

# Environment Statistics - 2006

## 1. Introduction

This issue of the Economic and Social Indicators present data on environment statistics. Information has been gathered from various institutions and thus some of the data may already appear in other publications.

## 2. The Economy and the Environment

Table 1 shows some main environment indicators over the ten year period, 1997 - 2006. Table 2 provides some key socio-economic indicators showing the structural changes that have occurred during the same period.

Gross Domestic Product (GDP), which measures the total value of production, increased in nominal terms by about 133%, from Rs 88,175 million in 1997 to Rs 205,786 million in 2006. The share of agriculture in GDP fell from 9.4% in 1997 to 5.5% in 2006, that of manufacturing decreased from 23.6% to 20.0%, while that of financial and business services increased from 15.6% to 21.6%.

During the same period, population of the Republic of Mauritius increased by 9.1% from 1,148,284 to 1,252,698 and population density from 567 to 616 per km<sup>2</sup>.

## 3. Land use, Forestry and Agriculture

### 3.1 Land use

Table 3 shows data on land use for 1995 and 2005. During that period, the proportion of land under sugarcane decreased by 6%, tobacco plantations declined by 82% and forestry by 17%. Land used for other agricultural activities increased by 33% while built up areas expanded by 28%.

### 3.2 Forestry

Preservation of forests is vital for the protection of the ecosystem. Table 4 shows the forest area by category of ownership for the island of Mauritius. In 2006 the total forest area was 47,181 hectares, of which 22,181 hectares (47%) were state-owned and the remaining 25,000 hectares (53%) were privately-owned.

### 3.3 Agriculture

From 2005 to 2006, the effective area under sugarcane has shrunk by 782 hectares (-1.1%), to 70,801 hectares. During the same period area under tea plantation increased to 688 hectares (2.7%) from 670 hectares and area under tobacco fell to 252 hectares (-27.6%) from 348 hectares (Table 5).

### 3.3.1 Fertiliser and other inputs

The total quantity of fertilisers consumed and its breakdown by main nutrient components are shown in Table 6. The consumption of fertilisers for the year 2006 was 48,109 tonnes, a decrease of around 5.4% over the 2005 figure of 50,870 tonnes.

The major nutrients in these inputs are nitrogen (N), phosphorous (P) as phosphate and potassium (K) as potash. In 2006 those nutrients were distributed as follows: nitrogen 9,880 tonnes, phosphate 3,492 tonnes and potash 9,628 tonnes.

## 4. Energy

The production and consumption of energy causes air pollution, and alters the ambient temperature. They are by far the most important contributors of air pollutants through the emission of carbon dioxide and other greenhouse gases.

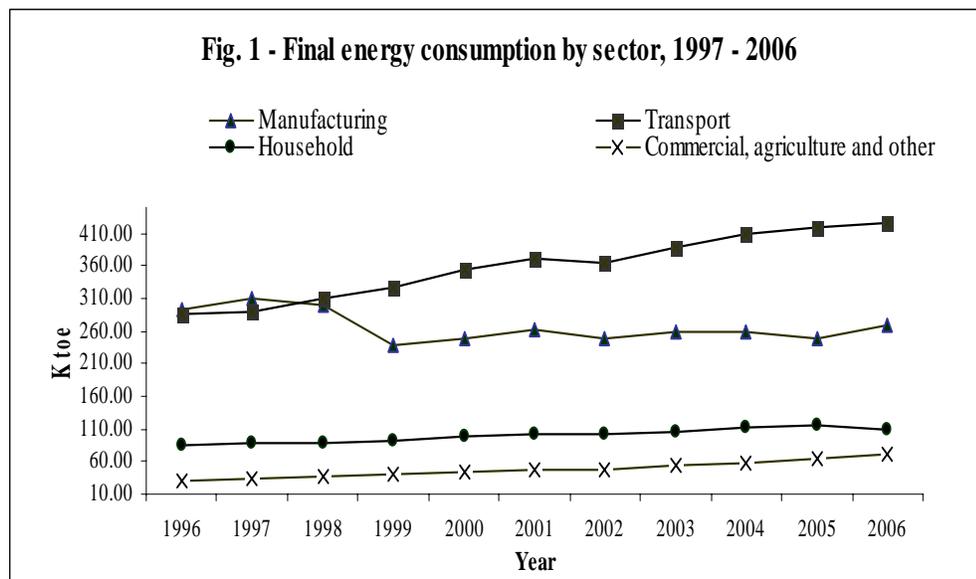
The tonne of oil equivalent (toe or thousand toe - ktoe) has been used to express the energy content of the different fuels in terms of a common accounting unit.

### 4.1 *Primary energy requirements*

The total primary energy requirement of the country increased by 6.3% from 1,293 ktoe in 2005 to 1,375 ktoe in 2006. Around 81% of the total primary energy requirement was met by imported fuels (oil, LPG and coal) and the remaining 19%, obtained from local sources (bagasse, hydro and fuelwood) (Table 7).

### 4.2 *Final energy consumption*

Final energy consumption increased by 3.5% from 846 ktoe in 2005 to 876 ktoe in 2006. The largest consumers were the transport and manufacturing sectors which accounted for 48.6% and 31.0% of the total energy consumption respectively (Table 8).



### *4.3 Inputs for electricity production*

Different types of fuel are used for electricity production. Coal remained the most important input and its share rose from 35% in 2005 to 43% in 2006. On the other hand the contribution of fuel oil fell marginally from 34% to 32% and that of kerosene from 3% to 0.3% (Table 9).

## **5. Transport**

### *5.1 Stock of registered motor vehicles*

The number of registered motor vehicles has gone up from 305,496 in 2005 to 319,440 in 2006, a rise of 4.6%. This expansion has been accompanied by a corresponding growth in energy consumption and carbon dioxide emission in the transport sector.

The number of vehicles per 1,000 population rose from 253 in 2005 to 263 in 2006, representing an increase of 4.0% (Table 10).

### *5.2 Fuel used for transport*

In 2006, about 425 ktoe of energy were used for transport; diesel oil accounted for 175 ktoe or 41%, aviation fuel 147 ktoe or 35%, gasoline 96 ktoe or 22% and Liquefied Petroleum Gas (LPG) 7 ktoe or 2%. From 2005 to 2006 the consumption of LPG remained at the same level, that is, 7 ktoe while that of diesel oil rose by 4.2% and aviation fuel by 2.8%. On the other hand, there has been a slight decrease (- 4.0%) in the consumption of gasoline (Table 11).

## **6. Ambient Air Quality**

The Ministry of Environment and National Development Unit has both stationary and mobile air quality monitoring stations that are operational since 2001.

The main pollutants under investigation are Dust (PM 10), Ozone, Sulphur Dioxide, Nitrogen Dioxide, Carbon Monoxide, Total Suspended Particles and Lead.

The results for all the pollutants under study at the four monitoring stations showed that the levels of ambient pollutants for the 24 hour averages were well below the norms (Standards for air quality). This implies that the overall quality of the ambient air in the monitoring areas is at a good and permissible level (Table 12).

## **7. Greenhouse gas (GHG)**

### *7.1 Total GHG emissions and removals*

Table 13 shows the total emissions and removals of greenhouse gases of which carbon dioxide (CO<sub>2</sub>) constituted 96%. The data indicate a rise in net CO<sub>2</sub> emissions from 2,772 thousand tonnes in 2005 to 3,156 thousand tonnes in 2006. Net emissions take into account the removal of CO<sub>2</sub> by forests which act as 'sinks'.

## 7.2 Greenhouse gas inventory

The national inventory of greenhouse gas (GHG) emissions by source categories for the years 2005 and 2006 is given in Table 15. The main GHG is carbon dioxide (CO<sub>2</sub>). The non-carbon dioxide emissions consist mainly of carbon monoxide and sulphur dioxide.

### 7.2.1 Carbon dioxide emissions from fuel combustion activities

Carbon dioxide emission resulting from fuel combustion went up from 2,994 thousand tonnes in 2005 to 3,347 thousand tonnes in 2006 (+12%), driven mostly by a 18% increase of CO<sub>2</sub> emissions from the energy industries.

The energy industries remain the principal source of CO<sub>2</sub> emission in the atmosphere. They contributed around 57% of the emissions, with 1,912 thousand tonnes in 2006. They were followed by the transport sector which contributed 25% of the total emissions and the manufacturing industries with 12%.

### 7.2.2 Non-CO<sub>2</sub> emissions

Non-CO<sub>2</sub> emissions were minimal and in 2006 they were distributed in thousand tonnes as follows: carbon monoxide 64.8, sulphur dioxide 33.0, non-methane volatile organic compounds (NMVOC) 17.7, oxide of nitrogen 16.6, methane 13.0 and nitrous oxide 1.2.

## **8. Water**

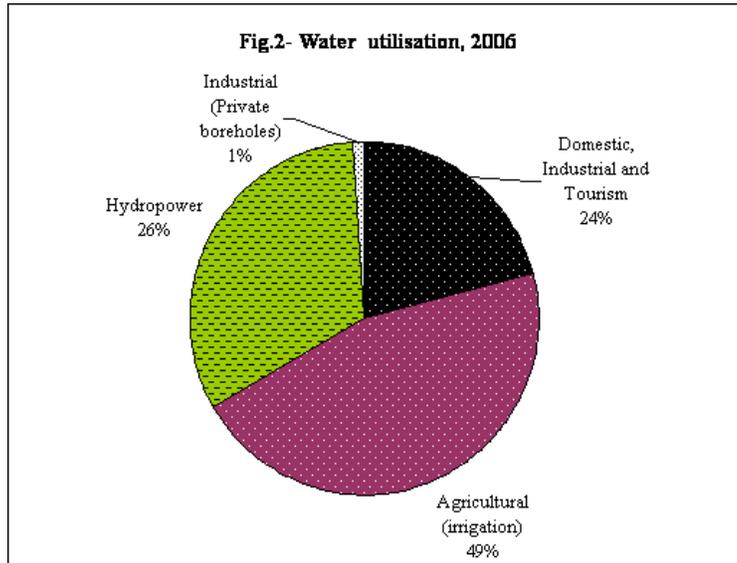
Freshwater resources are of vital environmental and biological importance, since water is a basic support element for human life and ecosystems.

### *8.1 Water balance*

The water balance is based on long term records of annual average rainfall and indicates how fresh water resources are distributed. In 2006, the island of Mauritius received 3,571 million cubic metres (Mm<sup>3</sup>) of precipitation (rainfall). This was 19.3 % lower than in 2005 when 4,424 Mm<sup>3</sup> were obtained. Surface runoff accounted for 60% of the water balance, while evapotranspiration and ground water recharge accounted for 30% and 10% respectively (Table 16).

### *8.2 Water utilisation*

In 2006 the total water demand was estimated at 918 Mm<sup>3</sup>. The agricultural sector accounted for most of the water utilised with 453 Mm<sup>3</sup> or 49%. Utilisation for the other purposes was as follows: hydropower 236 Mm<sup>3</sup> or 26%, domestic, industrial and tourism 216 Mm<sup>3</sup> or 25% (Table 17 and Fig. 2).



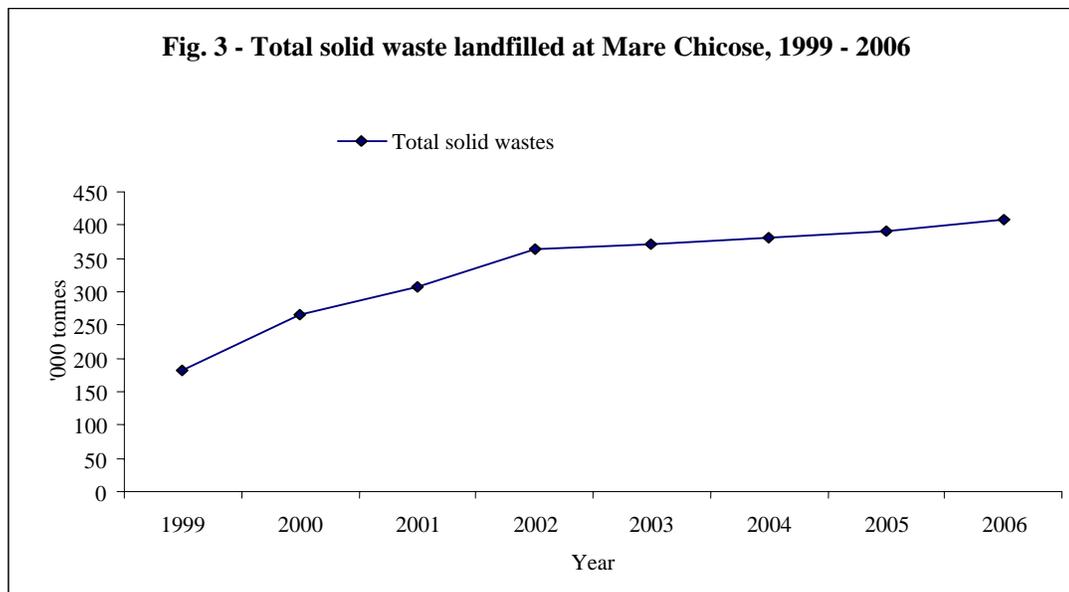
Around 83 % of the total water demand was met by surface water and the remaining 17 % by ground water.

## 9. Waste

### 9.1 Waste Disposal

Solid waste has been tracked mainly as domestic, construction and others. The total amount of solid waste landfilled at Mare Chicose rose to 407,040 tonnes in 2006 from 389,949 tonnes in 2005, representing an increase of 4.4% (Table 18).

In 2006 domestic waste constituted 95% of the total solid waste landfilled. The trend of the amount of solid wastes landfilled is as shown in figure 3.



## **10. Complaints**

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

Table 19 lists the number of complaints by category received by the Pollution Prevention and Control Division of the Ministry of Environment and National Development Unit from 2004 to 2006. The number of complaints received dropped from 1,473 in 2005 to 813 in 2006.

## **11. Environmental Impacts Assessment (EIA) and Preliminary Environmental Report (PER) Licences**

The Ministry of Environment and National Development Unit grants EIA and PER licenses to meet environmental requirements. Those undertakings that require such a licence are listed in the First Schedule of the new Environment Protection Act, 2002.

### *11.1 EIA and PER licences*

In 2006, 55 EIA licences were granted of which 36% were issued to coastal hotels and related works and 24% were provided to housing (Housing projects like bungalows, flats etc) (Table 20).

During the same period, 91 PER licences were granted, out of which 19% were for industrial development projects.

## **12. Contraventions**

The Police de L'Environnement has been established to act as a watchdog to safeguard the environment. The number of contraventions more than doubled to reach 10,013 in 2006 from 4,013 in 2005. Most of the contraventions concern illegal littering.

The number of notices to drivers of vehicles emitting black smoke rose from 5,156 in 2005 to 6,236 in 2006 or an increase of 21%.

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## 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.

#### 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)

#### 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.

*Eutrophication*: slow ageing process during which a lake or estuary evolves into a bog or marsh and eventually disappears.

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

#### Energy

*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.

*Final energy consumption* is defined as energy consumption by final user – i.e. which is not being used for transformation into other forms of energy.

#### 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<sub>2</sub>), Methane (CH<sub>4</sub>) and Nitrous Oxide (N<sub>2</sub>O). Other gases such as Carbon Monoxide (CO), Oxides of Nitrogen (NO<sub>x</sub>), Non Methane volatile organic compounds (NMVOC) and Sulphur Dioxide 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.

*PM 10:* Dust or Particulate Matter with a diameter of 10 µg.

## ABBREVIATIONS AND SYMBOLS

### Abbreviations

Rs mn	Rupees million
Rs	Rupees
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 <sup>3</sup>	Million cubic metres
Gg	Gigagram (thousand tonne)
ktoe	Thousand tonne of oil equivalent
Toe	Tonne of oil equivalent
µg/m <sup>3</sup>	Microgramme per cubic metres
ppb	Part per billion
ppm	Part per million
TSP	Total suspended particles
EIA	Environmental impact assessment
PER	Preliminary environmental report
IUCN	International Union for the Conservation of nature

### Symbols

-	Nil or negligible
...	Not available

### *Conversion factor*

1 square kilometre = 100 hectares

**Table 1 - Main environment indicators, Republic of Mauritius, 1997 and 2006**

Indicator	Units	1997	2006
1. Total land area	000 ha	186.5	186.5
2. Irrigated land	ha	18,289.0	21,422.0
3. Total forest area (as a % of total land area)	%	30.6	25.3
4. Land Protected Areas (MPA's)	ha	13,973.0	14,579.0
5. Marine protected areas	000 ha	7,190.0	7,216.0
6. Threatened plant species (IUCN Red List)	Number	...	100
7. Threatened animal species (IUCN Red List)	Number	...	64
8. Total fish catch	tons	12,321.0	8,671.0
9. Mean catch per fisherman day	kg	4.8	3.7
10. Total Carbon dioxide emission	000 tons	...	3,349.0
11. Per capita carbon dioxide emission	tons	...	2.7
12. Mean annual rainfall	millimetres	1,689.7	1,914.0
13. Annual fresh water abstraction	Mm <sup>3</sup>	620.0	682.0
14. Daily per capita domestic water consumption	litres	164.0	167.0
15. Daily per capita solid waste generated ( <i>estimate</i> )	Kg	0.7	1.0
16. Total electricity generated	GWh	1,398.2	2,350.0
17. Per capita primary energy requiremen	toe	0.8	1.1
18. Per capita final energy consumption	toe	0.6	0.7
19. Energy intensity	toe per Rs 100,000 GDP	1.7	1.7

**Table 2 - Main socio-economic indicators, Republic of Mauritius, 1997 and 2006**

Indicator	Units	1997	2006 <sup>1</sup>
1. Gross Domestic Product (GDP) at market prices	Rs mn	88,175	205,786
2. Sectoral contribution to GDP			
<i>Agriculture</i>	%	9.4	5.5
<i>Manufacturing</i>	%	23.6	20.0
<i>Construction</i>	%	5.5	5.6
<i>Wholesale and retail trade</i>	%	13.3	12.3
<i>Hotels and restaurants</i>	%	5.6	8.5
<i>Transport and communications</i>	%	11.5	12.1
<i>Financial intermediation and business services</i>	%	15.6	21.6
<i>Other</i>	%	15.5	26.5
3. GDP annual growth rate (basic prices)	%	5.6	5.0
4. Per capita GDP at market prices	Rs	76,804	164,236
5. Per capita GDP in US dollars	US\$	3,649	5,272
6. Investment (GDFCF)	Rs mn	22,734	50,118
7. Exports (f.o.b) (include ship's stores and bunkers)	Rs mn	33,694	74,171
8. Imports (c.i.f)	Rs mn	46,093	115,612
9. Population (mid year)	000	1,148.3	1,252.7
10. Population annual growth rate	%	1.2	0.6
11. Population density (per kilometre square)	Number	567	616
12. Total labour force <sup>2</sup>	000	504.8	565.9
13. Total employment <sup>2</sup>	000	475.5	515.8
<i>Agriculture (as a % of total)</i>	%	6.6	4.2
<i>Manufacturing (as a % of total)</i>	%	22.3	17.6
14. Unemployment rate <sup>2</sup>	%	5.9	9.1
15. Inflation rate	%	6.6	8.9
16. Tourist arrivals	000	536.1	788.3

<sup>1</sup> Provisional<sup>2</sup> Year 1995 estimates were based on data from various sources and refer to population aged 12 years and over.

As from 2004, the Continuous Multi Purpose Household Survey is used to measure labour force, employment and unemployment and the estimates refer to population aged 15 years and over.

**Table 3. Land use, Island of Mauritius, 1995 and 2005**

Land Use Distribution	2005 <sup>1</sup>		1995		Change	
	Hectares	%	Hectares	%	Hectares	%
Sugar cane plantations (Source SIFB)	72,000	38.6	76840	41.2	-4,840	-6.3
Tea plantations (Source Tea Board)	674	0.4	3660	1.9	-2,986	-81.6
Forests, shrubs and grazing lands	47,200	25.3	57000	30.6	-9,800	-17.2
Other agricultural activities	8,000	4.3	6000	3.2	2,000	33.3
Infrastructure	4,500	2.3	4000	2.1	500	12.5
Inland water resource systems	2,900	1.6	2600	1.4	300	11.5
Built-up areas	46,500	24.9	36400	19.5	10,100	27.7
Abandoned cane fields	4,726	2.5	...	...	...	...
<b>Total</b>	<b>186,500</b>	<b>100</b>	<b>186500</b>	<b>100</b>		

Source: Final Draft Report - Stocktaking and Stakeholders Consultation Exercise on Climate Change Activities, March 2006

<sup>1</sup> Estimate

**Table 4 - Forest area by category, Island of Mauritius, 2006**

	Hectares
	<b>2006<sup>1</sup></b>
<b>State - owned</b>	<b>22,181</b>
Plantations	11,848
Nature reserves	799
<i>On mainland</i>	200
<i>Islets</i>	599
Reserves	472
National Park <sup>2</sup>	6,574
Islet National Parks	134
Unplanted, protective or to be planted	1,719
Pas Geometriques	635
<i>Plantations</i>	226
<i>Leased for grazing and tree planting</i>	230
<i>Unplanted, protective or to be planted</i>	179
<b>Private - owned lands</b>	<b>25,000</b>
Reserves	6,553
<i>Mountain reserves</i>	3,800
<i>River reserves</i>	2,740
<i>Nature Reserves</i>	13
Other <sup>3</sup>	18,447
<b>Total</b>	<b>47,181</b>

Source: Forestry Service, Ministry of Agro Industries and Fisheries.

<sup>1</sup> Provisional

<sup>2</sup> Black River Gorges National Park was proclaimed in 1994 and data on the area enclosed by the boundaries of the park were not available until 1997

<sup>3</sup> includes plantations, forest lands, scrub and grazing lands

**Table 5 - Effective area under cultivation, Island of Mauritius, 2004 - 2006**

<b>Crops</b>	Hectares		
	<b>2004</b>	<b>2005</b>	<b>2006</b>
Sugarcane	72,955	71,583	70,801
Tea	674	670	688
Tobacco	353	348	252

**Table 6 - Consumption of fertilizers, Island of Mauritius, 2004 - 2006**

<b>Detail</b>	Tonnes		
	<b>2004</b>	<b>2005</b>	<b>2006</b>
Fertilizers	61,266	50,870	48,109
Nutrients content			
<i>Nitrogen</i>	<i>10,499</i>	<i>9,936</i>	<i>9,880</i>
<i>Phosphate</i>	<i>4,022</i>	<i>5,849</i>	<i>3,492</i>
<i>Potash</i>	<i>12,248</i>	<i>14,250</i>	<i>9,628</i>

**Table 7 - Primary energy requirement by energy source, Republic of Mauritius, 2004 - 2006**

ktoe (000 Tonne of oil equivalent)

Energy Source	2004	2005	2006
<b>Imported</b>	<b>980.1</b>	<b>1,030.5</b>	<b>1,120.3</b>
Oil <sup>1</sup>	741.5	739.3	752.0
Liquefied petroleum gas (LPG)	59.2	65.7	68.0
Coal	179.4	225.6	300.4
<b>Local</b>	<b>275.7</b>	<b>262.3</b>	<b>254.6</b>
Electricity (hydro) GWh	10.6	9.9	6.6
Bagasse <sup>2</sup>	257.8	245.1	240.0
Fuel wood <sup>2</sup>	7.3	7.6	8.0
<b>Total</b>	<b>1,255.8</b>	<b>1,293.2</b>	<b>1,374.9</b>

<sup>1</sup> Includes gasoline, diesel oil, dual purpose kerosene and fuel oil

<sup>2</sup> Estimates

**Table 8 - Final energy consumption by sector, Republic of Mauritius, 2004 - 2006**

ktoe (000 Tonne of oil equivalent)

Sector	2004		2005		2006	
	Quantity (Ktoe)	%	Quantity (Ktoe)	%	Quantity (Ktoe)	%
Manufacturing	259.3	31.0	248.6	29.4	270.8	31.0
Transport	408.7	48.8	418.6	49.4	425.0	48.6
Household	111.0	13.2	115.5	13.6	109.4	12.5
Commercial	51.5	6.1	55.7	6.6	61.1	7.0
Agriculture	4.4	0.5	4.7	0.6	4.8	0.5
Other (n.e.s & losses)	3.2	0.4	3.1	0.4	5.0	0.6
<b>Total</b>	<b>838.1</b>	<b>100.0</b>	<b>846.2</b>	<b>100.0</b>	<b>876.1</b>	<b>100.2</b>

**Table 9 - Fuel input for electricity production, Republic of Mauritius, 2004 - 2006**

ktoe (000 Tonne of oil equivalent)

Fuel	2004		2005		2006	
	Quantity (Ktoe)	%	Quantity (Ktoe)	%	Quantity (Ktoe)	%
Fuel oil	211.3	37.0	208.4	34.2	217.5	32.2
Diesel oil	4.0	0.7	2.1	0.4	2.6	0.4
Kerosene	17.2	3.0	18.4	3.0	1.9	0.3
Coal	164.4	28.8	211.2	34.7	286.9	42.5
Bagasse	174.9	30.5	168.9	27.7	165.9	24.6
<b>Total</b>	<b>571.8</b>	<b>100.0</b>	<b>609.0</b>	<b>100.0</b>	<b>674.8</b>	<b>100.0</b>

**Table 10 - Stock of registered motor vehicles, Island of Mauritius, 2003 - 2006**

Type of vehicle	2003	2004	2005	2006
Cars and Dual Purpose Vehicle (DPV)	107,907	118,009	126,844	135,132
Auto / Motorcycles	125,602	129,500	133,430	138,174
Heavy Motor Car and Bus	3,418	3,477	3,605	3,730
Van and Lorry	33,997	35,100	36,036	36,794
Other vehicles <sup>1</sup>	5,447	5,519	5,581	5,610
<b>Total</b>	<b>276,371</b>	<b>291,605</b>	<b>305,496</b>	<b>319,440</b>
<b>No of vehicles per 1000 population</b>	<b>232</b>	<b>243</b>	<b>253</b>	<b>263</b>

<sup>1</sup> Includes tractor and dumper, prime mover, trailer and road roller**Table 11 - Fuel used for transport, Republic of Mauritius, 2004 - 2006**

ktoe (000 Tonne of oil equivalent)

Fuel	2004	2005	2006
Gasolene	98	100	96
Liquefied Petroleum Gas (LPG)	3	7	7
Diesel oil	166	168	175
Aviation fuel	142	143	147
<b>Total</b>	<b>409</b>	<b>418</b>	<b>425</b>

**Table 12 - Ambient air quality monitoring by mobile stations, Island of Mauritius, 2006**

Pollutant	Unit	Aapravasi Ghat, Port Louis			Terre Rouge, Richfield Textile			Valentina, Phoenix			
		Mini mum	Maxi- mum	24 hour Ave- rage for the year	Mini mum	Maxi- mum	24 hour Ave- rage for the year	Mini mum	Maxi- mum	24 hour Ave- rage for the year	Amb- ient air quality stan- dard <sup>2</sup>
Dust ( PM <sub>10</sub> )	µg/m <sup>3</sup>	43	59	52	13.0	27.0	18.0	11.0	69.0	25.8	100.0
Ozone ( O <sub>3</sub> )	ppb	1.0	3.0	1.8	7.0	23.0	14.8	1.0	9.0	2.6	46.7
Sulphur dioxide ( SO <sub>2</sub> )	ppb	0.3	1.4	0.7	0.1	3.2	1.1	0.1	89.4	18.0	70.0
Nitrogen dioxide ( NO <sub>2</sub> )	ppb	26	27	28	1.0	4.0	1.8	-	-	-	-
Carbon monoxide ( CO )	ppm	0.2	0.7	0.4	0.0	0.4	0.3	0.1	0.6	0.32	8.0

Source: Ministry of Environment and National Development Unit.

<sup>1</sup> : Estimate

<sup>2</sup> : 24-hour standard except for Ozone, Carbon monoxide and lead which are based on 1 hour , 8 hour and 3 month averages respectively.

Note:(i) Conversion coefficients ( at 25 ° C and 1013 bar ) have been used to convert the ambient air quality standards.

(ii)Measurements of the parameters are taken on a quarter hourly basis and the averaging time used is 24 hours.

**Table 12 Cont - Ambient air quality monitoring by the fixed station at Medco Cassis, Port Louis, Island of Mauritius, 2006 <sup>1</sup>**

Cassis					
Pollutant	Unit	Mini mum	Maxi- mum	Maxi- mum	Amb- ient air quality stan- dard <sup>2</sup>
Dust ( PM <sub>10</sub> )	µg/m <sup>3</sup>	43	59	52	100
Ozone ( O <sub>3</sub> )	ppb	1.0	3.0	1.8	46.7
Sulphur dioxide ( SO <sub>2</sub> )	ppb	0.3	1.4	0.7	70.0
Nitrogen dioxide ( NO <sub>2</sub> )	ppb	26	27	28	28
Carbon monoxide ( CO )	ppm	0.2	0.7	0.4	8.0

**Table 13 - Total emissions and removals of greenhouse gases, Republic of Mauritius, 2004 - 2006**

Gg or thousand tonne			
Greenhouse gas	2004	2005	2006 <sup>1</sup>
<b>Emissions</b>			
Carbon Dioxide	2,795.7	2,996.0	3,348.9
Methane	12.3	12.5	13.0
Oxides of Nitrogen	15.2	15.4	16.6
Nitrous Oxide	1.5	1.3	1.2
Carbon Monoxide	66.9	66.4	64.8
NMVOC <sup>2</sup>	16.5	18.3	17.7
Sulphur Dioxide	32.7	33.0	33.0
<b>Removals</b>			
Carbon Dioxide	223.7	223.7	193.2
<b>Net emissions</b>			
Carbon Dioxide	2,572.0	2,772.3	3,155.6

<sup>1</sup> Provisional

<sup>2</sup> Non-methane volatile organic compound

**Table 14 - Sectoral carbon dioxide emissions from fuel combustion activities, Republic of Mauritius, 2004 - 2006**

Gg or thousand tonne						
Sector	2004		2005		2006 <sup>1</sup>	
	Quantity	%	Quantity	%	Quantity	%
Energy industries (electricity)	1,430.5	51.2	1,615.2	53.9	1,912.5	57.1
Manufacturing industries	362.3	13.0	346.3	11.6	404.89	12.1
Transport	807.1	28.9	833.7	27.8	843.7	25.2
Residential	154.2	5.5	158.5	5.3	136.74	4.1
Other <sup>2</sup>	39.7	1.4	40.3	1.3	49.0	1.5
<b>Total</b>	<b>2,793.8</b>	<b>100.0</b>	<b>2,994.0</b>	<b>100.0</b>	<b>3,346.8</b>	<b>100.0</b>

<sup>1</sup> Provisional

<sup>2</sup> includes Agriculture and Trade

**Table 15 - National inventory of greenhouse gases by source categories, Republic of Mauritius, 2005- 2006<sup>1</sup>**

Gg or thousand tonne

Category	Carbon dioxide(CO <sub>2</sub> )				Methane (CH <sub>4</sub> )		Nitrous oxide (N <sub>2</sub> O)		Oxides of nitrogen (NO <sub>x</sub> )		Carbon monoxide (CO)		NMVOC <sup>2</sup>		Sulphur dioxide (SO <sub>2</sub> )	
	Emissions		Removals		2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006
	2005	2006	2005	2006												
1. Energy	2,994.0	3,346.8	-	-	0.6	0.6	0.1	0.1	15.4	16.6	66.4	64.8	8.6	8.5	33.0	33.0
Fuel combustion activities																
(a) Energy industries (electricity)	1,615.2	1,912.5	-	-	0.3	0.3	0.1	0.1	5.6	6.6	8.8	8.7	0.5	0.5	24.9	24.4
(b) Manufacturing industries	346.3	404.9	-	-	0.1	0.1	0.0	0.0	1.3	1.5	15.6	15.1	0.2	0.2	6.4	6.4
(c) Transport	833.7	843.7	-	-	0.1	0.1	-	-	8.3	8.4	40.4	39.4	7.7	7.5	2.0	2.0
(d) Other sectors	198.8	185.7	-	-	-	-	-	-	0.2	0.2	1.6	1.6	0.2	0.2	0.1	0.2
2. Industrial processes	2.0	2.1	-	-	-	-	-	-	-	-	-	-	9.7	9.2	-	-
3. Solvent and other product use	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Agriculture	-	-	-	-	1.1	1.1	1.2	1.2	-	-	-	-	-	-	-	-
5. Land use change and forestry	-	-	223.7	193.2	-	-	-	-	-	-	-	-	-	-	-	-
6. Waste	-	-	-	-	10.8	11.3	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>2,996.0</b>	<b>3,349.0</b>	<b>223.7</b>	<b>193.2</b>	<b>12.5</b>	<b>13.0</b>	<b>1.3</b>	<b>1.3</b>	<b>15.4</b>	<b>16.6</b>	<b>66.4</b>	<b>64.8</b>	<b>18.3</b>	<b>17.7</b>	<b>33.0</b>	<b>33.0</b>

<sup>1</sup> Provisional

<sup>2</sup> Non - methane volatile organic compound

**Table 16 - Water balance <sup>1</sup>, Island of Mauritius, 2001 - 2006**

	Mm <sup>3</sup>					
	2001	2002	2003	2004	2005	2006
Rainfall	3,527	3,905	4,006	4,233	4,424	3,571
<i>Surface runoff</i>	<i>2,116</i>	<i>2,343</i>	<i>2,403</i>	<i>2,540</i>	<i>2,654</i>	<i>2,143</i>
<i>Evapotranspiration</i>	<i>1,058</i>	<i>1,171</i>	<i>1,202</i>	<i>1,270</i>		<i>1,071</i>
<i>Net recharge to groundwater</i>	<i>353</i>	<i>391</i>	<i>401</i>	<i>423</i>	<i>442</i>	<i>357</i>

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

<sup>1</sup> Estimates

**Table 17 - Water Utilisation, Island of Mauritius, 2006**

Use	Surface water		Ground water	Total
	River-run offtakes	Storage		
Domestic, Industrial and Tourism	35	65	116	216
Industrial ( private boreholes )	-	-	13	13
Agricultural (irrigation)	347	81	25	453
Hydropower	113	123	-	236
<b>Total</b>	<b>495</b>	<b>269</b>	<b>154</b>	<b>918</b>

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

**Table 18 - Solid waste landfilled at Mare Chicose by source of waste material  
Island of Mauritius, 2004 - 2006**

Tonnes			
Waste material	2004	2005	2006 <sup>1</sup>
Domestic	365,527	370,896	387,751
Construction	6,096	3,755	1,109
Other <sup>2</sup>	9,581	15,298	18,180
<b>Total</b>	<b>381,204</b>	<b>389,949</b>	<b>407,040</b>

Source: Ministry of Local Government

<sup>1</sup> Provisional

<sup>2</sup> Includes mainly industrial waste.

**Table 19 - Number of complaints received at the Pollution Prevention and Control Division  
of the Department of Environment by category, Island of Mauritius, 2004 - 2006**

Category	2004	2005	2006 <sup>1</sup>
Noise	444	342	178
Solid waste	177	201	137
Air pollution	129	154	61
Waste water	180	289	92
Animal husbandry	-	-	-
Odour	328	272	121
Other	447	215	224
<b>Total</b>	<b>1,705</b>	<b>1,473</b>	<b>813</b>

Source: Department of Environment of the Ministry of Environment and National Development Unit

<sup>1</sup> Provisional

**Table 20 - Number of EIA and PER licences granted by type of project, Island of Mauritius, 2003 - 2006**

Project	EIA				PER <sup>2</sup>	
	2003	2004	2005	2006	2005	2006 <sup>1</sup>
Land parcelling (morcellement)	14	21	19	9	16	8
Poultry rearing	18	-	-	-	22	15
Industrial development	28	1	5	4	8	17
Coastal hotels & related works	4	15	10	20	4	1
Livestock rearing	4	-	-	-	3	6
Housing	4	34	7	13	10	14
Stone crushing plants	1	2	3	1	-	-
Development in port area	-	-	1	1	-	-
Service ("filling") station	14	-	-	-	7	4
Other	8	12	10	7	18	26
<b>Total</b>	<b>95</b>	<b>85</b>	<b>55</b>	<b>55</b>	<b>88</b>	<b>91</b>

Source: Department of Environment of the Ministry of Environment and National Development Unit

<sup>1</sup> Provisional

<sup>2</sup> PER licence was issued as from September 2002. Four PER licences issued in 2002 were included in 2003.

**Table 21 - Contraventions and notices established by Police De L'Environnement, Island of Mauritius, 2003 - 2006**

Type of contravention	2003	2004	2005	2006
Illegal littering	3,965	4,422	3,624	9,427
Illegal dumping	31	19	14	32
Noise	97	63	30	0
Smoking in prohibited area	40	77	38	63
Waste carriers offences	101	64	18	21
Setting fire within 50 metres from building/plantation	32	11	4	3
Obstruction	39	27	10	1
Road Traffic Offences	65	195	193	372
Trading without licence	126	100	56	47
Allowing animal to stray	40	15	10	0
Disturbance	11	3	1	1
Others	24	13	15	46
<b>Total</b>	<b>4,571</b>	<b>5,009</b>	<b>4,013</b>	<b>10,013</b>
No. of notices issued to drivers of vehicles emitting black smoke	<b>3,666</b>	<b>4,172</b>	<b>5,156</b>	<b>6,236</b>

Source: Ministry of Environment and National Development Unit