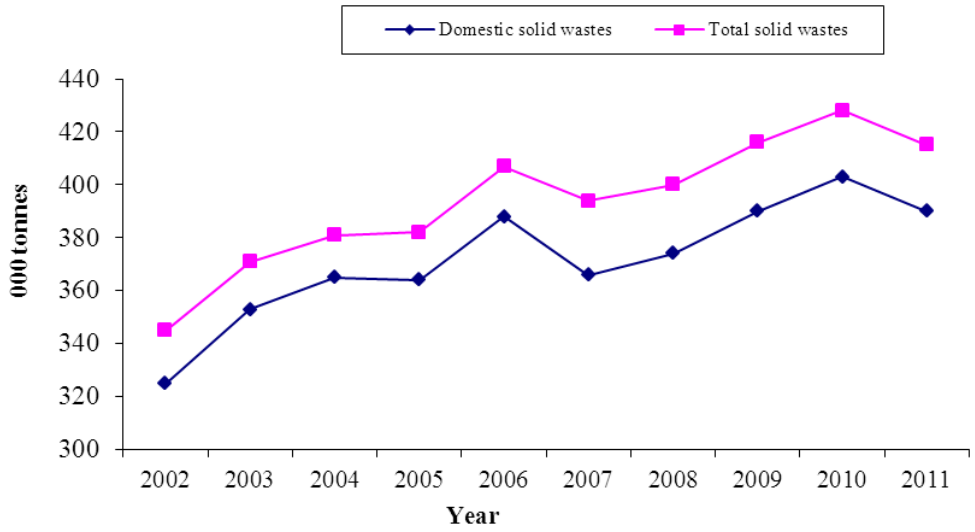
6. Waste

6.1 Drop in waste disposal at Mare Chicose

The total amount of solid waste landfilled went down by 3.1 % from 427,802 tonnes in 2010 to 414,543 tonnes in 2011 (Table 17). The drop in the amount of solid waste disposed at the Mare Chicose sanitary landfill was because some of the solid waste has been composted.

Domestic waste constituted 94% of the total solid waste landfilled in 2011. The trend of the amount of solid wastes landfilled is as shown in figure 4.

Figure 4 - Total solid waste landfilled at Mare Chicose, 2002 - 2011



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 Rise 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 2010 and 2011**.** The number of complaints received increased from 622 in 2010 to 731 in 2011 (+17.5%). These were mainly due to noise (23%), solid waste (17%), air pollution (13%), waste water (12%) and odour (11%).

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

8.1 EIA Licences and PER Approvals

In 2011, some 30 EIA licences were granted of which 10 were issued to coastal hotels and related works, 5 to land parcelling and 4 to development in port area.

During the same period, 24 PER approvals were granted, out of which 10 were for poultry rearing and 9 were for industrial development (Table 19).

Statistics Mauritius

Ministry of Finance and Economic Development

Port Louis

July 2012.

Contact Persons

Mrs. D. Balgobin
Statistician
Mrs. S.Sham-Jacmohun
Senior Statistical Officer
Ministry of Environment and Sustainable Development
Ken Lee Tower
Port Louis
Tel. (230) 210-6186
Fax. (230) 211-4150
Email cso_envi@mail.gov.mu

Table 1 -Main environment indicators, 2002 and 2011

Indicator	Units	2002	2011 [1]
1. Total land area [2]	000 ha	196.9	196.9
2. Irrigated land	ha	21,222	19,885
3. Total forest area (as a % of total land area)	%	30.4	25.5
4. Land Protected Areas	ha	13,973	14,879
5. Marine Protected Areas	ha	7,190	7,216
6. Threatened plant species (NPCS)[3]	%	…	88
7. Threatened animal species (NPCS)[3]	%	…	89
8. Total fish catch	tons	9,318	5,270
9. Mean catch per fisherman day	kg	4.3	6.9
10. Total Carbon dioxide emission	000 tons	2,973.0	3,640.8
11. Per capita carbon dioxide emission	tons	2.2	2.8
12. Mean annual rainfall	millimetres	2,082	1,945
13. Annual fresh water abstraction	Mm^3	726	…
14. Daily per capita domestic water consumption	litres	157	162
15. Daily per capita solid waste generated	Kg	0.8	0.9
16. Total electricity generated	GWh	1,949	2,730
17. Per capita primary energy requirement	toe	1.0	1.1
18. Per capita final energy consumption	toe	0.6	0.7
19. Energy intensity	toe per Rs 100,000 GDP at 1990 prices	1.0	1.4

[1] Provisional

[2] Excluding Agalega and St Brandon

[3] 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**	**186,500**	**100**		

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, 2010 - 2011

Hectares

Category of Forest	2010		2011	
	Hectares	%	Hectares	%
State - owned	**22,159**	**47.0**	**22,140**	**47.0**
Plantations	11,855	25.1	11,897	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]	472	1.0	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	1,419	3.0	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	**47,159**	**100.0**	**47,140**	**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, 2010 - 2011

Hectares

Crops	2010 [1]	2011 [2]
Sugarcane	62,100	59,724
Tea	698	651
Tobacco	213	222

[1] *Revised*

[2] *Provisional*

Table 5 - Imports of fertilizers and pesticides, Island of Mauritius, 2010 - 2011

Year	Fertilizers		Pesticides	
	Quantity (tonnes)	Value CIF (Rs mn)	Quantity (tonnes)	Value CIF (Rs mn)
2010 [1]	46,282	585.7	2,384	390.4
2011 [2]	54,356	816.2	2,107	355.4

CIF: Cost, Insurance, Freight

[1] *Revised*

[2] *Provisional*

Table 6 - Primary energy requirement by energy source, Republic of Mauritius, 2010 - 2011

ktoe (000 Tonne of oil equivalent)

Energy Source	2010 [1]	2011 [2]
Imported	**1,189.1**	**1,195.7**
Oil[3]	704.8	726.9
Liquefied petroleum gas (LPG)	70.2	71.1
Coal	414.1	397.7
Local (Renewables)	**241.6**	**231.1**
Hydro / Wind *(GWh)*	8.9	5.1
Landfill Gas	-	0.3
Bagasse *	225.0	218.1
Fuel wood *	7.7	7.6
Total	**1,430.7**	**1,426.8**

* *Estimates*

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

[3] *Includes gasolene, diesel oil, dual purpose kerosene and fuel oil*

Table 7- Total emissions and removals of greenhouse gases and other related gases, Republic of Mauritius, 2010 - 2011

Gg or thousand tonnes

Greenhouse gas	2010 [1]	2011 [2]
Emissions		
Carbon Dioxide	3,666.53	3,640.75
Methane	39.74	38.51
Oxides of Nitrogen	18.13	18.05
Nitrous Oxide	1.08	1.08
Carbon Monoxide	67.39	67.36
NMVOC[3]	19.63	21.11
Sulphur Dioxide	12.49	13.27
Removals		
Carbon Dioxide	291.57	289.62
Net emissions		
Carbon Dioxide	3,374.96	3,351.13

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

[3] *Non-methane volatile organic compound*

Table 8 - National inventory of greenhouse gas emissions by source categories, Republic of Mauritius, 2010[1] - 2011[2]

Gg or thousand tonnes

Category	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													
	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
1. Energy	3,664.35	3,639.37	-		0.63	0.62	0.08	0.08	18.13	18.05	67.39	67.36	10.05	10.19	12.49	13.27
Fuel combustion activities																
(a) Energy industries (electricity)	*2,224.28*	*2,205.80*	-		*0.30*	*0.29*	*0.06*	*0.06*	*7.47*	*7.37*	*9.03*	*8.87*	*0.55*	*0.54*	*6.43*	*6.31*
(b) Manufacturing industries	*352.06*	*336.55*	-		*0.08*	*0.08*	*0.01*	*0.01*	*1.18*	*1.12*	*8.27*	*7.61*	*0.13*	*0.13*	*3.80*	*3.68*
(c) Transport	*912.02*	*922.11*	-		*0.14*	*0.14*	*0.01*	*0.01*	*9.17*	*9.26*	*48.56*	*49.35*	*9.20*	*9.35*	*2.14*	*3.16*
(d) Other sectors	*175.99*	*174.91*	-		*0.11*	*0.11*	*0.00*	*0.00*	*0.31*	*0.30*	*1.53*	*1.53*	*0.17*	*0.17*	*0.12*	*0.12*
2.Industrial processes	2.18	1.38	-		-		-	-	-	-	-	-	*9.58*	*10.92*	-	-
3.Solvent and other product use	…	…	-		…		…	…	…	…	…	…	…	…	…	…
4.Agriculture	-	-	-		1.01	0.99	*1.00*	*1.00*	-	-	-	-	-	-	-	-
5.Land use change and forestry	-	-	291.57	289.62	-		-	-	-	-	-	-	-	-	-	-
6.Waste[4]	-	-			38.10	36.90	-	-	-	-	-	-	-	-	-	-
Total	**3,666.53**	**3,640.75**	**291.57**	**289.62**	**39.74**	**38.51**	**1.08**	**1.08**	**18.13**	**18.05**	**67.39**	**67.36**	**19.63**	**21.11**	**12.49**	**13.27**

[1] *Revised*

[2] *Provisional*

[3] *Non - methane volatile organic compound*

[4] *Exclude waste water*

Table 9 - Sectoral carbon dioxide emissions from fuel combustion activities, Republic of Mauritius, 2010 - 2011

Gg or thousand tonnes

Sector	2010 [1]		2011 [2]	
	Quantity	%	Quantity	%
Energy industries (electricity)	2,224.3	60.7	2,205.8	60.6
Manufacturing industries	352.1	9.6	336.6	9.3
Transport	912.0	24.9	922.1	25.3
Residential	135.6	3.7	133.5	3.7
Other [3]	40.4	1.1	41.5	1.1
Total	**3,664.4**	**100.0**	**3,639.5**	**100.0**

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

[3] *includes Agriculture and Trade*

Table 10 - Fuel input for electricity production, Republic of Mauritius, 2010 - 2011

ktoe (000 Tonne of oil equivalent)

Fuel	2010		2011 [1]	
	Quantity (Ktoe)	%	Quantity (Ktoe)	%
Fuel oil	189.0	24.3	205.9	26.6
Diesel oil	2.0	0.3	1.5	0.2
Kerosene	6.3	0.8	3.8	0.5
Coal	398.7	51.2	382.7	49.5
Bagasse	182.5	23.4	179.1	23.2
Total	**778.5**	**100.0**	**773.0**	**100.0**

[1] *Provisional*

Table 11 - Final energy consumption by sector, Republic of Mauritius, 2010 - 2011

ktoe (000 Tonne of oil equivalent)

Sector	2010 [1]		2011 [2]	
	Quantity (Ktoe)	%	Quantity (Ktoe)	%
Manufacturing	231.1	27.1	221.7	25.7
Transport	421.6	49.4	435.3	50.5
Household	116.9	13.7	117.4	13.6
Commercial	76.4	8.9	80.7	9.4
Agriculture	4.4	0.5	4.3	0.5
Other (n.e.s & losses)	3.6	0.4	2.9	0.3
Total	**854.0**	**100.0**	**862.3**	**100.0**

[1] *Revised*

[2] *Provisional*

Table 12 - Stock of registered motor vehicles, Island of Mauritius, 2010 - 2011

Type of vehicle	2010	2011
Cars and Dual Purpose Vehicle (DPV)	175,634	185,357
Auto / Motocycles	159,329	165,706
Heavy Motor Car and Bus	4,094	4,142
Van and Lorry	39,100	39,629
Other vehicles[1]	5,958	6,085
Total	**384,115**	**400,919**

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

Table 13 - Fuel used by the transport sector, Republic of Mauritius, 2010 - 2011

ktoe (000 Tonne of oil equivalent)

Fuel	2010 [1]	2011 [2]
Land	**290.6**	**293.3**
Gasolene	124.5	126.8
Liquefied Petroleum Gas (LPG)	5.0	4.9
Diesel oil	161.1	161.6
Air		
Aviation fuel	**123.3**	**134.3**
Sea	7.7	**7.7**
Gasolene	3.2	3.3
Diesel oil	1.1	1.1
Fuel oil	3.4	3.3
Total	**421.6**	**435.3**

[1] *Revised*

[2] *Provisional*

Table 14 - Ambient air quality monitoring by mobile stations, Island of Mauritius, 2011

Region	Period	Pollutant [1]	Unit [2]	Readings		Standard for Ambient air quality[3] (Average)
				Minimum	Maximum	
Coromandel	Feb 2011 - Apr 2011	Dust (TSP)	µg/m^3	11.40	286.80	150 (24 hour)
		Dust (PM $_{10}$)		83.40	177.70	100(24 hour)
Souillac	Apr 2011 - May 2011	Dust (TSP)	µg/m^3	15.70	30.10	150 (24 hour)
		Dust (PM $_{10}$)		Not measured		100 (24 hour)
Cassis	Aug 2011 - Sept 2011	Dust (TSP)	µg/m^3	20.81	76.10	150 (24 hour)
		Dust (PM $_{10}$)		Not measured		100 (24 hour)
Midlands	Aug 2011 - Oct 2011	Dust (TSP)	µg/m^3	5.67	53.90	150 (24 hour)
		Dust (PM $_{10}$)		4.05	36.50	100 (24 hour)
Forest Side	Oct 2011	Dust (TSP)	µg/m^3	10.80	30.50	150 (24 hour)
		Dust (PM $_{10}$)		Not measured		100 (24 hour)
Beau Champ	Nov 2011 - Dec 2011	Dust (TSP)	µg/m^3	12.40	48.70	150 (24 hour)
		Dust (PM $_{10}$)		Not measured		100 (24 hour)
La Tour Koenig	Feb 2011 - Apr 2011	Sulphur Dioxide	ppb	0.00	95.00	122 (1 hour)
				0.00	34.00	70 (24 hours)
		Nitrogen Dioxide		Not measured		98 (24 hours)
		carbon Monoxide	ppm	0.04	1.00	20 (1 hour)
				0.04	0.80	8 (8 hours)
Balaclava	May 2011	Sulphur Dioxide	ppb	3.50	19.50	122 (1 hour)
				4.00	6.50	70 (24 hours)
		Nitrogen Dioxide		Not measured		98 (24 hours)
		carbon Monoxide	ppm	0.00	1.00	20 (1 hour)
				0.00	0.90	8 (8 hours)
Baie du Tombeau	Jun 2011 - Aug 2011	Sulphur Dioxide	ppb	0.00	123.00	122 (1 hour)
				1.00	52.50	70 (24 hours)
		Nitrogen Dioxide		1.00	8.50	98 (24 hours)
		carbon Monoxide	ppm	0.10	2.20	20 (1 hour)
				0.20	1.35	8 (8 hours)
Midlands	Aug 2011 - Oct 2011	Sulphur Dioxide	ppb	0.00	3.36	122 (1 hour)
				0.00	1.05	70 (24 hours)
		Nitrogen Dioxide		0.17	1.35	98 (24 hours)
		carbon Monoxide	ppm	0.16	1.02	20 (1 hour)
				<1	<1	8 (8 hours)
Belle Vue	Oct 2011	Sulphur Dioxide	ppb	0.00	56.90	122 (1 hour)
				0.00	25.60	70 (24 hours)
		Nitrogen Dioxide		0.00	8.40	98 (24 hours)
		carbon Monoxide	ppm	0.00	0.00	20 (1 hour)
				0.00	0.00	8 (8 hours)
Beau Champ	Nov 2011 - Dec 2011	Sulphur Dioxide	ppb	0.00	27.04	122 (1 hour)
				0.17	5.13	70 (24 hours)
		Nitrogen Dioxide		0.35	4.56	98 (24 hours)
		carbon Monoxide	ppm	0.00	1.59	20 (1 hour)
				<1	<1	8 (8 hours)

[1] *TSP stands for Total Suspended Particles*
PM $_{10}$ stands for Particles 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 standard*

Source: Ministy of Environment and Sustainable Development

Table 15 - Water balance, Island of Mauritius, 2010 - 2011

Mm^3

	2010	2011
Rainfall	3,368	3,627
Surface runoff	*2,021*	*2,176*
Evapotranspiration	*1,010*	*1,088*
Net recharge to groundwater	*337*	*363*

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

Table 16 - Water Utilisation, Island of Mauritius, 2010 - 2011

Mm^3

Use	2010				2011			
	Surface water		Ground water	Total	Surface water		Ground water	Total
	River-run offtakes	Storage			River-run offtakes	Storage		
Domestic, Industrial [1] and Tourism	36 [3]	74	118	233	35 [6]	59	111	205
Industrial [2]	5	-	5	10	5	-	5	10
Agricultural	320	78 [4]	6	404	305	45 [7]	6	356
Hydropower	147	151 [5]	-	298	113	68 [8]	-	181
Overall utilisation	**508**	**303**	**124**	**935**	**458**	**172**	**122**	**752**
Total water mobilisation	**488**	**238**	**124**	**850**	**437**	**148**	**122**	**707**

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

[1] Used through CWA

[2] Used by water right owners and ground water licensees

[3] includes 20 Mm^3 for Reduit hydropower station

[4] includes 30 Mm^3 for Tamarind Falls & Magenta hydropower station

[5] includes 13 Mm^3 for Le Val & Ferney hydropower stations and 22 Mm^3 for Tamarind Falls & Magenta

[6] includes 21 Mm^3 for Reduit hydropower station

[7] Includes 11 Mm^3 for Tamarind Falls & Magenda hydropower station

[8] includes 3 Mm^3 for Le Val & Ferney hydropower stations and 10 Mm^3 for Tamarind Falls & Magenta

Table 17 - Solid waste landfilled at Mare Chicose by source of waste material, Island of Mauritius, 2010 - 2011

Tonnes

Waste material	2010	2011 [1]
Domestic	402,816	389,743
Construction	2,394	5,306
Other[2]	22,592	19,494
Total	**427,802**	**414,543**

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, 2010 - 2011

Category	2010	2011 [1]
Noise	160	170
Solid waste	118	127
Air pollution	76	96
Waste water	77	84
Odour	128	77
Other [2]	63	177
Total	**622**	**731**

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, 2010 - 2011, Island of Mauritius

Project	EIA		PER	
	2010	2011 [1]	2010	2011 [1]
Land parcelling (morcellement)	5	5	-	-
Poultry rearing	-	-	3	10
Industrial development	5	1	5	9
Coastal hotels & related works	12	10	-	-
Livestock rearing	-	-	4	1
Housing	1	1	-	1
Stone crushing plants	3	3	-	-
Development in port area	1	4	-	-
Other	17	6	7	3
Total	**44**	**30**	**19**	**24**

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

[1] *Provisional*

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.

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)

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. GHG's 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.

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.

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