

ENERGY STRATEGY 2011 - 2025
ACTION PLAN - UPDATED (as at 22 April 2014)

ACTION	DESCRIPTION	TARGET/NOTES	IMPLEMENTING AGENCY
Energy Efficiency Act 2011	Proclamation of Energy Efficiency Act	Act passed in March 2011 and sections 1 to 18 proclaimed in November 2011 while sections 19 to 23 were proclaimed in January 2013.	MEPU
	Part III Setting up of Energy Efficiency Committee	The Energy Efficiency Committee has been set up.	
	Part II – Setting up of Energy Efficiency Management Office	EEMO has been set up and is operational since December 2011.	
	Part IV and V – Energy Audits and Miscellaneous sections	Amendments to the Energy Efficiency Act has been proposed with new regulations being put in place.	
Electricity Act 2005	Proclamation of Act	Given that the regulator would also have to oversee the expected Water Sector Reform, the operationalisation of the Utility Regulatory Authority (URA) has been postponed tentatively to 2015 . The Electricity Act will also be amended to include changes that have occurred since 2005.	MEPU

Energy Efficiency Regulations	Regulations to prescribe standards for products and standards for auditing	Draft standards for energy audits have been developed by MSB. Regulations on Energy Audit are being finalised by the EEMO. Draft regulations for Energy Efficiency Labelling of electrical appliances have been prepared. Regulations for registration of Energy Auditors are being finalised by EEMO.	EEMO
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INSTITUTIONAL

Utility Regulatory Authority	Set up an independent utility regulatory body	Given that the regulator would also have to oversee the expected Water Sector Reform, the operationalisation of the Utility Regulatory Authority (URA) has been postponed to 2015.	MEPU
Observatoire de l'Energie	Set up a data base on energy efficiency	Updated by EEMO annually. Latest update is for year 2012.	EEMO
Mauritius Land Transport Authority (MLTA)	Set up and operationalize the Mauritius Land Transport Authority to implement reforms in the transport sector	Sections of the Act has been proclaimed except sections concerning the merger of existing departments such as the NTA, RDA and TMRSU.	MPI
Institutional mechanism for implementation of Action Plan	Reinforcement of technical capacity within the implementing agencies	Ongoing programme.	MEPU/EEMO

Sustainable energy budget	Establish appropriate budget for the setting up of Energy Efficiency Management Office	Provision for additional staff has been made in Budget 2014-2015 and also budget has been earmarked on an annual basis for continuous sensitization campaigns by the EEMO on the efficient use of energy.	MEPU/EEMO
Minimum energy performance standards and energy efficiency labeling	Standard for Energy Efficiency Labelling have been proposed for the following household appliances: (i) refrigerating appliances; (ii) electric ovens; (iii) electric dishwashers; (iv) room air conditioners; (v) washing machines; (vi) electric lamps; (vii) tumble dryers; and (viii) televisions.	A voluntary labelling scheme for 8 electrical appliances namely; dishwashers, air conditioners, refrigerators, ovens, lamps, clothes dryer, washing machines and TV is being implemented since January 2014. The EEMO will then proceed in a phase-wise manner with energy efficiency labelling being compulsory as from December 2014.	EEMO
	Standard for Energy Efficiency Labelling of electric water heaters and storage types is needed	Standards need to be developed by MSB	MSB/EEMO
Certified energy auditors	Develop a certification system for energy auditors and energy managers	Two Procurement exercises have been unsuccessful for the appointment of a consultant for the EAMS Phase II. A new procurement exercise will be carried out in 2014.	MEPU
Energy Management Education	Develop professional courses in energy auditing, energy management, monitoring and targeting of sustainable building design	45 auditors have been trained and certification is due in 2014.	MEPU/EEMO

Targeted incentives	Develop incentives to encourage purchase of energy efficient appliances	A levy, applicable for those appliances which are below a certain threshold in terms of energy consumption, is being imposed by the MRA on some electrical appliances under the Excise Act as from September 2013.	EEMO
Incentives for suppliers	Develop and introduce incentives to encourage suppliers to supply energy efficient appliances	Consultations between the EEMO and suppliers are ongoing regarding voluntary labelling of electrical appliances for subsequent regulated labelling as from December 2014.	EEMO
Clean development mechanism (CDM)	Secure financing for projects to release 1.8 million tons of CO2 emissions savings per year from:	Two projects namely Mare Chicose landfill gas to energy project and Plaine des Roches 9 MW wind farm project have been approved by the Clean Development Mechanism Board.	MoESD
Sustainable building design	(i) Introduce Building Control Bill for mandatory sustainable energy design standards for new buildings, including housing, hotels and offices, including natural ventilation; day lighting; appropriate orientation; solar hot water systems; time-of-day and smart metering; intelligent lighting systems that are suitable for low-energy lamps; and building energy management systems for buildings more than 500m ²	A sustainable unit has been set up at the Architect section of MPI to promote sustainable building design and energy efficiency in the public sector.	MPI/MRC
	(ii) Guidelines for Passive Solar Design for buildings <500 m ²	Guidelines have been prepared and would be customized.	MPI

Low-energy consumption	Incentive schemes developed so that existing hotels and rented spaces make use of solar water heating systems, low-energy lighting and appliances. Rented houses/apartments to gradually use low-energy lamps as well as appliances with the highest energy efficiency label.	A requirement is included in relevant EIA licences to use renewable energy.	CEB
Sustainable energy education	Introduce sustainable energy topics into the curriculum and provided appropriate teaching materials for schools.	A comprehensive programme by MID including MID Clubs, Green Schools. Curriculum of Std IV, V, VI has been updated to include energy saving measures. There are also ongoing campaigns by the Ministry of Education (e.g. Morning assembly, annual competitions, posters etc...)	MoE&HR
Public awareness	Run programmes as a permanent activity to create awareness of the benefits of energy efficiency, renewable energy and sustainable living, including information on incentives/deterrents and rights/obligations for consumers.	A public awareness campaign has been launched in March 2014.	MEPU/CEB/EEMO
Energy efficient public lighting	Implementation of a programme to eliminate energy-inefficient lamps, reconfigure lighting patterns as appropriate, and address issues such as over-lighting.	Standards for energy efficient street lighting systems will be developed in 2014.	MoLG/EEMO

Energy Audit Management Scheme (Non-residential Buildings)	(i) Adoption of Energy Audit Management Scheme (EAMS)	A tender for the appointment of Consultants will be launched by May 2014 under EAMS Phase II. The scheme is expected to be implemented in 2015.	MEPU/EEMO
	(ii) Mandatory energy audits for designated consumers	EEMO is preparing the regulations for mandatory energy audits to be implemented in 2015.	
Training & Certification of Energy Auditors (Auditing and Energy Code compliance)	(i) Training in energy audit of buildings	Completed.	MEPU/EEMO
	(ii) Training in compliance with Energy codes in Building Control Bill	Will be carried out under the EAMS phase II - 2014/2015.	MPI/EEMO
	(iii) Interim Certification of Auditors (Auditing & compliance)	Certification due in 2014/2015 under EAMS Phase II.	MEPU/EEMO
	(iv) Training of Trainers in building energy auditing	Will be done under the EAMS phase II - 2014/2015.	MEPU/EEMO
	(v) Capacity building of Mauritius Standard Bureau to be a Certification Body	Appropriateness of having a local certification body will be considered under the EAMS phase II - 2014/2015.	MEPU/EEMO/MSB
	(vi) Capacity building of MAURITAS as Accreditation body	Contingent to MSB being a certification body.	MEPU/EEMO/ Mauritas

Energy Management (Industrial Processes)	(i) Development of Guidelines for energy management in industries	Completed.	EEMO/MICCP - Industry Division
	(ii) Mandatory energy audits in industries	EEMO is preparing regulations for mandatory energy audits to be implemented in 2014/2015.	EEMO
	(iii) Energy Efficiency Projects	The project document on energy efficiency project for the manufacturing sector, specially on the Resource Efficient and Cleaner Production (RECP) project is almost finalised for implementation.	MICCP - Industry Division
		A National Energy Efficiency Programme for 100 major consumers (Industrial and Tertiary Sectors) is being developed in a partnership comprising GOM/AFD/JEC.	MEPU/JEC/AFD

RENEWABLE ENERGY

Renewable Energy Development Plan	Finalize the Renewable Energy Development Plan	Included in the Technical Assistance Programme funded by the AFD to be implemented over an 18 months period, expected to start in June/July 2014.	MEPU
Feed-in tariff	Development of feed-in-tariffs for renewable energy power plants:		CEB
	(i) 50 - 400 kW	Study to be completed by June 2014.	
	(ii) above 400 kW		

Wind Energy Projects	(i) Comprehensive wind assessment study and identification of potential on-shore and offshore sites, as feasible, for development of wind farms	The MRC has developed a partial offshore windmap for the west, south and south east regions and the other outstanding regions will be covered in 2014.	MEPU/MRC
	(iii) Construction of a 29.4 MW wind farm at Plaine Sophie	Scheduled for completion in June 2016.	CEB
	(iv) Construction of an 9 MW wind farm at Plaines des Roches	An ESPA has been signed and commercial operation is expected by December 2015.	CEB
	(v) Construction of 20MW wind farms every three years, as from 2017	Contingent on study for the grid absorption which will be carried out by the CEB after completion of the two major renewable energy projects.	CEB
Bagasse Based Power Plant	(i) Increase bagasse-based energy from 350 to 520 GWh.	Project kept in abeyance.	CEB
	(ii) Commissioning a study on the potential of cane residues for electricity generation	Project kept in abeyance.	CEB
	(iii) Setting up of a pilot plant for handling and feeding cane residues	Project kept in abeyance.	CEB
	(iv) Using cane residues for electricity generation by existing IPPs	Project kept in abeyance.	CEB

Waste Management	(i) MoLG: Production of electricity from two 1.15MW gas-to-energy plants at Mare Chicose	A waste-to-compost plant is operational since October 2011 at La Chaumiere and is processing an average of 180 tonnes of municipal solid waste daily. The plant is expected to be upgraded to 600 tonnes of daily waste intake by August 2014. A pyrolysis (waste-to-energy) plant is expected to be operational by 2015, which will process the rejects from the 600 tonnes of daily waste to be supplied to the compost plant.	MoLG
	(ii) Management of municipal waste and composting		
Hydro Power	(i) Construction of a micro hydro power plant at Midlands dam	350 kW Hydro Power Plant commissioned in April 2013.	CEB
	(ii) Study on increasing hydro storage capacity at existing sites	Study completed in 2013.	CEB
	(iii) Identification for potential sites for micro hydro plants in Mauritius	Ongoing exercise at the level of the CEB.	CEB
	(iv) Bagatelle Dam hydro component	Hydro component will be implemented after completion of the Dam project	CWA/CEB
Geothermal Energy	(i) Preliminary study on the Geothermal Potential of Mauritius	Ongoing. Awaiting completion of Drilling of Gradient Well Project to allow for measurement of temperature gradient, if any.	MEPU
	(ii) Feasibility study, including geophysical survey and borehole drillings, for the development of geothermal energy in Mauritius	Will depend on the outcome of the Preliminary Study on the Geothermal Potential of Mauritius.	MEPU
	(iii) Construction of a geothermal energy pilot power plant	Will depend on the outcome of the Preliminary Study on the Geothermal Potential of Mauritius.	MEPU

Solar photovoltaic PV projects	(i) Installation of 5 kW photovoltaic systems in 10 Government schools	Project will be implemented by Energy Services Division in the year 2014.	ESD/MoE&HR
	(ii) Installation every two years of a capacity of 50 kW photovoltaic panels in Government buildings, as from 2013	Will depend on availability of funds.	ESD
	(iii) Setting up of a grid-connected photovoltaic plant of up to 10MW	Relevant Energy Supply and Purchase Agreements (ESPAs) are expected to be signed shortly.	CEB
	(iv) Setting up of a grid-connected photovoltaic plant of 10MW, every 3 years after 2013	Subject to the outcome of a grid absorption study from renewable sources of energy.	CEB
	Sarako – 15 MW PV farm Project	Already operational.	CEB
Small scale distributed generation	3 MW of solar/wind/micro hydro small scale generation plants connected to the grid (Feed-in Tariff scheme).	223 installations, amounting to 1.8 MW, connected to the grid. Balance: 150 applications (1.1 MW) in progress. Target for completion: End 2014 A New Policy is being worked out by the CEB.	CEB
	2 MW of renewable energy small scale generation plants connected to the grid (Marginal Cost scheme) for Public, Educational, Charitable and Religious institutions.	Out of 2 MW, 113 applications for 1.4 MW received. As at 18 February 2014, 16 installations (190.7 kW) connected to the grid. Scheme still open to new applications. Target for completion: End 2014	CEB

Solar water heaters	(i) Subsidy for the purchase of solar water heaters Phase II	Completed.	MIDF
	(ii) Provision of solar water heater systems in 4 hospitals	Request for additional funds has been made by the Ministry of Health and Quality of Life to the MID Fund.	ESD/MIDF
	(iii) Provision of solar water heater systems in 7 hospitals		ESD/MIDF
	(iv) 50% of the hot water requirements of all new large buildings to be met from solar water heaters, in accordance with the Energy Efficiency Building Code.	Being implemented for new buildings (e.g Jeetoo Hospital, Brown Sequard, Mediclinic Goodlands and Triolet)	ESD
Grid Study	Study on smart grid	Expected completion by June 2014.	CEB
Studies on: Biomass, biogas, Trigeneneration	Studies to assess the technologies for long-term options for energy generation and interaction with other sectors.	Biomass - A proposal for the use of Arundo Donax as a source of energy has been made and is under consideration by the MID Commission.	MID commission
		Short term (2015): Offshore wind: 1 MW	MRC
		Medium term (2020): Offshore wind: 10 MW Wave, current, OTEC & saline: 15.5 MW	
		Long term (2025): Offshore wind: 100 MW Wave, current, OTEC & saline: 60 MW	
Ocean Energy	Setting up of Deep Ocean Water Application systems (DOWA)	(As per road map on Ocean Economy) Short term (2015): DOWA cooling: 20 MW Medium term (2020): DOWA cooling: 100 MW Long term (2025): DOWA cooling: 200 MW	BOI

Policy for financing of renewable energy	Define a clear framework for financing of renewable energy technologies	Implemented in a sustained manner with a budget support of Rs 200 M annually for 15-20 years.	MEPU/MOFED
Research and Development	Develop research and innovation strategy along with MID framework	A component on R&D for renewable energy is being considered in the context of the Ocean Economy.	MRC
Regional cooperation	Develop regional cooperation in the field of renewable energy and energy management	Regional Cooperation being promoted under SIDS Dock platform, the GOM/AFD/JEC partnership and the IOC project on Renewable Energy and Energy Efficiency.	MEPU

TRANSPORT

Lower average age of vehicles	Regularly review and implement measures to lower the age and improve the composition of vehicle fleets.	There is no policy as such regarding age limit on vehicles. However - (i) heavy motor cars and buses over 20 years are scrapped, (ii) Medium age of other vehicles is lowered having regard to an automatic response from the public to replace their vehicles by more fuel efficient ones, (iii) With the coming into operation of private vehicle examination centres, using modern testing equipment, it is expected that vehicle examination will become more stringent, followed by an automatic phasing out of older vehicles.	MPI
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Control of high emission vehicles	Regulate imports of high emission vehicles and tax vehicles based on CO2 emissions	More systematic examination of vehicles is expected by the new private examination centres using modern testing equipment. Double cab which are among the high CO2 emitting vehicles have higher road tax rates.	MPI
	Privatization of vehicle examination centre in order to introduce modern vehicle testing systems	Three private operators have already been selected for the setting up and operation of private vehicle examination centres. The project is at implementation stage and is expected to become operational as from mid 2014.	MPI
Public transport incentives	Introduce economic incentives to choose public transport over private transport.	Proposed grant of Rs 1,000,000 to bus operators to purchase semi-low floor and more comfortable buses.	MPI
Bus Modernisation Programme	Create high safety, comfort and cleanliness standards for new buses, which should all be low floor, multiple-entrance, air conditioned models, with minimum fuel efficiency standards and maintenance, inspection and emissions standards		
Public transport information	Enhance bus and taxi service information.	Public transport information strategy is ongoing.	MPI
Taxi regulations	Introduce a transparent, published, regulated tariff for taxis, to make them more attractive	Regulations in respect of Taxi tariff fares have been repealed and no new policy has been declared yet.	MPI
Optimise traffic flow	Monitor traffic and travel demand patterns to improve traffic flow, which also lowers energy use.	Ongoing at the level of the Traffic Management and Road Safety Unit (TMRSU).	MPI
Congestion charge	Introduce congestion charges in Port Louis, to encourage the use of public transport, discourage the use of private cars and reduce congestion.	A study is being carried out by the MPI.	MPI

Introduction of mass transit system	Implementation of modern mass transit system	Early works expected by October 2014	MPI
Ethanol	Introduce E10	Legal provision has been made in the Consumer Protection (Price and Supplies Control) Act for the blending of ethanol up to 10 % with mogas.	MICCP - Commerce and Consumer Protection Division
	Carry out studies to determine whether and when E20 should become mandatory, taking into account the experience of the introduction of E10.	Mandatory requirement not being considered for the time being.	MICCP - Commerce and Consumer Protection Division

POWER SECTOR

Electricity pricing	Set cost-reflective electricity prices. Costs may also include support schemes for energy savings, for Demand Side Management and for renewables.	A new electricity pricing structure is scheduled for implementation in 2016.	CEB
Feed-in tariffs	Introduce preferential feed-in tariffs for electricity generation from renewable energy sources for plants above 50kW.	In progress, Consultant appointed by World Bank expected to determine FIT. Target Date: mid 2014	CEB
Time-of-day metering	Introduce sophisticated meters for larger customers to provide better information about electricity use and costs.	In progress. About 3000 large customers already on Automated Meter Reading. Target: about 5000 large customers by end of 2014.	CEB
	Introduce time-of-day metering and tariffs that provide an economic incentive for customers to move daytime electricity loads to night time, hence increasing the overall efficiency of the power system	This tariff will be introduced as part of a full-fledged tariff restructuring. Target Date: next tariff revision	CEB
Capacity expansion	Commissioning of new power plants:		
	(i) 100MW coal unit	2 X 55 MW coal unit expected for commissioning in December 2016 or early 2017.	CEB
	(ii) 100MW coal power plant	Project has been shelved.	MOFED
	(iii) Future coal / LNG plant	Study ongoing and report is expected by March 2014. Decision on either coal or LNG will be taken in the light thereof.	CEB
	Redevelopment of St Louis Power Station	4 x 15 MW to be commissioned in December 2015.	CEB
	Review of capacity expansion plan and future site selection for power plants	Ongoing annual process.	CEB

CONVENTIONAL FUELS

Minimum stocks of petroleum products and coal	Construction of strategic and operational storage tanks:		
	(i) Mogas: 15000 MT (2x7500 MT)	The four oil companies (Total, VIVO, Engen and Indian Oil) have already initiated procedures for the lease of land in the Port area for the construction of the storage facilities. They are in the process of appointing consultants for the technical and financial aspects of the project in view of its implementation.	MICCP - Commerce and Consumer Protection Division
	(ii) Gasoil: 10000 MT		
Low-sulphur diesel fuel	Shifting from 500 ppm sulphur diesel oil to 50 ppm for land transport, making a substantial, and noticeable improvement to air quality.	Completed.	
Encourage sustainable programme for Industry and Tourism Sectors	Create energy efficiency programmes such as voluntary agreements with industries; sub-sector technology and know-how transfer projects; training in specialist sustainable energy topics; awareness building, promotion and transfer of know-how; proposals for new financial and fiscal tools.	MS 165:2014 standards for Sustainable Tourism - Requirements has been developed and gazetted in January 2014.	MOT
	Resource Efficient and Cleaner Development Centre to be set up		

Energy audits	Carry out Energy Audits by licensed Energy Auditors for the largest companies and develop energy management plans.	Audits would be regulated. Audits carried out under the National Energy Efficiency Programme, an initiative of the GOM/JEC/AFD Project, which will be implemented over a period of 3 years starting in 2014, expected to fall under new regulations.	MEPU
Sustainable tourism	Develop close working relationships between the Tourism Industry, the Land Transport Authority and the Energy Efficiency Management Office, in the context that fuel security, environmental sensitivity and tourism goals are mutually reinforcing.	MS 165:2014 standards for Sustainable Tourism - Requirements has been developed and gazetted in January 2014.	MOT
Fisheries sector	Economic incentives to be provided to use sails to complement outboard motors	The Ministry of Fisheries is already promoting such initiatives.	MOF/MPI
	Use of wind and solar energy for operating water pumps and aeration equipment	Feasibility Study ongoing.	MOF/ESD

PUBLIC SECTOR

The Public Sector Leads the Way	Introduce sustainable energy projects for public sector adhering to the principle 'The Public Sector Leads the Way'.	All these actions shows that Government is leading by example.	ESD
	Provision of 5 KW solar PV systems in 10 schools	Expected completion in 2014.	ESD/MOE&HR
	Provision of solar water heaters in 4 hospitals	Completed in two hospitals.	ESD
	Provision of solar PV systems in all Government buildings	Ongoing process in a phased manner.	ESD
	Energy audits in 100 government buildings	28 completed and 12 annually as from 2014 onwards.	ESD
	Capacity building for sustainable energy projects in Government buildings	Ongoing process in a phased manner.	ESD
Sustainable procurement	Introduce sustainable procurement as a mandatory practice for all public services, for example - lamps, computers, air-conditioning and fans, freezers, vehicles etc are energy efficient and have energy saving/stand-by modes and that all photocopiers and printers are equipped with a duplex mode to use both sides of the paper.	In first phase, PPO is implementing such procurement on a voluntary basis.	PPO
	The Procurement Policy Office (PPO) is expected to develop expertise in these areas and advise all public sector institutions.		
Gender and Energy Use	Study on needs/assessment/capacity building for women especially for the vulnerable groups	Gender cell set up at MEPU will coordinate with the Ministry of Gender Equality, Child Development and Family Welfare to look into energy issues related to gender.	MOG

List of Abbreviations of Institutions	
AFD	Agence Francaise de Developpement
BOI	Board of Investment
CEB	Central Electricity Board
CWA	Central Water Authority
EEMO	Energy Efficiency Management Office
ESD	Energy Services Division
JEC	Joint Economic Council
MEPU	Ministry of Energy and Public Utilities
MICCP	Ministry of Industry, Commerce and Consumer Protection
MID Commission	Maurice Ile Durable Commission
MIDF	Maurice Ile Durable Fund
MoE&HR	Ministry of Education and Human Resources
MoESD	Ministry of Environment and Sustainable Development
MOF	Ministry of Fisheries
MOFED	Ministry of Finance and Economic Development
MOG	Ministry of Gender Equality, Child Development and Family Welfare
MoLG	Ministry of Local Government and Outer Islands
MOT	Ministry of Tourism and Leisure
MPI	Ministry of Public Infrastructure, National Development Unit, Land Transport & Shipping
MRC	Mauritius Research Council
MSB	Mauritius Standards Bureau
PPO	Public Procurement Office