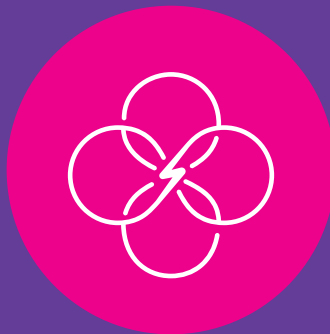




MALDIVES ENERGY POLICY & STRATEGY

2016



MINISTRY OF ENVIRONMENT AND ENERGY
REPUBLIC OF MALDIVES

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PLEASE CITE THIS POLICY AS;

MEE, 2016: Maldives Energy Policy and Strategy



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MOST COMMON TYPE OF LIGHT USED IN THE PAST
PHOTO : IBRAHIM RAUF



FOREWORD



Our vision for the energy sector is provision of reliable and sustainable energy services for social and economic development for all the people of the Maldives at the lowest possible cost. This vision can be achieved with improved sector level planning and good decision making. For this, policies are an important tool. As the ministry is mandated with overlooking the energy sector and making policies for the energy sector, it is our responsibility to make policies harmonizing with the growing needs of the sector.

The policy statements of Maldives Energy Policy and Strategy 2016 are in line with the Government Manifesto and Sustainable Development Goals (SDGs), Goal 7, and the strategies will contribute to achieve Manifesto pledges and SDG Goal 7 targets. The key features of the government's national energy policy include providing all citizens with access to affordable and reliable electricity services, increasing energy security, promoting energy efficiency and conservation, and moving toward the target of renewable energy based electricity supply.

Thoriq Ibrahim
Minister of Environment and Energy

Male', November 2016



SOLAR PV PANELS INSTALLED ON A ROOF - DH. KUDA HUVADHOO
PHOTO : MINISTRY OF ENVIRONMENT AND ENERGY



ENERGY SECTOR OVERVIEW

INSTITUTIONAL STRUCTURE

The Ministry of Environment and Energy is responsible for policy, planning and development of the energy sector.

The regulatory body is a semi-autonomous authority affiliated to the Ministry of Environment and Energy and operates under guidance of a Governing Board appointed by the President. The regulator is mandated with establishing tariffs, issuing guidelines and regulations to ensure the reliability, security of the grids, and that the rights and obligations of consumers and service providers are safeguarded.

State Trading Organization is the main importer and supplier of petroleum products.

Electricity service is provided by 3 main state owned utilities namely State Electric Company Limited, FENAKA Corporation Limited and Male' Water and Sewerage Company Private Limited.

CURRENT STATUS

The Maldives relies almost entirely on imported fossil fuel to meet its energy demands. In 2015, 506, 334 metric tons of fuel was imported, which includes; 12,385 metric tons of cooking gas, 389,968 metric tons of diesel, 38,683 metric tons of petrol and 65,299 metric tons of aviation gas.

The major uses of fossil fuel are for transport and electricity generation. Electricity generation for the

capital Male' and the islands in its vicinity (collectively called as greater Male' region) accounts for approximately 63% of the total electricity consumed in all inhabited islands in the country.

Due to the dispersed nature of the islands, Maldives does not have one single national grid. Each island has its own electricity generation and distribution facility resulting in costly electricity service. The cost to produce one unit of electricity is 14-50 cents at the current fuel price depending on the size and quality of the electricity system. The high production costs require government subsidies to the utilities.

However, all inhabited, commercial and tourist resort islands of Maldives have a 24-hour electricity service. Maldives achieved universal access of electricity in 2008. Today, the country has a total installed capacity of 330MW of diesel generators to cater for the electricity demand. The annual electricity demand is projected to grow at a rate higher than 8.5% per year, with this growth rate being influenced most significantly by the increase in electricity demand for the greater Male' region.

Reducing the dependency on imported fossil fuel and at the same time meeting the ever increasing demand for electricity are the major challenges the country has. Although, harvesting electricity from locally available renewable energy sources is a sustainable solution, there is a long way ahead to achieve a fully transformed energy sector. Under the current policy framework our short-term objective is to produce a minimum of 30% of day time peak load of electricity

in all inhabited islands from renewable energy sources by 2018.

Maldives is undergoing transformation of the energy sector in order to minimize dependency on fossil fuel and to increase energy security. Policy measures undertaken so far include targeted electricity subsidies, import duty exemption for renewable energy products and introduction of net metering.

“.....
The Maldives relies almost entirely on imported fossil fuel to meet its energy demands. In 2015, 506,334 metric tons of fuel was imported, which includes; 12,385 metric tons cooking gas, 389,968 metric tons diesel, 38,683 metric tons petrol and 65,299 metric tons aviation gas.
.....”



ENERGY POLICY BACKGROUND

One of the key objectives of the government's energy policies is providing affordable and reliable electricity to the people. At the same time, reducing the economic, social and environmental implications of high fossil fuel dependence is a top priority. Moreover, increasing the national energy security is recognized as a key target. Thus, government aims to utilize indigenous renewable energy resources and to deploy renewable technology to the optimum levels.

For planning of the sector activities, the following policy documents have been in use.

1. The Energy Action Plan (2009-2013): includes a series of actions, measures, programmes and targets for a period of five years to achieve greater energy efficiency and conservation awareness, reductions in CO₂ emissions
2. Energy Policy and Strategy 2010: includes policy statements and strategies for developing greater sustainability conservation and efficiency in energy whilst promoting low carbon technologies and the quality of energy supply
3. Maldives Scaling up Renewable Energy Investment Plan: identifies opportunities and presents a plan for scaling up of renewable energy in the country
4. Government Manifesto 2014-2018: mentions solutions under pledges for reducing spending on electricity bill and getting economic benefits from clean energy

The Maldives Energy Policy and Strategy 2010 consisted of 9 key policies, which are:

1. Provide all citizens with access to affordable and reliable supply of electricity
2. Achieve carbon neutrality in the energy sector by year 2020
3. Promote energy conservation and energy efficiency
4. Increase national energy security
5. Promote renewable energy technologies
6. Strengthen the management capacity of the energy sector
7. Adopt an appropriate pricing policy for the energy sector
8. Ensure customer protection
9. Enhance the quality of energy services

GUIDING PRINCIPLES OF MALDIVES ENERGY POLICY

1. Create an enabling environment for the growth of a reliable and sustainable energy sector and meet the constitutional obligation of Government in the provision of electricity to every inhabited island at reasonable standards commensurate to the island
2. Reduce overreliance of the energy sector and the national economy on fossil fuels through the diversification of energy supplies
3. Improve energy efficiency and energy conservation
4. Encourage the adoption of low-carbon technologies in production, distribution and energy consumption through promotion of a healthy lifestyle

- 5. Exploit local energy resources and renewable technologies
- 6. Engage private sector participation in the development of the energy sector, energy services and quality assurance mechanisms
- 7. Ensure energy equity through social protection and mechanisms and/or safety nets for vulnerable groups of the population

ENERGY POLICY 2016 SUMMARY

Maldives Energy Policy and Strategy 2016 consist of revised policies derived from Maldives Energy Policy and Strategy 2010. The 9 policies are reduced to 5 key policy statements, which are:

- 1. Strengthen the institutional and regulatory framework of the energy sector
- 2. Promote energy conservation and efficiency
- 3. Increase the share of renewable energy in the national energy mix
- 4. Improve the reliability and sustainability of electricity service and maintain universal access to electricity
- 5. Increase national energy security

“.....

One of the key objectives of the government’s energy policies is providing reliable and sustainable electricity to the people.

.....”



ENERGY POLICY 2016
LINKED TO
OTHER NATIONAL
ENERGY POLICIES
&
SUSTAINABLE
DEVELOPMENT
GOAL 7 TARGETS





ENERGY POLICY 2016 LINKED TO OTHER NATIONAL ENERGY POLICIES AND SUSTAINABLE DEVELOPMENT GOAL 7 TARGETS

Document	Energy Policy and Strategy 2016	Government Manifesto 2014-2018	SDG 7
Objective	Provision of reliable and sustainable energy services for social and economic development for all the people of the Maldives at the lowest possible cost	Harness renewable energy sources, and ensure round the clock electricity to all inhabited islands.	Ensure universal access to affordable, reliable and modern energy services
Targets	Policy 1: Strengthen the institutional capacity and regulatory framework of the energy sector	Pledge 3: Twenty-four hour electricity: Solution: Training and capacity building for FENAKA staff in the islands.	7.a. By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology
	Policy 2: promote energy conservation and efficiency	Pledge 2: Minimize electricity expenses, Solution: Facilitate the use of energy saving equipment	7.3 BY 2030, double the global rate of improvement in energy efficiency
	Policy 3: promote renewable energy technologies	Pledge 2: Minimize electricity expenses, Solution: Introduce hybrid systems that use renewable energy, Conduct projects to install solar panels in government and large private buildings, Facilitate research in wind, solar, ocean currents, and wave energy. Economic Manifesto: Establish Maldives as an exemplary country in using clean energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix

“.....

This vision can be achieved with improved sector level planning and good decision making. For this, policies are an important tool.

Minister of Environment and Energy

.....”

	Policy 4: Improving the reliability and sustainability of electricity service		7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
	Policy 4: Improving the reliability and sustainability of electricity service	Pledge 2: Minimize electricity expenses: Solution: Find cheaper oil, Introduce hybrid systems that use renewable energy, Conduct projects to install solar panels in government and large private buildings.	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services 7.b. By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, small island developing states, and land-locked developing countries, in accordance with their respective programmes of support
	Policy 5: increase national energy security	Pledge 1: Regional oil bunkers, Solution: Construct at least 4 oil bunkers in the Northern and Southern areas of the country, Arrange a mechanism to store oil in times of lower oil prices; Economic Manifesto: To develop a roadmap to produce 70% of energy from clean energy sources by 2020	7.b. By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, small island developing states, and land-locked developing countries, in accordance with their respective programmes of support





POLICY 01

“ STRENGTHEN THE INSTITUTIONAL AND REGULATORY
FRAMEWORK OF THE ENERGY SECTOR ”



POLICY

01

“

STRENGTHEN THE INSTITUTIONAL AND REGULATORY FRAMEWORK OF THE ENERGY SECTOR

”

OBJECTIVE

Strengthen the capacity of sector institutions to manage, implement and regulate the activities; and to develop the legal, policy and regulatory instruments needed to provide service and for investments.

STRATEGIES

- 1.01** Developing human resource capacity in the energy sector
- 1.02** Enhancing capacity of the regulator
- 1.03** Enhancing the capacity within utility companies to enhance and expand their contribution to energy sector development
- 1.04** Enhance capacity building of the private sector
- 1.05** Strengthening national, regional and international cooperation in energy sector
- 1.06** Establish and enforce a legal framework and policies to alleviate barriers for energy sector development and mitigate associated risks
- 1.07** Create a transparent and fair regulatory environment that appropriately balances the interests of service providers and consumers
- 1.08** Develop and enhance national research and development efforts in the energy sector
- 1.09** Establish a mechanism for energy sector data collection and improve access





POLICY 02

“ PROMOTE ENERGY CONSERVATION
AND EFFICIENCY ”



POLICY

02

“ PROMOTE ENERGY CONSERVATION AND EFFICIENCY ”

OBJECTIVE

Increase energy efficiency in the supply and demand side



STRATEGIES

- 2.01** Create an enabling environment for energy efficiency and energy conservation
- 2.02** Increasing awareness on energy efficiency and energy conservation
- 2.03** Adopt implementation of energy management practices
- 2.04** Implementing energy labeling program for major energy consuming equipment and appliance in industrial and domestic sector
- 2.05** Develop and publish Energy Efficiency Index.
- 2.06** Develop a standard and monitoring plan for the quality of fossil fuel sold in the country
- 2.07** Developing and enforcing standards for exhaust emissions for power plants, vehicles and vessels that use fossil fuel in order to improve air quality





POLICY 03

“ INCREASE THE SHARE OF RENEWABLE ENERGY IN
THE NATIONAL ENERGY MIX ”



POLICY

03

“ INCREASE THE SHARE OF RENEWABLE ENERGY IN THE NATIONAL ENERGY MIX



OBJECTIVE

Create an enabling environment, improve access to credible data and achieve optimum renewable energy targets in the islands

STRATEGIES

- 3.01.** Create enabling environment for large scale investments in renewable energy
- 3.02.** Create an enabling environment for domestic users to invest in renewable energy
- 3.03.** Establish innovative financing mechanisms to facilitate high up-front investments necessary for renewable energy projects
- 3.04.** Encourage private-sector renewable energy development and deployment
- 3.05.** Increase awareness among public on renewable energy opportunities
- 3.06.** Encourage resort-sector to develop a renewable energy portfolio





POLICY 04

“ IMPROVING RELIABILITY AND SUSTAINABILITY OF ELECTRICITY SERVICE
AND MAINTAIN UNIVERSAL ACCESS TO ELECTRICITY ”



POLICY

04

“ IMPROVING RELIABILITY AND SUSTAINABILITY OF ELECTRICITY SERVICE AND MAINTAIN UNIVERSAL ACCESS TO ELECTRICITY



OBJECTIVE

Provide reliable and sustainable electricity services by enhancing the power systems of the islands, improving the performance of service providers and maintain universal access to electricity.

STRATEGIES

- 4.01.** Devising means to reliably meet energy demands in a consistent manner assuring security and reliability of supply
- 4.02.** Improve the operational performance of service providers to manage the electric power infrastructure
- 4.03.** Increase efficiency of the energy systems and quality of energy services provided
- 4.04.** Review and regularly implement electricity tariff adjustments
- 4.05.** Develop and up-date an integrated system management and expansion plan for utilities





POLICY 05

“ INCREASE NATIONAL
ENERGY SECURITY ”



POLICY

05

“ INCREASE NATIONAL ENERGY SECURITY



OBJECTIVE

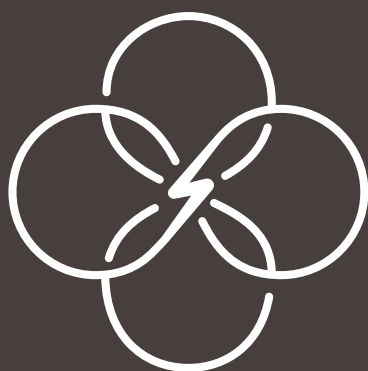
Increase the country's energy security by exploring alternative sources of energy and enhancing storage capacity of fuel and improving fuel security.

STRATEGIES

- 5.01.** Establish adequate and environmentally sound framework for hydrocarbon exploration and development
- 5.02.** Ensure environmentally safe and adequate storage, supply and distribution of fuel to meet the demand.
- 5.03.** To develop a roadmap to produce 70% of energy from clean energy sources by 2020







**MALDIVES
ENERGY
POLICY AND
STRATEGY
2016**



MALDIVES ENERGY POLICY AND STRATEGY 2016

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Energy is a core and fundamental part of a modern society. Having reliable and affordable access to energy is the major driving force for economic development. As we strive to improve and develop the energy sector of the Maldives, we are faced with many obstacles and challenges to overcome. One of the obstacles for proper planning of the sector is challenges in collecting and having access to reliable and accurate data. As quality data is imperative for sector planning and development, Ministry of Environment and Energy has been collecting electricity data of the inhabited islands since 2013 with the aim to publish yearly energy outlook book.

”

626 kWp Solar PV System installed
at Equatorial Conventional Center,
Addu City

