



REPUBLIC OF SOMALILAND

Ministry of Mining, Energy and Water Resources

SOMALILAND ENERGY POLICY

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European Union



Ministry of Mining, Energy
and Water Resources



FORWARD

Somaliland Energy Policy was approved by the Council of Ministers on March 3, 2010 (Somaliland energy policy No. 01/419/08/03/2010) following a four year policy making process. This comprehensive energy policy will go a long way in laying the foundation for developing the country's energy sector and is a prelude to developing a regulatory framework for Somaliland. In formulating this policy, we have considered the main characteristics of the energy sector in Somaliland and its linkages with the rest of the economy and the international scene. These characteristics include the following aspects:

- Somaliland has abundant energy resources, especially wind, solar, fossil fuels and other renewable resources, yet there is widespread energy poverty throughout the country. There is an urgent need to develop these energy resources and improve our energy supply.
- The provision for modern energy supply, especially electricity has been limited mainly to urban and semi-urban areas. A paradigm shift in energy planning is required to achieve equitable modern energy distribution.
- An inadequate and inefficient power supply system, arising from stunted generation capacity growth, a poor transmission and distribution infrastructure and poor utility commercial practices, has been prevalent. This energy sub-sector badly needs large investments and prudent utility practices.
- Sustainable development is difficult to achieve as it is incompatible with economic poverty that is prevalent in the country. Therefore, the Government has the challenge of expanding access to affordable, reliable and adequate energy supplies to address the poverty issues.
- Energy development and environmental damage are intricately related. The policy recognizes the need to mitigate both the physical and social environmental impacts created by energy use, especially depletion of limited forest resources.
- In the current environment of globalisation the policy was drafted to be compatible with international trends, whether regional or global. In particular, the policy provides for a conducive environment to attract private finance and encourage energy trade and other aspects of partnerships. This is particularly required as the energy sector is currently constrained by inadequate financing.
- There are institutional and legal weaknesses, especially in the areas of the downstream petroleum industry; renewable energy; electricity generation, transmission and distribution; and energy conservation/efficiency. There is a need for continued sector reform to incorporate the regulation of the above energy sub-sectors.

The approach used in formulating the policy involved a detailed analysis of the sector's issues from both the supply and demand perspectives. Policy objectives and strategies have been developed for the supply sub-sectors, i.e. electricity, petroleum, biomass and renewable energy. The same has been done for the major demand side sectors, i.e. households and institutions, industry and commerce. This detailed approach in setting policy objectives and strategies will help to define action plans in a more focused manner.

With the above background, the main policy goal in the energy sector has been set as: "To meet the energy needs of Somaliland for Social and Economic Development in a cost effective way that promotes sustainable energy production and use while minimising negative environmental impacts". The production of the policy document was a consultative process involving members of the Government ministries and agencies, other stakeholders such as civil societies, development partners (e.g. ADRA, EU etc) and the private sector who provided valuable contribution and comments. This policy framework provides Somaliland Government's vision for increased and improved modern energy supply for sustainable economic development as well as improving the quality of life of the Somaliland population. To translate it into reality an indicative short and medium term action plan has been developed and appended. Significant resources will be required to implement this action plan. It is, therefore, incumbent upon all Government ministries and agencies that have a stake in this matter and development partners to work together to realise this vision.

On behalf of the Ministry of Mining, Energy and Water Resources, I sincerely appreciate and acknowledge the effort and inputs of many people who have supported the "formulation of Somaliland Energy policy". Special thanks go to the European Union (EU) who financed this process and ADRA for providing technical assistance to the Government of Somaliland in drafting the policy and co-financing the policy process.

We extend our appreciation to all government ministries, international and local NGOs, institutions and organizations, the civil society of Somaliland and the Business Sector as well as to all individuals who participated and contributed to the realization of this policy, to Mention but a few, electricity suppliers, civil societies like Nagaad, Havoyoco, and Candlelight. With the completion of this Energy Policy, the Ministry will now embark on the important task of moving to the next step of formulating a regulatory framework for the energy sector.

Eng. Hussein Abdi Dualeh
MINISTER OF MINING, ENERGY & WATER RESOURCES
NOVEMBER, 2010.

Energy Policy Goal:

“ To meet the energy needs of Somaliland for social and economic development in a cost effective way that promotes sustainable energy production and use while minimising negative environmental impacts.”

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List of Acronyms

ADRA	Adventist Development and Relief Agency
EC	European Commission
EU	European Union
FAO	Food and Agriculture Organisation
ICT	Information Communication Technologies
kgoe	kilogram Oil Equivalent
kVA	Kilo Volt Amperes
kWh	Kilowatt-hour
LPG	Liquefied Petroleum Gas
MJ	Mega Joules
MPD&E	Ministry of Pastoral Development and Environment
MW	Megawatt
NGO	Non - Governmental Organization
NSA	Non – State Actors
PV	Photovoltaic
RET	Renewable Energy Technologies
SEA	Somaliland Energy Agency
SECO	Somaliland Electric Company
SEPD	Somaliland Energy Policy Dialogue
SL.Sh	Somaliland Shillings
Toe	Tonnes of Oil Equivalent
UN	United Nations
UNDP	United Nations Development Programme

1.0 INTRODUCTION

1.1 The need for an energy policy

Energy plays a very vital role in the livelihood of people. It has a role to play in all sectors. In most developing countries, 30% of household income is spent on energy services. Without energy, we cannot work in agriculture. It affects our environment. At household and individual level, energy addresses the basic needs. It helps to facilitate the process of social-economic development and is a fuel for the industry. Given that energy dramatically increases human capabilities and opportunities, adequate energy services are integral to poverty alleviation. In terms of energy and environment, energy plays an important role in protecting the environment through stopping deforestation, reducing soil erosion, reducing water pollution and sequencing of carbon or capturing carbon.

Furthermore, constrained access to energy constitutes the greatest challenge to sustainable development of any country. Energy plays a critical role in provision of several energy and non-energy services critical to human development. Energy is used in our houses to provide lighting and cooking services, deliver water and improve health of people through provision of services like refrigeration. Energy is needed to provide jobs and process the agricultural/livestock products and can influence both positively or negatively on our biodiversity resources. The human development index demonstrates that the more we consume energy, the better we get in terms of welfare. The countries that use little and low quality energy are low in the human development index where most of the developing countries including Somaliland is positioned. Despite all the above mentioned needs for energy, there is lack of policies with regards to energy in Somaliland.

The commitment of the Somaliland Government and its people is basically focused on working towards faster development and social transformation. This is supported by the private sector and respective ministries to find ways of providing the social, economic and technical services that people need. Such commitment and good working relationship between the government and private sector has kept the country moving despite enormous challenges with the environment and natural resources. In such context, an energy policy is urgently required in Somaliland.

Energy and energy services are an important part of reconstruction of the Somaliland economy that is in the process of economic and social transformation after the war.

The inadequacy and lack of clear policies is one of the factors restraining deliberate actions to promote sustainable energy in Somaliland. There is also lack of regulatory framework and inadequate capacity to lobby for energy policies.

Furthermore, Somaliland requires enough energy¹ for its needs and has to build social, economic and technical capacity of its people to sustain the infrastructure that is currently being put in place.

1.2 Summary of energy policy objectives

The main policy goal is to meet the energy needs of Somaliland in a sustainable, cost effective and socially acceptable manner for social and economic development while minimising the negative impacts of energy production and use. The specific objectives are to:

- a) Increase access to modern affordable and reliable energy services in ways that contributes to poverty reduction.
- b) Utilize energy as a tool to accelerate socioeconomic development for largely urban and rural populations.
- c) Establish, maintain, continuously review and improve a legal and institutional framework for effective management and planning of energy services in the country.
- d) Enhance security of supply of all types of energy forms and services.
- e) Provide sustainable, cost-effective and various energy sources for all stakeholders in the country.
- f) Establish and improve systems of energy governance and administration.
- g) Promote strategies that encourage diversification and switching to alternative energy fuels that enable reduction of pressure from trees as sources of fuel.
- h) Promote exploration and fast tracked development of indigenous energy resources especially coal for power generation and natural gas thought to be possible in the country's geological formations.
- i) Promote strategic actions on environmental management, energy efficiency and conservation as well as prudent health, safety standards and practices.

1.3 Process undertaken for formulation of the policy

The project on Somaliland Energy Policy Dialogue (SEPD) carried out by ADRA, in collaboration with the Ministry has enabled capacity building of Government Officials, Non State Actors, for example Business and Civil Societies in policy development. Such capacity has been utilized in ways that have facilitated the development of an energy policy and regulatory framework for Somaliland. Since policy formulation requires participation and consensus building, the process involved training and capacity building of stakeholders in energy policy development and advocacy that was carried out in August 2006. This process also enabled stakeholders to plan for and be guided by ADRA to undertake data and information collection that would inform the policy planning process.

¹The types of Energy explained in this policy are incomplete and therefore will be updated in the process of the implementation of this policy by the energy commission.

The following are other sources of energies that exist: Water/Hydro, Geothermal, Fossil (Oil, Gas, and Coal), Propane, Biomass (Methane / Wood), and Fusion/Nuclear

Data and information was collected through undertaking an energy study that was implemented in Somaliland targeting households and service/commercial sectors in Hargeisa, Borama, Berbera and Burao regional centres. The study was commissioned by ADRA, in collaboration with the Ministry of Industry and Energy, as part of the activity in a project 'Facilitating Somaliland Energy Policy Dialogue' funded by the European Commission under the 'Decentralised Cooperation' Budget line.

The purpose of the study was to review the energy sector in Somaliland and identify the current trends in energy demand and supply, establish energy end use trends, sources, applications, cost implications, constraints and other key issues on the delivery infrastructure. The study was also to undertake stakeholder analysis of all actors involved in energy and assess the potential role of renewable energy in development and highlight successful case studies for possible replication; and finally, propose strategies to promote access to sustainable energy services.

A household survey was undertaken between August and November 2006 targeting 200 households in low, medium and high residential areas in urban and peri-urban settlements. Energy consumption patterns were also surveyed, targeting 73 commercial enterprises and service institutions.

This was followed by a policy dialogue that was undertaken from 28th to 30th January 2007. The purpose of the policy dialogue workshop was to deliberate the processes of policy planning and enable stakeholders to participate in this process. This workshop enabled a participatory process to be undertaken with various categories of the stakeholders. It helped to start on the process of gaining consensus on the content of the policy. The second policy dialogue was held on 26th February 2007 to enable stakeholders to debate on the draft policy and seek consensus on the content.

2.0 OVERVIEW OF ENERGY SECTOR IN SOMALILAND²

2.1 Demand Sectors

2.1.1 Overview

Energy use in Somaliland is extremely low by world standards. It is currently estimated at 200 to 280 kgoe per capita per year and is mainly dominated by biomass based fuels. At household level, biomass fuels constitute approximately 90% of the gross energy consumption.

The main commercial fuel used is imported petroleum and electricity. Establishments in the Service Sectors and Commercial Enterprises consume an average of energy of 8.6 toe monthly (103 toe annually), out of which 76% is attributed to petroleum and electricity (generated from diesel). This does not include energy for transportation purposes.

2.1.2 Household energy

In overall terms, charcoal, kerosene and electricity constitute an important fuel for households in urban and peri-urban areas, while fuel wood constitutes an important source of energy for rural areas. Charcoal is used by 97% of households; kerosene is consumed by about 80% followed by electricity at 68%. The average monthly expenditure on energy in the urban and peri-urban areas is about US\$ 60. This is equivalent to about 31% of average monthly income.

Charcoal is widely used for cooking in the urban and peri-urban populations, mainly purchased from vendors. A typical household consumes approximately four sacks (72kg) of charcoal per month, at an average cost of US\$ 19. Despite the shortage, only 2% of households use improved charcoal cook stoves. Almost all households (98%) use traditional metal stoves, considered inefficient. The major challenges to charcoal users are costs, increasing scarcity, slow cooking, dirty and hazardous.

Firewood is the main source of energy for cooking in rural areas. However, a significant proportion of households consume firewood in urban and peri-urban areas. Households consume an average of 344 kg of firewood and spend approximately US\$ 8 every month mainly for cooking in urban and peri-urban areas. Most of the firewood consumed is collected freely as only 17% purchase from vendors. All households use traditional firewood cookstoves. There is a strong willingness amongst households to switch to other forms of energy. Several reasons are cited including collection problems, scarcity, dirty and unhealthy, smoke and drudgery.

About 68% of households have access to electricity in urban and peri-urban areas. It is mainly purchased from private electricity companies, while a few households are

²The overview of energy sector in Somaliland is based on a draft energy survey commissioned in August 2006 by ADRA in collaboration with the ministry of Industry and Energy. This energy survey report provides the background information for this draft policy.

connected to electricity supplied by the government agency, especially in Hargeisa. Some households have invested in their own generators to supplement electricity supplied from private companies.

Households consume an average of 20kWh of electricity monthly, spending an average of US\$ 19. Electricity is mainly used for lighting and running household appliances such as televisions, radios, mobile phone chargers and to some extent, refrigeration and electric fans. Consumers are not satisfied with the forms of electricity supplied to them, and would consider switching if better alternatives are provided. The challenges faced by households with the current supply of electricity is extremely high costs of between 60 US cents per unit to close to 1 US\$, poor safety, low quality of power and service attributed to lack of a regulatory framework.

Kerosene is another major fuel for most of the households and institutions in Somaliland. The energy survey report indicates that 88% of households use kerosene, mainly for lighting (100%), cooking (5%) and space heating (1%). An average of 7 litres of kerosene is consumed monthly, at approximately US\$ 4. Kerosene is mainly used in hurricane lamps (97%), wick stoves (5%) and pressure stoves (<1%). Distribution of kerosene seems to be fairly good in urban areas as residents source it from nearby outlets.

Others fuels³ used in Somaliland include Liquefied Petroleum Gas (LPG), which is considered significant to households and hotels and institutions consuming it. LPG is mainly sourced from a supplier in Hargeisa town. In early 2006, 12.5 litres of LPG cost US\$ 25 but currently the price has risen to about US\$ 35 for a similar amount. Others household energy sources include batteries, candles and solar photovoltaic. Approximately 4% of households interviewed have installed and use solar photovoltaic systems for lighting and powering radios.

2.1.3 Industrial, Service, and Commercial Energy

Establishments in the Service Sectors and Commercial Enterprises consume an average of energy of 8.6 toe monthly (103 toe annually), out of which 76% is attributed to petroleum and electricity (generated from diesel). However, this does not include energy for transportation purposes.

Approximately 96% of the firms consume electricity, mainly sourced from local private electric companies. A significant number of firms have own generators, while a few obtain electricity from alternative sources, such as through solar PV. An average of 304kWh is consumed per month sourced from private providers, at an approximate cost of US\$ 313. Electricity is mainly used for lighting, though approximately 38% of firms use powers for productive purposes, while 40% use it for general office appliances, especially in office ICTs and health services.

³The following are other sources of energies that exist: Water/Hydro, Geothermal, Fossil (Oil, Gas, and Coal), Propane, Biomass (Methane/Wood), and Fusion/Nuclear

Institutions with standby generators have mean installed capacity of 161kVA, and consume an average of 6,975 litres of diesel at a cost of US\$ 5,496 to produce electricity, mainly for productive purposes monthly. Generators are mostly used for an average of 6 hours per day. Among the challenges faced by commercial and service establishments are high costs, high wastage, poor quality, unreliability and losses of power and there is a strong reason for switching to alternatives.

Charcoal constitutes an important fuel for cooking purposes in institutions and commercial enterprises. Institutions consume an average of 37 sacks, spending approximately US\$ 195 per month. Such institutions are mainly hotels and restaurants, health and education institutions. Only 13% of institutions use improved charcoal stoves, while the rest use metal stoves. 82% of the institutions are not satisfied with the charcoal and stoves on the market, as they are considered dirty and dusty, smoky, poor quality of charcoal, scarcity of charcoal in some circumstances and the increasing cost of the fuel.

Firewood is also heavily consumed in the country, mainly for cooking and baking, especially in hotels, restaurants and government institutions such as military, police and prisons. 70% of firms purchase wood fuel while the rest collect it freely from forests. It is estimated that firms consume an average of 3,341kg of fuel wood monthly. Institutions use traditional firewood stoves, though 78% are not satisfied with the appliances, while 88% confirmed their willingness to switch to alternative appliances and fuels. There are a number of challenges including increasing scarcity, health implications due to indoor air pollution and rising costs mainly due to distances covered in obtaining firewood.

Kerosene is consumed by about 16% of firms mainly purchased from petrol stations and local retailers. Institutions consume an average of 321 litres monthly, at an approximate cost of US\$ 134. Kerosene is mostly used for lighting and cooking. Some firms use kerosene in workshops for cleaning purposes. Kerosene is consumed in hurricane lamps (34%) and pressure stoves (18%), and other appliances (18%). Only 46% are satisfied with kerosene while the rest are not.

Liquefied Petroleum Gas (LPG) is currently being used in hotels and restaurants, schools and offices. A number of commercial enterprises and institutions use LPG. The gas is mainly used for cooking but in schools, it has a supplemental role of providing gas for experiments in the laboratory. LPG is considered expensive and is sometimes unavailable.

2.2 Supply sectors

2.2.1 Electricity sub-sector

Somaliland has an estimated installed capacity of 77 MW, out of which less than 7% is attributed to the public electricity agency. Only 44% of installed capacity is actually realised. This could be attributed to poor servicing, inefficient production, aging generators and idle capacity.

Power is mainly generated for selling, though 44% of generation is for own consumption, only selling off extra power that would otherwise go to waste once own demand is fully met. These include big hotels and telecommunication companies.

Varieties of diesel generators are used in electricity production in the country. Most firms prefer Perkins generators (57%), Deutz (46%), Cummins (21%) and Caterpillar (21%). Approximately 87% of the generators are purchased as second hand (used generators) as opposed to 13% purchased as branded new.

Diesel is the main fuel used in electricity generation in Somaliland. Electricity producers consume an average of 78.15 barrels per month in electricity production. This translates to an average cost of US\$ 12,977 spent monthly. The fuel is mainly purchased locally from distributors.

Generation of power from alternative energy sources has been given some consideration by 61% of companies. Such alternatives include coal, solar and wind. However, possible alternatives are considered expensive options. Companies also lack technical know how and resources to invest in alternative generation equipment.

There is also lack of awareness amongst alternative energy sources. Some companies have invested heavily in current diesel generation and would not consider switching to alternatives in the short and medium term.

Across the nation, the average charge per kWh of electricity consumed is US\$ 0.8. Approximately 75% of the companies sold their electricity below US\$ 1 while the rest charged a dollar or more.

Electricity demand on a per capita consumption is very low, currently estimated at between 27kWh to 30kWh despite the 68% coverage in urban and peri-urban areas (about 125,370 customers). Much of this electricity is used for lighting and entertainment purposes as opposed to production of goods and services.

The average electricity consumption per capita in Sub-Saharan Africa, excluding South Africa is 126kWh. Somaliland compares well with Ethiopia, whose per capita consumption is 24kWh, Eritrea 44kWh and Sudan per capita consumption is 49kWh, but way below the average sub-Saharan consumption.

The Country's electricity supply industry is mainly characterised by unreliable power supply, low capacity utilisation (currently below 44%) and availability factor, deficient maintenance, poor procurement of spare parts, poor safety records and high transmission and distribution losses amongst many other problems. Power losses have been estimated at an average of 25% with some suppliers recording more than 40%. This is quite high compared to 10-12% international target. The table below indicates power production and systems losses in the Somaliland Electricity Agency, 2005:

Power production and losses in Hargeisa Electricity Agency

Month	Production kWh	Sales kWh	Loss kWh	%
January	289,975	174,777	115,198	40%
February	263,660	173,680	89,980	34%
March	309,386	154,905	154,481	50%
April	304,173	168,893	135,280	44%
May	296,796	151,136	145,660	49%
June	297,712	181,250	116,462	39%
July	300,476	161,873	138,603	46%
August	327,025	168,885	158,140	48%
September	316,068	164,114	151,954	48%
October	344,191	179,268	164,923	48%
November	318,616	201,044	117,572	37%
December	310,253	173,848	136,405	44%
TOTAL	3,678,331	2,053,673	1,624,658	44%

Source: Somaliland Joint Needs Assessment 2006

Somaliland experiences the highest cost of electricity in the world. Perhaps this denotes the low per capita consumption levels despite the 68% coverage levels in urban and peri-urban areas. The current high prices of electricity (US\$ 0.8 – 1 per kWh) need to be looked into. This is a record high tariff that may be attractive to investors, but could have detrimental impacts on the economy in the long run. Besides fluctuations in international oil prices, the inefficient production and distribution of electricity and many uncoordinated players on the market are factors adding to the cost of electricity production.

One important thing to note is that provision of electricity is largely confined to the privileged urban middle and upper low-income groups as well as commercial sectors and institutions. Rural communities have been neglected by the private producers, since that kind of market is unattractive.

The country lacks mechanisms to regulate electricity generation, transmission and distribution. Most electricity companies are operating as general traders and are therefore, licensed by local authorities. Some claim to be registered by the Chamber of

Commerce or Ministry of Commerce, Attorney General, Local Government, Governors etc. This means that there is no central authority to deal with licensing, setting standards and monitoring operations of numerous private electricity producers.

The main problems, challenges and weakness experienced in the electricity sub-sector include:

- i) Safety: Short-circuiting and damaging of electrical appliances.
- ii) Affordability: High connection cost as well as difficulty in being connected.
- iii) Low quality of power: Power supplied is considered to be of low quality. This is due to the problems that consumers experience through frequent outages, unreliable supplies or lack of power in some circumstances.
- iv) Regulatory framework: Lack of legal and regulatory framework reflected through absence of rules and regulations governing the energy sector. It is very expensive or impossible to switch companies in case of dissatisfaction with one company.
- v) There are weak transmission and distribution networks; high price is hiked because 44% of power is lost; and there is lack of clear coordination for regulation of electricity (different regulatory structures with different regulatory frameworks).

2.2.2 Biomass energy sub-sector:

Biomass energy sources account for more than 90% of total energy consumed in Somaliland. It is sourced from various land cover formations such as open trees and shrubs and woody vegetation, accounting for 37% of land cover in Sanaag region, 47% in Togdheer, and 52% in the rest of North West regions. Grasslands occupy 52% in Sanaag and Togdheer, and 37% in North West regions

There is a general trend in the decline of biomass resources. In the Sanaag region, the area of coverage of Galool forest has declined by 52% from 162,467.5 ha in 1988 to 78,211.89 ha in 2003. Open shrubs that comprised 45% in 1988 declined by 30% 15 years later.

An estimated 85,713 metric tonnes of charcoal is consumed annually by households in the country out of which 22% is attributed to consumption in Hargeisa city. The demand by commercial enterprises and institutions is also significant as the study indicates that 23% consume charcoal. An average of 8 tonnes of charcoal is consumed by each institution or enterprise annually. These include hotels, restaurants, schools, hospitals and small & medium industries.

The average cost of charcoal has risen in the past 5 years from approximately US\$ 1 in 2002 to US\$ 4 a sack in 2006. These increases will likely affect the majority of poor people especially in urban and peri-urban areas as scarcity and rates of urbanisation increases.

2.2.3 Petroleum sub-sector

Petroleum energy is the second most important source of energy in Somaliland. Petroleum fuels are mainly used in electricity production, transport sector, households, agriculture and livestock production. All the petroleum fuel consumed in the country is imported. The country imports an average of 60,000 metric tones and spends over US\$ 40 million annually in importation of petroleum fuels. About 80% of the fuel consists of petrol and diesel, while 20% is Jet A1 used in airplanes and as kerosene for cooking and lighting.

It is estimated that less than 2,000 consumers are using LPG in Somaliland. About 60% of these consumers are attributable to corporate entities such as hotels and restaurants, and institutions, while individuals in middle and high income consume 40%. Assuming a conservative figure of 1,700 consumers, then an average of 202 tonnes⁴ is consumed annually, with more than 90% consumed by institutions and commercial enterprises, while less than 10% is attributed to households.

Liquefied Petroleum Gas (LPG) has a number of attractions as a supplement for charcoal. It is clean, convenient and efficient. A number of factors have limited its use in Somaliland. Both the bottles and LPG stoves are expensive and hard to get hold of. LPG cannot be purchased on a daily basis, as there is a minimum size to the gas bottles. The initial investment for LPG is beyond the means of low-income households, but would be attractive to higher-income families and a number of businesses such as restaurants and bakeries if market conditions were right. At present however, the supply of LPG and the availability of equipment severely constrain the potential of this fuel.

Kerosene has been imported to Somaliland for many decades, mainly for lighting purposes in households and institutions. There is a current annual demand of about 12,600 tonnes of kerosene, out of which 60% is consumed in urban areas, while 40% is attributed to rural areas. This is way below current importations through Berbera Oil Terminal, estimated at between 4,000 – 8,000 tonnes. With future utilization of kerosene for cooking, this demand will increase rapidly.

Kerosene stoves are imported from China, Gulf Countries, Ethiopia and India and are available in very limited numbers in Somaliland markets for SL.Shs.69,300 - 85,000 (US\$ 11- 13), depending on the size and type. However, pressure stoves can be sold at a much higher price of US\$ 40, a price unaffordable to many households.

2.2.4 Other Renewable Energy

In view of the scarcity of easily exploitable conventional energy resources, wind and solar could contribute to meeting local energy requirements. Data on wind and solar potential while inadequate do indicate that wind resource is among the largest in Africa particularly in the coastal areas where wind speeds average 6-7m/s (World Bank, 1985).

⁴Attributed to gas only without consideration of the weight of LPG bottles

Solar energy is also abundant, with relatively high clearness index of the atmosphere (0.6 – 0.7 for most of the year, and 0.5 for a few months) and for approximately 2,900 – 3,100 hours of sunshine per year. This irradiation is equivalent to about 5.4 to 5.8 kWh/m²/day. (Somali Joint Needs Assessment, 2006; UNDP/Worldbank 1985).

The last few years have seen many different solar systems such as solar PV lighting kits, solar PV water pumps, solar PV system for telecommunication and solar PV refrigerator being installed in the country and are becoming increasingly popular.

Over 25,000Wp (25kW) of solar systems worth US\$170,000 have been installed in the country since 1994. The number of installations have been increasing since 2002. Out of the 133 installations sampled, 44% are rated between 3 to 50 watts, 17% between 51-100 watts, while 39% rated more than 100 watts. Households account for 59% of systems, 29% institutions, mainly NGO, health centres and schools, while business enterprises such as hotels and restaurants, and retail shops accounts for 12% of installations. Over 76% of solar installations are located in Hargeisa region, 8% in Saaxil while 7% are installed in Awdal region. The remaining 9% was a combination of installations in Borama, Gabbelley, Dila, and Herter Sheikh, Kalabaydh, Sanaag and Sool.

Systems are mainly installed for lighting (70%), powering a wide range of household/office appliances and acting as back up (27%), while 3% of the systems have been installed for water pumping or as heating water for restaurants, hospital or offices.

The cost of solar systems varies greatly depending on the source, output and availability of systems in the market. Analysis reveals that it costs US\$ 6.4 per watt in Somaliland.

There are good wind regimes sufficient for running wind pumps and generate electrical energy in Somaliland. Any wind over 5 meters per second is considered “excellent” for wind pumps. Most areas in Somaliland experience wind speeds of between 6-10 meters per second throughout the year. The wind is sufficient to sustain different sizes of wind mills/pumps throughout the year if there is sufficient amount of water. It is also sufficient to run small wind turbines and electricity generators.

Wind energy applications are also increasingly accepted in Somaliland with the current installations of about 4,000Wp in Hargeisa, Borama and Burao, mainly used for pumping water in farms. A workshop⁵ to manufacture mechanical wind pumps was recently commissioned in Hargeisa city and the first 2 mechanical wind mills are being produced.

Despite the demonstrated potential of wind energy, there have been little efforts to deploy this resource in Somaliland. One of the reasons is lack of awareness on the potential, lack of wind data, lack of wind equipment, high cost of wind systems, lack of technicians to install and maintain wind energy systems.

The use of renewable energy technologies (RETs) has been slow to develop in Somaliland for the following reasons:

- Absence of a policy environment that encourages the use of alternative energy systems and the production and delivery of energy services by the private sector.
- Lack of public education and information regarding the use, advantages and limitations of RETs.
- High up-front cost of RETs and the absence of credit for end-users to spread the initial cost of PV systems over time and for local suppliers to enable them to purchase system components locally and from abroad.
- Fragile private sector lacking the necessary fund, human resources, information and linkages to RET's equipment suppliers in industrialized countries.
- An absence of financial mechanism to allow users to purchase solar or wind systems, although economically competitive may cost more than a diesel driven-pump.

2.3 Energy institutions, legal and regulatory framework

The energy sector appears to be operating in a policy vacuum, without a legal and regulatory framework. It is only the environment sector that has some regulations geared towards protection of forests and minimise charcoal production and sale. However, the efficacy of such regulations have not been analysed, but discussions with stakeholders indicate that there is a challenge in the enforcement due to lack of resources and skilled personnel.

Actors in the petroleum and power sub-sectors are mainly private entrepreneurs who are normally licensed to operate as general retail businesses, but have not been properly vetted to meet basic requirements for the kind of energy activities carried out. In some circumstances, the authorisation to undertake such businesses have been on an ad-hoc basis without clear licensing or contracts or any legal basis.

There is no mechanism to vet quality and safety standards of energy equipment and fuels imported into the country, thus exposing the consumers to safety risks.

The Government is in the process of creating institutions to deal with various sectors, building capacity of staff etc. Currently, there are over 7 Government Ministries that have a stake in the energy sector; although lack of coordination mechanisms means that these ministries operate independently. They also lack capacity to develop, enforce and monitor the sector.

⁵A franchise of the famous Bob Harries Engineering Limited company known for producing Kijito windmills (currently based in Thika, Kenya).

3.0 MAIN POLICY GOALS AND BROAD OBJECTIVES

The key issues identified define the current situation in Somaliland's energy sector.

The main challenges in the energy sector include the following:

- a) Rebuilding the energy infrastructure in the country.
- b) Mobilizing requisite financial resources for operation, maintenance and expansion of energy carriers and providers.
- c) Protecting the environment.
- d) Ensuring security of supply through diversification of energy sources and promotion of energy efficiency and conservation.
- e) Developing and promoting private sector capacity to deliver services in a market driven environment.
- f) Perceived risks and rising energy demand.
- g) Improving corporate governance and accountability by private sector.
- h) Enhancing legal, regulatory and institutional frameworks to create both consumer and investor confidence.

This National Energy Policy should therefore provide the basis for formulation of objectives and strategies that address these challenges.

3.1 Main policy goal

To meet the energy needs of Somaliland in a sustainable, cost effective, and socially acceptable manner for social and economic development while minimizing the negative impacts of energy use.

3.2 Broad objectives

The energy policy seeks to meet the following broad objectives:

Objective 1: To increase access to modern affordable and reliable energy services in ways that contributes to poverty reduction

To achieve this objective, the government shall undertake the following strategies:

- i. Develop strategy to reach sufficient and sustainable use of energy in Somaliland
- ii. Promote the development of effective and efficient markets in the energy sector.
- iii. Improve knowledge and skills of energy service providers.
- iv. Consider adopting different sources of energy development.

- v. Develop a conducive environment that supports increased urban and rural energy supply and access by:
 - Introducing subsidies, especially on capital investment.
 - Establishing mechanisms to facilitate energy service providers to invest in rural energy projects.
 - Establishing systems that enable differentiated tariffs to be used for varying regions or energy use in ways that cater for investment and supply costs.
 - Improving on systems of providing energy services in rural areas through setting up guidelines for mobilisation of communities.
- vi. Encourage energy service investors to develop and disseminate environmentally friendly energy services that serve the different needs of population.

Objective 2: Utilize energy as tool to accelerate socioeconomic development for largely urban and rural populations

To achieve this, the government and private sector shall undertake the following strategies:

- i. Raise awareness of consumer on alternative energy sources.
- ii. Establish financial support institutions.
- iii. Attract private capital investment and management.
- iv. Build capacity on skills of using alternative energy technology.
- v. Promote skills and technical expertise on how to use available energy resource.
- vi. Subsidize the energy suppliers.

Objective 3: To establish, maintain, continuously review and improve a legal and institutional framework for effective management and planning of energy services in the country

In order to achieve this objective, government shall undertake the following strategies:

- i) Review, clarify or establish the roles and functions of the various institutions that are engaged in the energy sector and take into consideration the role of the private sector, NGOs, urban and rural communities.
- ii) Formulate and implement a legal and regulatory framework for pricing and tariff structures to support energy investments in the country.
- iii) Formulate a legislative and regulatory framework that links Independent Power Producers to the official power network and ensure that there is compliance to the framework.

- iv) Formulate and implement regulations for power generation that enables affordable costs of power for the energy users.
- v) Provide an enabling environment for the provision of energy services through removal of the various institutional, legal and capacity barriers.

Objective 4: To enhance security of supply of all types of energy forms and services. In order to achieve this, government and private sector shall undertake the following strategies:

- i. Promote competition among suppliers.
- ii. Promote development of markets in energy technology.

Objective 5: To provide sustainable, cost-effective and various energy sources for all stakeholders in the country.

In order to achieve this objective, the concerned parties (government, civil society and private sector) shall undertake the following strategies:-

Strategies

- i. Prepare database to all available energy resources.
- ii. To promote the man power skills and establish vocational training centres.
- iii. To improve the available energy technology.
- iv. To increase the awareness of the people to accept and adopt energy technology.
- v. To access undeveloped potentials.
- vi. Build capacity of stakeholders in energy planning and management.
- vii. Encourage both local and direct foreign investment.

Objective 6: To establish and improve systems of energy governance and administration.

In order for the energy sector to operate efficiently and play its role in the socio-economic development of the Somaliland, government and private sector shall undertake the following strategies:

Strategies

- i. Promotion of research and establishment of data base as well as information collection centre.
- ii. Clarify and formalise the roles, functions and mandates of various government ministries and institution participating in the energy sector, especially private sector participation, investment sectors, as well as urban and rural communities.
- iii. Enhance capacity of various categories of stakeholders in the energy sector to enable them to comply with the systems of energy governance while implementing the energy policy and programmes.
- iv. Formulate a legal and regulatory framework for the sector and provide a guide to all stakeholders and regulatory agencies on how to make use of it.

- v. Create attractive policy for foreign investment and partnership in the energy sector and provide incentives to continuously encourage local actors in the energy sector to be retained in operation.
- vi. Continue information sharing among all stakeholders.
- vii. Create a transparent suitable legal and regulatory framework for the sector.

Objective 7. Promote strategies that encourage diversification and switching to alternative energy fuels that enable reduction of pressure from trees as source of fuel

In order to achieve this objective, the concerned parties (government, civil society and private sector) shall undertake the following strategies:-

Strategies

- i) Utilize fiscal policies that deal with designing appropriate incentive schemes to encourage energy suppliers to disseminate energy technologies to rural areas where they would have not been able to reach.
- ii) In the short term, design measure to increase import of kerosene stoves while promoting local production of stoves in the medium term and introducing alternative energy fuels like LPG in the long term.
- iii) Promote education and publicity campaigns that target women and the youth to increase awareness of advantages of modern energy like LPG.
- iv) Formulate strategies that enable charcoal producers to have alternative or diversified sources of income in order to reduce pressure from trees.
- v) Provide tax holidays for at least the first 2 years to encourage private sector investment in modern energy technologies.
- vi) Build capacity and promote environmental monitoring in the energy sector through various appropriate means including establishment of a unit within the ministry in charge of such a role.
- vii) The government to encourage afforestation and re-afforestation programmes, including tree farming for business opportunities.
- viii) A government ministry or institution, with mandate for environmental impact assessments, should formulate guidelines that developers apply in order to ensure that alternative energy sources are examined on the level to which they are not harmful to the users.

Objective 8: Promote exploration and fast tracked development of indigenous energy resources especially coal for power generation and natural gas thought to be possible in the country's geological formations.

In order to achieve this objective, Government shall undertake the following strategies:-

Strategies:

- i) Develop guidelines and facilitate acquisition of geological, geophysical, social and economic data for assessing the potential of indigenous energy resources, such as coal and natural gas.
- ii) Facilitate effective ways of packaging and utilization of data in ways that promote investment in exploration and development of indigenous energy resources.
- iii) Establish management systems, build capacity and maintain an efficient institution to provide technical and regulatory guidance as well as monitoring of exploration and development of indigenous energy resources, such as coal and natural gas.

Objective 9: Promote strategic actions on environmental management, energy efficiency and conservation as well as prudent health, safety standards and practices.

In order to achieve this objective, the concerned parties (government, civil society and private sector) shall undertake the following strategies:

Strategies:

- i) Promote and maintain energy efficiency and conservation measures for industry, commerce, household, health and educational institutions in ways that consider the potential as well as improvements acquired from such efforts in terms of financial and environmental benefits for Somaliland
- ii) Establish, maintain and re-inforce use of the guidelines for health, safety standards and practices for energy service providers and users of energy technologies.

4.0 DEMAND AND SUPPLY OBJECTIVES AND STRATEGIES

4.1 Demand side

4.1.1 Households and Institutions

Objective: To provide appropriate and affordable energy services for households and community based services including agriculture and irrigation, water supply, sanitation, health, education, public lighting, transport, information and communication in order to improve the economic and social welfare of children, women and men in urban as well as rural areas.

Specific objectives:

- i) To work towards achieving a sustainable level of energy security for households, especially those with low incomes, in order to reduce poverty and address the differentiated needs of females and males at household level.
- ii) To strengthen and provide skills as well as innovations that enable provision of energy for productive activities in order to increase incomes of women, youth and men.
- iii) To improve efficiency in use of biomass resources through:
 - Intensive dissemination of modern and fuel efficient biomass cooking stoves, in urban and rural areas, especially where consumption of biomass is high.
 - Promoting modern and fuel efficient biomass cook stoves that are modelled and branded in a way that can enable such technology to be appropriate to the needs of Somaliland people.
- iv) To improve on provision of a variety of energy technology choices and energy sources in ways that enable women, children and the youth to make appropriate decisions on energy use to reduce drudgery, enormous labour in-put as well as health burdens that are experienced when using inefficient techniques for utilization of biomass energy.

Strategies

- i) Government shall formulate a Household Energy Strategy that provides an implementation plan as well as advice on design of projects, which focus on elimination of shortages and inefficient use of biomass and promotes enhanced use of modern energy services.
- ii) Government, donors, private sector and NGOs shall take into consideration energy as a basic need and ensure that household as well as community level energy services are prioritised in planning, implementation and monitoring of income earning activities, poverty reduction and gender responsive programmes.

- iii) Government, donors, private sector and NGOs shall link energy with other sectors, especially livestock and agriculture, health, education, housing, transport, water, forestry, industry, information and communication in order to plan for and ensure achievement of impacts which reflect fairness and justice in distribution of energy services for the needs of females and males as well as reduction of poverty at household and community level.
- iv) Government, donors, private sector, NGOs, community governance structures to formulate and implement governance structures that support household energy.

4.1.2 Industry and commerce

Objective: To formulate, implement and monitor energy efficiency measures for industry and commerce in ways that can enable improvements in financial and environmental benefits that can make Somaliland's industry more internationally competitive.

Strategies:

- i) Government, private sector and NGOs to work collaboratively with industrial and service institutions to build capacity, sensitize, provide guidelines and incentives to enable such institutions to adopt more efficient energy end-use technologies which can enable them to avoid high costs, high wastage, poor quality, unreliability and losses of power.
- ii) Government, private sector, NGOs to provide technology choices and sensitize industries and commercial institutions to switch to cleaner fuels.
- iii) Government, private sector, NGOs to promote environmental education, and work towards enforcing environmental performance auditing in ways that promote realization of benefits from savings on energy efficiency and environmental protection.

4.2 Supply side

4.2.1 Biomass and other renewable energy sub-sector

Objective: To develop and sustain efficient use of renewable energy resources as part of the energy mix, in ways that increase affordable access in urban and rural areas as well as contributing to:

- poverty reduction,
- energy security,
- diversification of energy resources,
- sustainable development &
- environmental protection.

Strategies:

- i) Formulate and sustain measures to increase wood supplies.
- ii) Address inefficiencies in the charcoal production and consumption.
- iii) Explore and promote the potential of using fast growing tree species as well as utilization of prosopis juliflora for charcoal and fuel wood.
- iv) Build capacity of the relevant ministries, organizations and communities in establishing and managing Somaliland's forestry resources through:
 - a. Training of ministry, organisations' staff and community representatives on technical, managerial issues, policies, monitoring and evaluation.
 - b. Providing infrastructure resources such as transport and communication equipment to staff as well as community representatives in order to enable them to implement and monitor renewable energy related activities.
- v) Increase budgetary allocation to the Government Ministries that are working on renewable energy.
- vi) Promote utilisation of renewable energy technologies in the energy mix.
- vii) Lower or eliminate custom duties and taxes on the importation of renewable energy equipment.

4.2.2 Power Sub-sector

Objective: To enhance and provide mechanism that involve Government and Private Sector in ensuring efficient and affordable power supply to meet the national economic, social and technical development needs of the country.

Specific objectives:

- iv) To enable the power sector to have secure and affordable supply of electricity in order to contribute to economic development and social progress.
- v) To formulate efficient means of production and distribution of electricity, as well as establishing coordination mechanisms for actors in the market in order to reduce the cost of electricity production.
- vi) To meet the increasing demand for electricity at national level.
- vii) To establish and provide guidelines for ensuring that environmental impact assessment is undertaken in all power sector projects.
- viii) Rehabilitation and expansion of power generating capacity and distribution network.

Strategies

- i) Government shall identify and remove bottlenecks barriers and limitations to power generation, transmission, and distribution in order to address the demand at national level.
- i) Government and private sector to establish efficient and improved performance mechanisms to ensure that the installed capacity estimated at 77 megawatts is regulated and coordinated in ways that eliminate waste incurred from excessive idle capacity and power losses.
- ii) Government to establish a regulatory framework that includes affordability, safety, good quality of power and efficient service provision of power.
- iii) Government to work collaboratively with the private sector to establish mechanisms that would make the sub-sector competitive and attract investment through eliminating unreliable power supply, low capacity utilisation (currently below 44%), availability factor, deficient maintenance, poor procurement of spare parts, poor safety records, high transmission and distribution losses.
- iv) Government, financing institutions, donors to establish incentives to enable private sector investment to serve rural as well as urban population, through access to loans on concessionary terms, financial provisions, government guarantees and smart subsidies to facilitate infrastructure investment.
- v) Government and donors to establish a Rural Electrification Strategy and plan to enable:
 - a. Capacity building of private sector in the development and operation of isolated power supply systems, especially solar PV, wind systems and others.
 - b. Enable development of rural electrification schemes carried out on demand basis as well as with incentives to private energy suppliers to reach rural areas.

4.2.3 Petroleum Sub-sector

Objective:

- i) **Upstream: To explore the potential of petroleum in the country and promote its exploitation.**
- ii) **Downstream: To enable formulation of systems and innovations to ensure adequate, reliable and affordable supply of quality petroleum products for all sectors of the economy taking into consideration international competitive as well as fair prices which are in line with appropriate health, safety and environmental standards.**

General Strategies:

- i) Government will create a conducive environment to enable more investors to engage in both upstream and downstream.
- ii) Government will ensure that investors comply to regulations and mitigation plan to reduce environmental problems in explorations of fossil fuels.

Specific strategies for Kerosene:

- i) Government will create incentives through tax exemptions and others to enable increased kerosene imports and to ensure that they are available to consumers on a secure basis.
- ii) Private sector, communities and NGOs to increase on availability of kerosene stoves, firstly through increased imports but as soon as possible from a local production facility.
- iii) Government, private sector, donors, NGOs and community groups to build capacity of communities and households through education and publicity campaigns in order to increase awareness of the advantages of kerosene cooking.
- iv) Government to work with private sector to increase availability of kerosene as an alternative to charcoal, and impose more stringent controls over the charcoal production process after the shift to Kerosene.

Specific Strategies for Liquefied Petroleum Gas (LPG)

- i) Government and private sector to develop the current importation system of LPG through investing in construction of LPG storage tanks and related facilities to enable shipping of LPG and offload it at Berbera in order to fill the storage tanks. This would enable storage tanks to be facilities for filling and re-filling pressurized small cylinders.
- ii) Government shall reduce the tax levied on the LPG imported.
- iii) Private sector to establish ways of importation of LPG in the quantities required through investing in this area.
- iv) Government shall undertake a feasibility study of LPG.
- v) Government and private sector to find alternative markets cheaper than Djibouti and should re-introduce trade links, including previously disrupted link with Yemen.

- vi) Private sector to improve on marketing techniques used and should seek tax exemption from Government.
- vii) Private sector to install LPG lines for new houses and widen the market through creating awareness to households and communities about the benefits for the use of LPG.
- viii) Government and private sector to establish and widen market for LPG through creating storage facilities within the urban and rural areas of Somaliland, especially through investing in providing fuel in locations convenient to consumers.

Strategies for coal

- i) Government to formulate laws pertaining to resource ownership before any venture capital is mobilized.
- ii) Government in collaboration with the private sector and communities to research on the size of coal deposits and their types in order to carry out costs and benefits analysis to understand full fledged exploration and exploitation.
- iii) Government and private sector to engage in activities that deal with coal exploitation at household level to reduce pressure from diminishing forests.

4.2.4 Cross cutting issues

- i) Government, private sector, NGOs, community groups to increase awareness on forestry management issues among communities, alternative fuels and efficient utilisation of range resources.
- ii) Government, private sector, NGOs, community groups to ensure that all activities that are planned, implemented and monitored take into consideration the needs, division of labour, decision making and share of benefits by females and males at household and institutional level.
- iii) Government should establish a sustainable wood fuel fund so that any potential taxation and revenue collection from legalised biomass resource utilisation can be channelled to create a more sustainable biomass energy sub-sector.
- iv) Government, private sector, NGOs, community groups to establish pilot projects in charcoal production areas to test and refine the regulatory framework, standards and certification process, which will in turn guide the creation of an appropriate policy.

5.0 INSTITUTIONAL AND REGULATORY FRAMEWORK

5.1 Introduction

The Energy Sector has been operating without a legal and regulatory framework. This Energy Policy provides a starting point from which the Government will provide legal guidelines on regulation of the energy sector as well as defining the roles of the different institutions.

5.2 Energy Regulation

The Energy Sector is operating within a liberalized world. However, the Somaliland economy is still a young economy in which open and competitive markets that are fundamental to achieving an efficient and sustainable energy sector are not yet operational. With an under-developed energy sector in the country, there is need to establish a regulatory scheme in order to set the stage for competitive energy markets. Unfair practices that are undertaken by the various players exist and should be abolished. Government intervention is therefore necessary to ensure protection of the consumers while encouraging financial viability of private investment as well as increased availability of information that support the promotion of competition in the energy sector.

The regulatory and institutional governance framework will include the following:

5.2.1 Licensing and regulation

The government shall establish, review, implement and regularly monitor regulations for the actors in petroleum and power sub-sector who are mainly private entrepreneurs by undertaking the following:

- Licensing of energy enterprises in the country. Rules and guidelines for licensing enterprises in each sub-sector will be developed.
- Vetting activities of the energy providers to enable them to meet basic requirements for the kind of energy trade being carried out.
- A mechanism to vet quality and safety standards of energy equipment and fuels imported into the country shall be established so that consumers interests are protected and to minimise the safety risks.
- Existing regulations in the environment sector, such as regulation on protection of forests and minimization of charcoal production and selling, will be included in the energy sector regulation.

5.2.2 Establishment of the Energy Commission

Government shall work towards setting up the Energy Commission. The roles and functions of this commission should be clearly defined by Government through written

rules passed by the Houses of Parliament arm of the country. The Energy Commission should function effectively through having units of operation within which economic and competition regulation are undertaken.

One of the Units of the Commission should address the Power sub-sector through setting up the Electricity Regulatory Authority. Within this sub-sector, there is need to have agreed upon set rules and procedures through which the sector operates. The power of this authority should be defined within the Act of Parliament that will establish the Commission. Its main function should be to regulate generation, transmission, distribution, sale, export, import and supply of electric energy. Such functions include issuing of licenses; prescribing license fees; advising on tariff structure as well as enforcing quality standards, performance and code of conduct.

Another unit should work on monitoring of the petroleum sub-sector in order to promote competition within and among the actors in the sub-sector.

The Energy Commission will also promote Energy Efficiency in production, supply and use of energy. Energy efficiency law will be established in the long run to guide industry and market structures.

5.3 Institutional issues

Serious policy and institutional deficiencies have persisted which have aggravated the structural weaknesses of the energy sector. Currently, there are no clear strategies to guide energy investment and planning nor coherent policies to put objectives and strategies into effect. There is no energy planning in the country. The existing legal and regulatory frameworks governing the petroleum, biomass and electricity sub-sectors are inadequate, and there is no specific law to regulate these sub-sectors.

The government does not have the necessary financial and staff resources to strengthen the institutions in the energy sector. Manpower shortages in the energy sector are more serious, given the sectors generally higher technical requirements.

Managerial and administrative inadequacies affect proper functioning of the sub-sector institutions at all levels, and particularly, limit their capabilities to devise and implement energy investment programmes.

The current policy making institutions in the energy sector often deal with a number of other matters besides energy, they tend to give secondary importance to energy matters. No institution is responsible for enhancing rural energy supply. There has also been no effective entity with the responsibility for renewable energy development, such as wind and solar energy development.

There has been poor coordination at the policy making as well as operational levels, with no energy lead institution in place, which has prevented a comprehensive approach to energy development from emerging. Sector-wide planning and policy analysis are just being initiated. There is thus, the need for creating the framework for systematic policy formulation and investment planning.

The Government recognises that institutional capacity development is needed if critical policy frameworks for the energy sub-sectors, including rural energy, are to be established. Capacity development can be understood as the process of creating, mobilising, utilising, enhancing and converting skills, institutions and contexts to achieve sustainable energy development.

The most critical constituencies for capacity development in this regard are:

- Government (the public sector, civil service, macro planners, energy policymakers, regulators and other representative officials).
- Private productive sectors (including the energy industry and producers of energy – using goods and services).
- Academia, Specialists, NGOs and Media.

The Government shall undertake the following policy strategies to address the institutional deficiencies mentioned.

5.3.1 Energy planning and policy coordination:

- The Government will work towards strengthening policy coordination and energy planning to evaluate future energy demand and options for demand management, establish realistic priorities amongst sub sectors (electricity, petroleum, biomass, renewable energy etc), and reconcile energy development objectives with sectoral and macro-economic constraints.
- Institutional Coordination: Creation of lead institution to accelerate the process of energy planning and coordination. It will be charged to assist in coordinating, planning and policy formulation at the energy sectoral level. This includes:
 - o Proposing intra-sectoral priorities and preparing investment plans for energy sector.
 - o Ensuring the consistency of energy policies with the sectoral and macro-economic objectives.
 - o Coordinating and monitoring sectoral activities.
 - o Undertaking research, collating energy data and preparing energy balances and energy projections.

5.3.2 Manpower Development and Training

The principle manpower issues in the energy sector concern inadequate professional competence at all levels, and the imbalance between various professional specialties. Therefore, manpower planning and development will be an integral part of the energy sector planning. The Government will therefore:

- Train energy specialists (technical engineers, economists, financial analysts, environmentalists and renewable energy specialists etc)
- Develop capacity of stakeholders in order to enable them to respond to and comply with the energy regulations.
- Actors in the enforcement components of the energy sector will need capacity building and increased resources that support a skilled team of personnel for effective implementation of the regulations.
- The country's education institutions are ill-equipped to prepare skilled personnel for energy related activities as their curricular do not account for the specific requirements of the energy sector. The Government will therefore work with the Education Ministry to develop curricular for the energy related studies to produce manpower for the country. A government training institute under the Ministry of Industry will be established focused on providing middle level technicians to support the sector.

6.0 IMPLEMENTATION PLAN

Energy policy goal: To meet energy needs of Somaliland in a sustainable, cost effective, and socially acceptable manner for social and economic development while minimizing the negative impacts of energy use.

ACTION PLAN FOR THE ENERGY POLICY: SHORT AND MEDIUM TERM POLICY PRIORITIES (0-10 YEARS)

PRIORITY POLICY ACTION	STRATEGIC INTERVENTION	REQUIRED FINANCIAL RESOURCES	FUNDS ALREADY COMMITTED	SOURCES OF FUNDING	TIMING	OTHER COMMENTS
1. Increase access to modern affordable and reliable energy services in ways that contributes to poverty eradication	Key outcome Increased generation and development of effective and efficient markets in the energy sector through:				2010 - 2015	
2. Enhance security of supply of all types of energy forms and services	i) Building capacity and skills of the energy service providers to work towards effective and efficient provision of energy ii) Promoting generation of energy from different renewable sources for purposes of energy development iii) Developing a strategic plan and investment guideline that supports a conducive environment for increased urban and rural energy supply and access				2010 - 2015	
					2010 - 2015	

PRIORITY POLICY ACTION	STRATEGIC INTERVENTION	REQUIRED FINANCIAL RESOURCES	FUNDS ALREADY COMMITTED	SOURCES OF FUNDING	TIMING	OTHER COMMENTS
3. Utilize energy as tool to accelerate socioeconomic development for largely urban and rural populations	<p>Key Outcome: Financing mechanisms developed, tested and replicated in order to enable energy service investors to increase on provision of environmentally friendly energy services that serve the different needs of population including among others:</p>				2010-2015	
4. Provide sustainable, cost-effective and various energy sources for all stakeholders in the country	<p>i) developing a financing mechanism that includes collaboration between public and private sector in order to enable energy service investors</p> <p>ii) provision of enabling environment and strategies for establishment & formulation of energy product loans through financial institutions</p> <p>iii) Promotion and encouragement of the private capital investment as well as management</p> <p>iv) Undertaking Information, Communication and Knowledge gathering as well as dissemination in ways that raise awareness of consumer on alternative energy sources in ways that enable affordability measures for increased energy access to be undertaken</p>				2011 - 2016	
					2010 - 2016	
					2010 - 2015	
					2010 - 2015	

PRIORITY POLICY ACTION	STRATEGIC INTERVENTION	REQUIRED FINANCIAL RESOURCES	FUNDS ALREADY COMMITTED	SOURCES OF FUNDING	TIMING	OTHER COMMENTS
5. Establish, maintain, continuously review and improve a legal and institutional framework for effective management and planning of energy services in the country	Key outcome: Management and planning of energy services improved through effective operational legal and institutional framework undertaken through:				2011 - 2015	
6. Establish and improve systems of energy governance and administration	i) Establishing and clarifying the roles and functions of the various institutions that are engaged in the energy sector and take into consideration the role of the private sector, NGOs, urban and rural communities				2010 - 2015	
	ii) Formulating and implementing a legal and regulatory framework for pricing and tariff structures to support energy investments in the country				2011 - 2016	
	iii) Formulating a legislative and regulatory framework that links Independent Power Producers to the official power network and ensure that there is compliance to the framework				2011 - 2016	
	iv) Formulating and implementing regulations for power generation that enables affordable costs of power for the energy users				2011 - 2016	

PRIORITY POLICY ACTION	STRATEGIC INTERVENTION	REQUIRED FINANCIAL RESOURCES	FUNDS ALREADY COMMITTED	SOURCES OF FUNDING	TIMING	OTHER COMMENTS
	v) Providing an enabling environment for the provision of energy services through removal of the various institutional, legal and capacity barriers.				2011 - 2016	
	vi) Promoting research and establishment of data base as well as information collection centre				2010 - continuous	
7. Promote strategies that encourage diversification and switching to alternative energy fuels that enable reduction of pressure from trees as source of fuel	Key Outcome: Diversified energy sector achieved and environmental management promoted through:				2011 - 2016	
8. Promote strategic actions on environmental management, energy efficiency and conservation as well as prudent health, safety standards and practices	i) Utilize fiscal policies that deal with designing appropriate incentive schemes to encourage energy suppliers to disseminate energy technologies to rural areas where they would have not been able to reach ii) In the short term, design measure to increase import of kerosene stoves while promoting local production of stoves in the medium term and introducing alternative energy fuels like LPG in the long term.				2011 - 2016	

PRIORITY POLICY ACTION	STRATEGIC INTERVENTION	REQUIRED FINANCIAL RESOURCES	FUNDS ALREADY COMMITTED	SOURCES OF FUNDING	TIMING	OTHER COMMENTS
	iii) Promote education and publicity campaigns that target women and the youth to increase awareness of advantages of modern energy like LPG.				2011 - 2016	
	iv) Formulate strategies that enable charcoal producers to have alternative or diversified sources of income in order to reduce pressure from trees				2011 - 2016	
	v) Provide tax holidays for at least the first 2 years to encourage private sector investment in modern energy technologies.				2011 - 2016	
	vi) Build capacity and promote environmental monitoring in the energy sector through various appropriate means including establishment of a unit within the ministry in charge of such a role.				2011 - 2016	
	vii) A government ministry or institution with mandate for environmental impact assessments, should formulate guidelines that developers apply in order to ensure that alternative energy sources are examined on the level to which they are not harmful to the users.				2011 - 2016	

PRIORITY POLICY ACTION	STRATEGIC INTERVENTION	REQUIRED FINANCIAL RESOURCES	FUNDS ALREADY COMMITTED	SOURCES OF FUNDING	TIMING	OTHER COMMENTS
9. Promote exploration and fast tracked development of indigenous energy resources especially coal for power generation and natural gas thought to be possible in the country's geological formations.	<p>Key outcome: Strategies and actions for development of indigenous energy resources formulated, implemented and sustained. This to be achieved through:</p> <p>i) Develop guidelines and facilitate acquisition of geological, geophysical, social and economic data for assessing the potential of indigenous energy resources, such as coal and natural gas</p> <p>ii) Facilitate effective ways of packaging and utilization of data in ways that promote investment in exploration and development of indigenous energy resources</p> <p>iii) Establish management systems, build capacity and maintain an efficient institution to provide technical and regulatory guidance as well as monitoring of exploration and development of indigenous energy resources, such as coal and natural gas</p>					

PRIORITY POLICY ACTION	STRATEGIC INTERVENTION	REQUIRED FINANCIAL RESOURCES	FUNDS ALREADY COMMITTED	SOURCES OF FUNDING	TIMING	OTHER COMMENTS
10. Continuously review and establish institutions to manage energy sector in terms of energy planning, trade and investment, licensing, regulation and energy management	<p>Key Outcome Establish Institutions to run the energy sector</p> <p>i) Setting up the Energy Commission, whose roles and functions to be clearly defined through an ACT of parliament. The Energy Commission should function effectively through having units of operation within which economic and competition regulation are undertaken</p> <p>ii) Creation of lead institution to accelerate the process of energy planning and coordination. This will Strengthen evaluation of current and future energy demand and options for demand management, establish realistic priorities amongst sub sectors (electricity, petroleum, biomass, renewable energy etc), and reconcile energy development objectives with sectoral and macro-economic constraints.</p> <p>iii) Manpower development and training in both public and private sector</p> <p>iv) Develop energy curricular in schools, colleges and university, and establish a training institute within the ministry to train middle level technicians for the energy sector</p>				2011 - 2016	



REPUBLIC OF SOMALILAND
Ministry of Mining, Energy and Water Resources