



Samoa Energy Sector Plan 2017 - 2022



***"Sustainable and affordable energy supply
for all"***

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the
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Acknowledgements

The development of this Energy Sector Plan is a collaborative effort of various energy stakeholders (NECC) through constructive consultations. We also appreciate valuable contributions from relevant Government Ministries and Corporations, Private Sectors, NGO's and members of the communities.

We would also like to acknowledge the assistance of Mr. Ravinesh Nand, the Technical Advisor- EU-GIZ ACSE Program and the Sector Programming Unit - Economic Policy and Planning Division, Ministry of Finance in guiding the Energy Policy Coordination and Management Division with the formulation of this sector plan.

We sincerely appreciate the financial support by The European Union and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH under the EU-GIZ ACSE project that has made the consultations and the printing of this document possible.

Lastly, the support of the Management of the Ministry of Finance is greatly appreciated.

Foreword



It is with pleasure as the Chairman of the National Energy Coordinating Committee (NECC) to present the second Energy Sector Plan for 2017-2022. This plan reflects the progress and achievements made in the energy sector since 2012, and outline the priorities for the next five-year period.

Energy is a critical lifeline in any economy. "If energy fails, all fails". It is a fundamental need and resource for sustaining and strengthening our social and economic development. It is our responsibility therefore to effectively plan and manage the use of our energy resources through sustainable energy use and consumption as well as investing in cleaner, greener and renewable energy sources for a healthier environment. Improving energy efficiency is a high priority in achieving a sustainable energy future with reductions in greenhouse gas emissions (GHG).

The *Samoa Energy Sector Plan 2017-2022* will guide the development of the sector over the next five years. Energy directly impacts the quality of life for all Samoans. The overall theme for the energy sector is therefore **"Sustainable and Affordable Energy for All"**.

This theme is consistent with the theme of the SDS 2016/17-2019/20 "Accelerating Sustainable Development and Broadening Opportunities for All" and will contribute to the development of Samoa's Sustainable Development Goal 7: **Ensuring Access to Affordable, Reliable, Sustainable and Modern Energy for All** and the SAMOA Pathway.

We will work collaboratively with our key development partners, the private sector and civil society to identify and address energy use challenges in a whole of Government coordinated manner.

We acknowledge with appreciation the contribution of our development partners in providing technical and financial support to achieve our sector priorities.

We acknowledge the contributions of all stakeholders who have worked with our sector agencies in the preparation of the Samoa Energy Sector Plan 2017-2022. Your invaluable contributions and constructive engagements have been instrumental in making this Sector Policy Plan a truly national document.

A handwritten signature in blue ink, appearing to read 'Sili Epa Tuioti'. The signature is stylized and fluid.

Hon. Sili Epa Tuioti
Minister of Finance

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List of Acronyms

AGO	:	Attorney General's Office
CDM	:	Clean Development Mechanisms
CEO	:	Chief Executive Officer
EE	:	Energy Efficiency
EPC	:	Electric Power Corporation
EPCMD	:	Energy Policy Coordination and Management Division
EPPD	:	Economic Policy and Planning Division
ESPO	:	End of Sector Plan Outcomes
GHG	:	Greenhouse Gas
HSSE	:	Health, Safety, Security and Environment
INDC	:	Intended Nationally Determined Contribution
IPPs	:	Independent Power Produces
Ktoe	:	Kilo-tonnes of Oil Equivalent
LPG	:	Liquefied Petroleum Gas
LTA	:	Land Transport Authority
MAF	:	Ministry of Agriculture and Fisheries
MCIL	:	Ministry of Commerce, Industry and Labour
MEPS	:	Minimum Energy Performance Standards
MfR	:	Ministry for Revenue
MNRE	:	Ministry of Natural Resources and Environment
MOF	:	Ministry of Finance
MTEF	:	Medium Term Expenditure Framework
MWCSD	:	Ministry of Women, Community and Social Development
MWTI	:	Ministry of Works, Transport and Infrastructure
NAMA	:	Nationally Appropriate Mitigation Action
NDC	:	Nationally Determined Contribution
NECC	:	National Energy Coordination Committee
NGOs	:	Non-Government Organizations
NISP	:	National Infrastructure Strategic Plan
OOTR	:	Office Of The Regulator
OPEC	:	Organization of the Petroleum Exporting Countries
PALS	:	Pacific Appliance and Labelling Standards
PESP	:	Power Sector Expansion Project
PPA	:	Power Purchase Agreement
PPS	:	Petroleum Products Supplies Ltd
PTF	:	Petroleum Task Force
RE	:	Renewable Energy
RETs	:	Renewable Energy Technologies
SAMOA	:	Small Island Developing States Accelerated Modality of Action
SDGs	:	Sustainable Development Goals
SDS	:	Strategy for the Development of Samoa
SERR	:	Samoa Energy Review Report
SESP	:	Samoa Energy Sector Plan
SIDS	:	Small Island Developing States
SPC	:	Secretariat of the Pacific
SROS	:	Scientific Research Organisation of Samoa
STEC	:	Samoa Trust Estates Corporation
TFES	:	Total Final Energy Supply
UNFCC	:	United Nations Framework Convention on Climate Change

EXECUTIVE SUMMARY

The energy sector is very important to Samoa and plays a vital role in the four priority areas identified by the Government as: - Economic, Social, Infrastructural and Environmental.

Fossil fuel price volatility and supply issues is one of the factors that affects the economy of Samoa. The 2nd Samoa Energy Sector Plan (SESP) 2017-2022 provides the framework which will guide our programs and the actions required by all stakeholders in order to achieve the sector vision of *“Access to Quality Energy Supply for All Improved”*. This plan will strengthen government partnerships with the private sector, Non-Governmental Organizations (NGOs), development partners and the communities to promote and achieve its theme of *“Sustainable and Affordable Energy for All”*.

The SESP will deliver outcomes consistent with the overarching Strategy for the Development of Samoa (SDS) 2016/17-2019/20. The SDS 2016/17-2019/20 vision is *“Improved Quality of Life for All”* supported by the theme *“Accelerating Sustainable Development and Broadening Opportunities for All”*.

All of the national outcomes are influenced by the availability, accessibility, affordability, stability, sustainability, safety and environmental impacts of the different uses of energy. The SESP 2017-2022 also links to the Sustainable Development Goal 7 which is *“Affordable and Clean Energy”*. This goal focuses to ensure access to affordable, reliable, sustainable and modern energy for all.

The total demand for energy has increased substantially over the past years mainly driven by increase in demand for fossil fuel for the transport and electricity sector. Efforts have been made to ensure the availability, accessibility, affordability, sustainability and safety of the energy sector through the promotion of renewable energy, energy efficiency and conservation. Therefore the energy consumption in 2015 has decline to 108.3 kilo-tonnes of oil equivalent (ktoe) from 123.5ktoe in 2014.

Energy review reports are published annually, which provides an overview of Samoa’s energy sector including indigenous energy sources. The purpose of these reports is to provide the Government of Samoa, Development Partners, Private Sector, Non Government Organisations and the communities with a better understanding of the energy sector. It is crucial that the data that is used for the development of these reports are accurate and provided in a timely manner.

The SESP 2017-2022 has identified the main areas for the energy sector and categorised into 5 sections or *End of Sector Plan Outcomes (ESPO)* because of their distinctive characteristics. In addition, a number of strategies have been formulated for achieving these outcomes:

- **End of Sector Plan Outcome 1: Renewable Energy Increased.** The Renewable Energy sub sector focuses on how to successfully reduce the dependency on fossil fuel and promote the use of renewable energy.

- **End of Sector Plan Outcome 2: *Electricity Services Improved.*** The Electricity sub sector will focus on the supply of electricity from fossil fuel and alternative renewable energy sources that have been proven feasible. This will include the generation and distribution of electricity.
- **End of Sector Plan Outcome 3: *Energy Efficient Transport Sector.*** The Transport sub sector focus on ensuring that the transport sector adheres to legislations and acts that are governing the sector. Promoting energy efficiency and considering other alternative fuels to power transportation and to ensure it is environmentally friendly.
- **End of Sector Plan Outcome 4: *Management of Petroleum Products improved.*** The Petroleum sub sector will look into the effective and efficient monitoring of the petroleum products, and to ensure that the distribution, storage and disposal of petroleum products adheres to legislations and required standards.
- **End of Sector Plan Outcome 5: *Coordination of Energy Sector Improved.*** This section on the Institutional setting and governance framework focuses on good governance, leadership and coordination across the whole energy sector.

This plan also considers the importance of cross-cutting issues that relates to each of the sub-sectors such as:

1. Climate Change & Resilience;
2. Vulnerable groups;
3. Human and Institutional Capacity;
4. Promotion and Dissemination of Information;
5. Energy Efficiency across the sector; and
6. Gender Equity.

For the Samoa Energy Sector Plan period of five years (2017-2022), the intermediate outcomes and immediate ‘end of SP’ outcomes for the whole sector are set out in the participatory outcomes mapping matrix attached as Annex 1.

I. ENERGY SECTOR POLICY FRAMEWORK 2017 - 2022

The vision for the Energy Sector is from the SDS 2016/17-2019/20 with a guiding theme:

Vision : *“Access to Quality Energy Supply for All Improved”*.

and

Theme : *“Sustainable and Affordable Energy for All”*.

The Long Term Outcomes outlined within the SDS are as follows:

1. *Renewable energy investment and generation increased;*
2. *Electricity supply access and reliability improved;*
3. *Road transport energy efficiency policy planning improved;*
4. *Petroleum supply, management and safety improved;*
5. *Climate and Disaster resilience management integrated into energy planning and implementation.*

The five (5) End of Sector Plan Outcomes that has been identified and are targeted to be achieved within the timeframe of the energy sector plan 2017-2022 are:

1. *Renewable Energy Increased;*
2. *Electricity Services Improved;*
3. *Energy Efficient Transport Sector;*
4. *Management of Petroleum Products Enhanced;*
5. *Coordination of Energy Sector Improved.*

This energy sector plan is set for a period of five years from 2017- 2022 and it includes the end of sector outcomes, intermediate outcomes, immediate end of sector outcomes and measureable indicators for annual sector reviews that are linked to the budget process. The SESP 2017-2022 will be coordinated and monitored by the Energy Policy Coordination and Management Division (EPCMD) within the Ministry of Finance, while the implementation will be a collaborated responsibility of the EPCMD and all the energy stakeholders. In addition, the sector oversight will be the National Energy Coordination Committee (NECC).

II. INTRODUCTION

Background

The overall Samoan economy has grown and expanded over the past two decades and along with this the demand for energy in its various forms and energy services has also grown. Preference for electricity and fossil fuelled equipment has risen indicating a gradual shift from traditional energy sources such as biomass to more convenient sources like fossil fuel and gas. The increase and diversity in energy demand together with the high associated costs highlights the need for a comprehensive framework to guide and manage the growing energy sector in Samoa.

The estimated energy generated from primary sources in Samoa in 2015 was estimated around 108.3 kilo-tonnes of oil equivalent. Of these generated energy 14% was met by biomass, 83% by petroleum products and 3% from renewable.¹ In contrast, a 12% reduction of energy generated and consumed in 2015 is noticeable when compared to 2014 which recorded about 123.5 kilo-tonnes of oil equivalent energy generated. Fossil fuel continues to dominate the demand and supply side of the energy sector and this is mainly due to the consumption for the electricity and transport sub-sectors.

The Energy Sector is one of the fourteen key sectors of the Samoa economy and it is a prominent outcome under the priority area of Infrastructure. This also links to the Sustainable Development Goals (SDGs) and the Small Island Developing States Accelerated Modality of Action (SAMOA) Pathway adopted in Samoa by the Small Island Developing States (SIDS) in 2014. Energy directly impacts the quality of life for all and the overall productivity of Samoa economically, socially, infrastructural and environmentally.

As one of the important infrastructure sectors, the energy sector is required to ensure that the *“Access to Quality Energy Supply for All Improved”* will contribute to the overall growth of the economy. The Energy sector theme of *“Sustainable and Affordable Energy for All”* will contribute significantly to achieving the overarching theme of the SDS 2016/17-2019/20, - *“Accelerating Sustainable Development and Broadening Opportunities for All”* through harnessing a strong development consensus with all the other sectors within the economy.

The 2nd Energy Sector Plan outlines the strategic direction, the longer term outcomes, end of sector plan outcomes, intermediate outcomes and immediate end of sector plan outcomes that the energy sector in collaboration with all its stakeholders is determined to achieve within the period 2017-2022 and is closely linked to the priority areas of the SDS 2016/17-2019/20.

Priority Area 1: Economic

Key Outcome 1: Macroeconomic Resilience Increased and Sustained

¹ Samoa Energy Review Report (SERR) 2015; EPCMD, Ministry of Finance

Key Outcome 2: Agriculture and Fisheries Productivity Increased
Key Outcome 3: Export Products Increased
Key Outcome 4: Tourism Development and Performance Improved
Key Outcome 5: Participation of Private Sector Development Enhanced

Priority Area 2: Social

Key Outcome 6: A Healthy Samoa and Well Being Promoted
Key Outcome 7: Quality Education and Training Improved
Key Outcome 8: Social Institutions Strengthened

Priority Area 3: Infrastructure

Key Outcome 9: Access to Clean Water and Sanitation Sustained
Key Outcome 10: Transport Systems and Networks Improved
Key Outcome 11: Improved and Affordable Country Wide ICT Connectivity
Key Outcome 12: Quality Energy Supply

Priority Area 4: Environment

Key Outcome 13: Environmental Resilience Improved
Key Outcome 14: Climate and Disaster Resilience Increased

The energy sector's contribution to the SDS is noted largely under the key outcome 12; however energy also has important linkages and contributions to all key outcomes but particularly to the macroeconomic resilience, participation of private sector, quality education and training, transport systems and networks, environmental resilience and climate and disaster resilience.

Cross-Cutting Issues

The important cross-cutting issues considered when formulating policy for each Sub-sector are:

- a. Climate change & Disaster Resilience;*
- b. Vulnerable Groups;*
- c. Human and Institutional Capacity;*
- d. Promotion and Dissemination of Information;*
- e. Energy Efficiency across the sector;*
- f. Gender Equity.*

These are addressed where appropriate throughout this Plan. This section explains each of the cross-cutting issues in greater detail.

a. Climate Change and Disaster Resilience

Samoa's energy sector continues to face multiple risks from climate change through the increasing threats of severe weather-related disasters, such as cyclones, floods, droughts, landslides; and other natural hazards such as earthquakes and tsunamis. Climate change and variability intensifies the vulnerability of the energy sector and the challenge to make energy sector resilient increases. In the past years, events such as cyclones have affected the production of energy, damaged energy infrastructure, energy assets, and significantly destabilized the uninterrupted supply of energy throughout the country. These unforeseen interruptions have been proven costly for the sector. Therefore, in order to counter these potential impacts emergency attentiveness and response strategies are considered necessary to sustain and ensure energy infrastructure in operation.

The energy sector must ensure that all climate change and disaster impacts are appropriately addressed and integrated into all the necessary areas of the sector. To build, encourage and enforce greater resilience, investing into development planning including policy making, financing, programming and implementation is required. The need to address issues pertaining to the technological practicality as well as procuring and using of enhanced technologies are also a priority of the sector. In this manner, it will also assist the sector's aptitude to cost effectively meet the rising energy demands as well as seeking any solutions and benefits for the aforementioned issues.

Reliable, affordable and uninterrupted power and fuel supply is a crucial factor to developments of the energy sector. Building resilience towards climate change and disaster impacts requires all sub sectors and all energy stakeholders to invest into efforts that integrates specific responses and various approaches. These approaches include risk assessment, technological solutions and emergency preparedness measures. Other approaches such as raise awareness within communities carry out climate risk assessments, prevention and management: risk prevention, emergency preparedness, and insuring energy assets are all core activities and measures of creating a strong resilience energy sector.

For Samoa, the energy sector has made efforts to ensure that climate change and disaster risk management is incorporated in all sub sectors. This has been carried out vigorously by the implementation of climate resilience projects across all key sub sectors through the mainstreaming of adaptive measures across frameworks, policies and management approaches entails coordination across policy areas, the engagement of non-governmental organizations and the private sector, as well as mobilization of technical knowledge. For instance, the one of the Transport sectors' key goal's in its sector plan from 2014- 2018 focuses on Improving, sustaining of climate proof road transport network.

b. Vulnerable Groups

The rising cost of energy bills is particularly hard for vulnerable groups or low-income households, who may, depending on their individual circumstances, get into debt trying to meet their energy needs. For that reason, efforts to promote energy efficiency and conservation appliances (which are usually more costly compared to inefficient appliances) are undermined.

On the other hand, the energy sector aims to achieve energy sustainability and security through enhancing its renewable energy efforts which will lead to more affordable prices.

c. Human and Institutional Capacity

Human and institutional capacity building remains a vital part of further developing and strengthening the energy sector in Samoa. Capacity building in general refers to the strengthening of the capability of key personnel and agencies within the sector to generate effective and efficient use of resources, to ensure sector goals are accomplished at a reasonable cost on a sustainable basis. In addition, the need for capacity building focuses on improving existing or obtaining of new skills through training or any other capacity building activity, in order to improve an existing, or establish a new function within the sector. It consists of but not limited to best practices, adaptive measures, sharing of information, training on risk assessments, resilience enhancing measures as well as training for fast emergency response and recovery, data management training and forecasting.

Improving and sustaining human resource and institutional capacity within the sector through conducting training needs assessments, skills upgrade through training programs in the local university and offshore institutions as well as the inclusion of energy education within schools are the core focus of the institutional support of the sector. In this way, investing in capacity building needs also enhance performance of power sector stakeholders internally and their external interaction with other players in the sector which will further increase resilience and improve sector performance. However, there is also an increasing need for financial and technical assistance from international parties and donors in order to execute the abovementioned goals.

Thus in strengthening resilience within the energy sector, special attention is needed for capacity building especially in terms of technical assistance to promote energy efficiency and respond to emergent opportunities. Responsible ministries for each of the sub-sectors are accountable for identifying any resource and capacity building requirements and looking to determine solutions to these. The Energy Policy Coordination and Management Division, as the Energy Sector coordinator, should also be well informed and where appropriate may be able to facilitate the allocating of resources transversely government and possibly with the private sector. Throughout this plan, there are specific areas in which training needs are addressed in order to identify the appropriate trainings for each sub sector for energy.

d. Promotion and Dissemination of Information

One of the most difficult challenges that the energy sector faces is the sharing of information as well as the timely submission of data from respective stakeholders. The lack of cooperation from the respective stakeholders has caused delays in producing and releasing reports such as the Annual Energy Review which provides information that helps the sector improve its performance as well as providing the public with an annual report of energy data. Usually, despite frequent follow ups, stakeholders do not share data by the set timelines.

The energy sector shall reinforce the development and dissemination of all relevant information related to all subsectors of the energy sector in order to help the forecasting needs of the sector as well as strengthening its resilient measures and activities. This information include promoting public awareness of energy efficiency and conservation, information on vehicle and appliance energy consumption ratings, promoting energy audits and demonstrating ways to minimize electricity usage. All subsectors should work together to improve the coordination of transport, petroleum and electricity data collection which will also contribute greatly to public awareness and improve information on energy efficiency, demand and supply for dissemination. It is recommended that all relevant steering committees as well as working groups already in place within the sector must encourage the sharing of relevant information to further develop the sector's performance and improve channels of communication.

e. Promoting Energy Efficiency Across the Sector

With regards to incentivizing the implementation of energy efficient and energy saving practices, the Samoa Energy Sector through its implementing agencies have been developing EE initiatives, practices and proposed measures over the past years. These measures have been undertaken effectively to increase the level of integration of EE practices as well as its consequential benefits.

f. Gender Equity

Gender equality generally refers to enabling the creation of equal opportunities for women and men to ensure that they are able to contribute on an even balance economically, politically, socially and culturally. In this case both men and women are not being prevented from reaching their full potential because of their gender and puts equal value on the varying roles played by women and men in society. Thus, integrating gender equality in Samoa's energy sector is also critical to the growth of the sector.

Energy is a vital contribution in the daily lives of women, who need energy for their household tasks, such as cooking; for productive uses, to contribute to household income; and for rural industry uses, such as food processing. It must also be stressed that integrating gender equality is not just about adding women to be a part of energy development projects. In general, women's and men's needs and priorities for energy and access to energy resources often differ based on their roles and responsibilities in societies. Therefore, affordable, accessible, reliable and sustainable modern energy services can considerably diminish gender-based labor burdens as well as improving the health conditions and expanding opportunities for energy projects and capacity-building in communities.

Purpose of this Plan

This plan supersedes the Samoa Energy Sector Plan (SESP) 2012-2016. It provides the strategic direction and it indicates the priority areas that the energy sector will focus on achieving in the next five year cycle (2017 – 2022). This plan provides the framework which will guide the coherent coordination, management and implementation across the sector wide to achieve affordable energy for all. Furthermore, the aim of this plan is to strengthen government collaboration and partnership with all stakeholders, Private Sector, NGO's, Development Partners and the communities to create equal opportunities for all. The successful implementation of this plan will contribute in achieving the national vision of “An improved quality of life for all”, while this will also be an advantage for Samoa for accomplishments against the global SDGs and SAMOA pathway.

Plan Development Process

The SESP has been developed by the MOF (EPCMD) as the sector coordinator and lead agency for the energy sector. The development of this plan was guided by the 2015 Sector Planning Manual for Samoa², and has been compiled through a participatory approach and sector wide consultations with various stakeholders. Initial consultations were conducted with our sector agencies and stakeholders to review the SESP 2012-2016 and to formulate the participatory outcomes mapping for the 2nd SESP 2017-2022 in June, 2017 followed by public consultations conducted in both Upolu and Savaii in July, 2017. The list of stakeholders consulted is attached as Annex 3.

² Sector Planning Manual for Samoa, 2015. Economic & Policy Planning Division (EPPD), Ministry of Finance

III. ENERGY SECTOR REVIEW

Energy and the Economy

The SDS 2016/17-2019/20 details the Government's commitment to be successful in improving the quality of life for all with its theme "Accelerating Sustainable Development and Broadening Opportunities for All".

All the priority areas are influenced directly or indirectly by the availability, affordability, accessibility, sustainability, safety and environmental impacts of energy. Over the years, the economy is continuing to grow steadily and improving from the previous worldwide uncertainties that also affected the economy of Samoa. Economic activities have continued to grow and it was recorded that the real GDP increased to 3.1%.³

Overview of Samoa's Energy Sector

The latest data collected is for the year 2015 and the data collection for 2016 is currently ongoing. This has been one of the main challenges faced by the sector coordinating unit, collecting the data on a timely basis and ensuring its accuracy is very important. Hence the review is based from the 2015 report as this is the latest report available. The Samoa Energy Review Report (SERR) 2015⁴, recorded the estimated energy generated from primary sources was around 108.3 ktoe. Of these, it was estimated that 14% of the energy generated was from biomass, 83% by petroleum products and the remaining 3% from renewable energy sources. It was also recorded that 22% of the total primary energy supplied was transformed into electricity generation.

By end use sector, the transport and residential sector accounted for 53% and 14% respectively of the total net energy supplied. The transport sector is predominantly supplied by imported petroleum products, whilst the residential sector are mainly met by biomass which is estimated to account for 99.5% of total energy sources consumed in the residential sector. The commercial, industrial and government sectors combined account for 5.8% of total net energy supplied to the end use sector, of which imported petroleum products and electricity meets 93% of their energy needs. The remaining sectors which include the community, agriculture, fishing sector and others accounted for 4.8% of total end use consumption.

³ Quarterly Economic Overview, 2nd Quarter (Oct-Dec 2016/17). EPPD, Ministry of Finance

⁴ Samoa Energy Review Report 2015. EPCMD, Ministry of Finance

The contribution from new renewable energy fluctuated up and down since 2000 as show in the figures 1 and 2 ⁵below. This contribution from RE to the overall energy supply mix for Samoa has slowly been increasing since 2000.

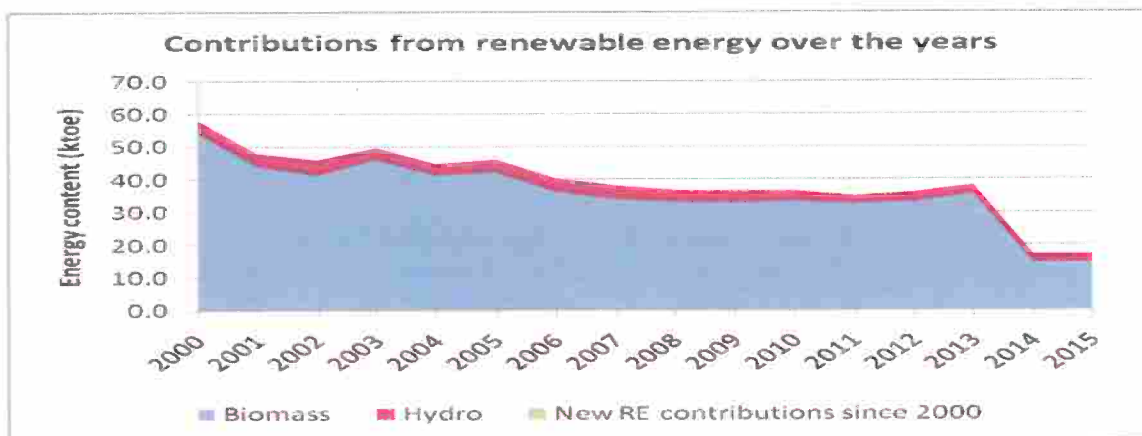


Figure 1: Contribution of RE 2000-2015

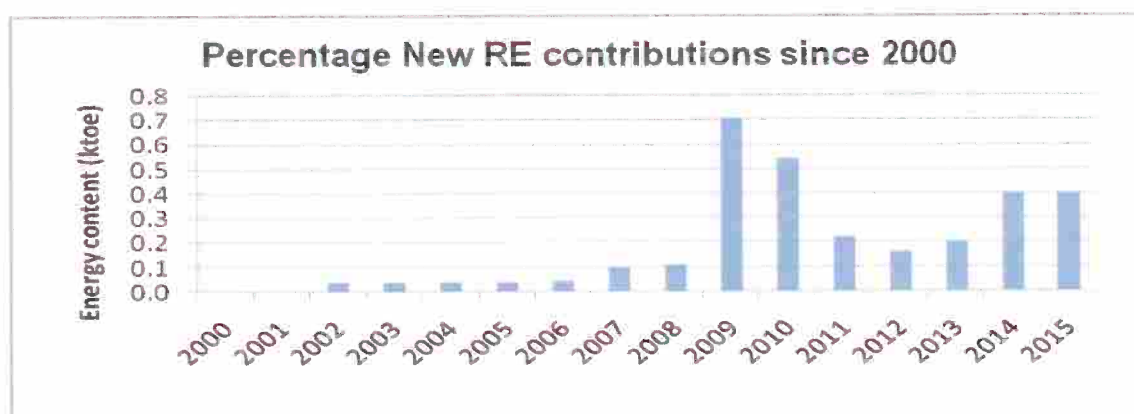


Figure 2: Percentage of New RE contribution since 2000

Noting the trends in the RE contributions, there was a reduction in the biomass consumption of about 68% from 2000 to 2015. This was mainly attributed to the reduction in contribution from the agriculture sector (copra and cocoa industry) and forestry sector. The significant drop in biomass usage by households demonstrates the preference to utilize other cooking sources such as kerosene, LPG and electricity. Contribution from hydro power to the overall energy production in Samoa fluctuated between 3.8 to 4.9 kTOE from 2000 to 2009. From 2010 to 2015 hydro generation was at the range of 3.4 to 2.6kTOE and 2011 recorded the lowest generation. There were slight increases in 2012 and 2013, a reduction to 2.79 kTOE in 2014 and then remained constant in 2015.

Key Findings of the Review of the SESP 2012-2016

The Samoa Energy Sector Plan 2012-2016 reflected an innovative approach used to guide the energy sector from policy formulation to the implementation of required and relevant activities to

⁵ Figures 1&2: Source - SERR 2015; EPCMD, Ministry of Finance

achieve the overall vision of “Sustainable Energy” and theme of “Sustainable Energy Supply-towards Energy Self Sufficiency”. The sector plan was also a change from a centric focus to a sector wide approach which clearly sets out the sector targets, activities and the roles and responsibilities of the respective stakeholders that will contribute in achieving the overall goal of the sector which was “To reduce the growth rate in the volume of imported fossil fuels by 10% by 2016”.

The SESP 2012-2016 was divided into four key policy areas under the following key outcomes:

1. Institutional Framework- efficient and effective coordination and management of the Energy Sector;
2. Transport – efficient, sustainable, safe and cost effective energy use in the transport sector;
3. Electricity- efficient, reliable, safe, affordable and sustainable electricity services;
4. Heating and cooking – efficient, reliable, affordable and sustainable hear source supply.

A Logical Framework was developed which identified the strategies and activities for each sub-sector and a monitoring and evaluation plan was also in place to monitor the implementation of the plan. Annual reviews were conducted collaboratively with the sector’s partners and stakeholders. The review reports compiled included comprehensively looking at the performance of the sector in accordance with its performance framework outlined in the plan and updated on major achievements and more importantly identifying and addressing key issues within sector. From the review, table 1 summarises the achievement status in relation to expected outcomes for each subsector:-

Table 1: Summary on Achievement status as per Expected Outcomes

Sub sector Groups	Total Outcomes	Achieved (%)	
		2014 - 2015	2015 -2016
Institutional Support	11	10/11 (91%)	10/11 (90%)
Transport	7	4/7 (57%)	5/7 (71%)
Electricity	6	6/6 (100%)	6/6 (100%)
Heating and cooking	2	1.5/2 (75%)	1.5/2 (75%)

As stated by the end of the Term Energy Sector Plan status report ⁶2014-2015 & 2015-2016, since the establishment of the EPCMD, there has been a tremendous improvement in the coordination of sector stakeholders’ engagements and communications, sectorial information management and efficient reporting systems. Better coordination of activities and effective institutional support has been manifested through the use of a sector-based approach for energy with better established communications and relationships with other sectors.

⁶ End of the Term Energy Sector Plan status report 2014-2015 & 2015-2016;EPCMD, Ministry of Finance

The overall performance of the key subsectors in relations to their expected outcomes have been good although there is room for improvement. Problematic factors in relations to performance gaps in the sector have been identified for pragmatic resolutions in the future.

In terms of the SESP 2012-2016 overall sector goal/objective of “To reduce the growth rate in the volume of imported fossil fuels by 10% by 2016” and where we are now. RE contribution for the whole of Samoa as recorded in the SERR 2015, since 2000 it has increased to 3.3%. The import volumes of fossil fuel as shown in table 2, shows an increase from 2012-2013, a decline in 2014 and then increased again in 2015 to 2016.

Table 2: Import Volumes for Fossil Fuel 2012-2016

Year	Million Litres
2012	89.01
2013	92.84
2014	90.93
2015	101.16
2016	102.95

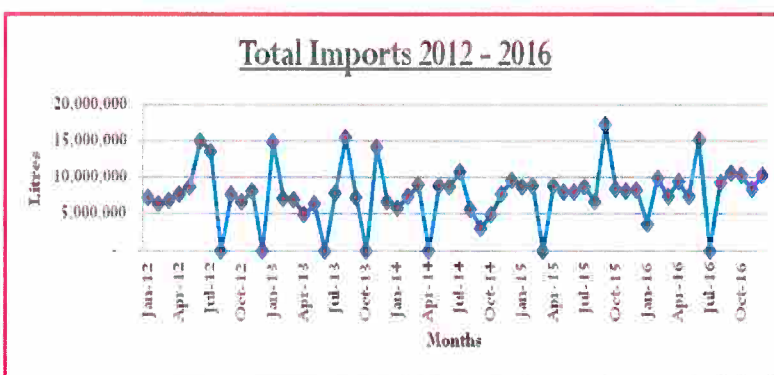


Figure 3: Total Imports 2012-2016

Table 2 and figure 3 show the increase in imported fossil fuel from 2012 to 2016, a percentage increase of 13.5% indicating that the overall objective was not achieved. In the review of the petroleum sub sector the total fuel consumption was 98.8 million litres of which 68% is attributed to the transport sector, while 23% is the electricity sector⁷.

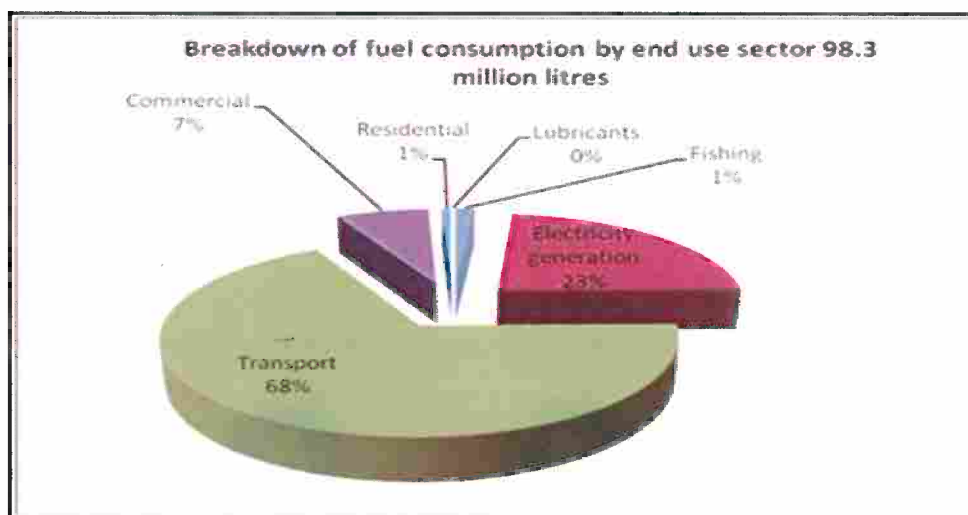


Figure 4: Breakdown of Fuel Consumption

⁷ Table 2 & Figures 3& 4: Source - SERR 2015; EPCMD, Ministry of Finance

Review of the Transport Sub-Sector

⁸For the transport sector, fuel consumption increased by 13% in 2015. This amounted to 68.5million litres and reflects an increase in the consumption for sea and road transport. The total number of registered vehicles with LTA increased from 22,204 in 2014 to 22,868 in 2015. Although there were no further RE developments in the transport sector, the Scientific Research Organisation of Samoa (SROS) is continuing to explore other alternative fuels.

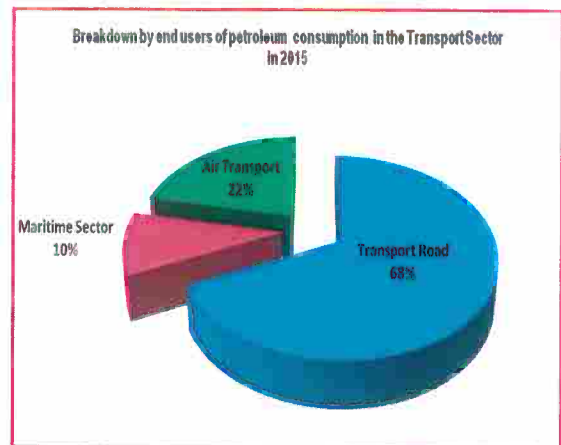


Figure 5: Petroleum Consumption by Transport Sub sectors

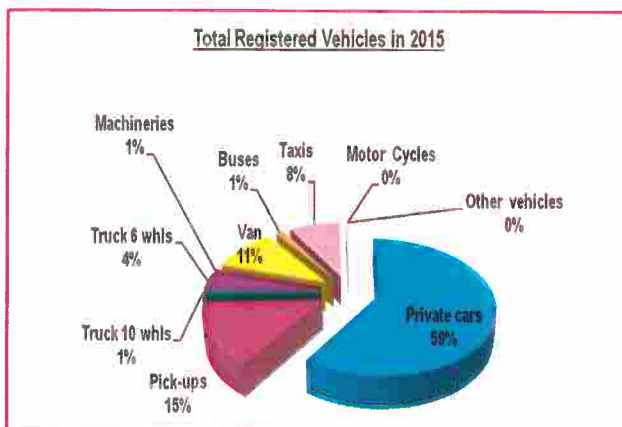


Figure 6: Total Registered Vehicles -2015

Review of the Electricity Sub-Sector

The total electricity generation increased by 6% in 2015. Diesel accounted for 69.5% of the total electricity generated which is a reduction from 77.3% in 2014. Hydro produced about 24.2% in 2015, an increase of 17% from 2014. The total renewable energy generation was 30.45% in 2015.

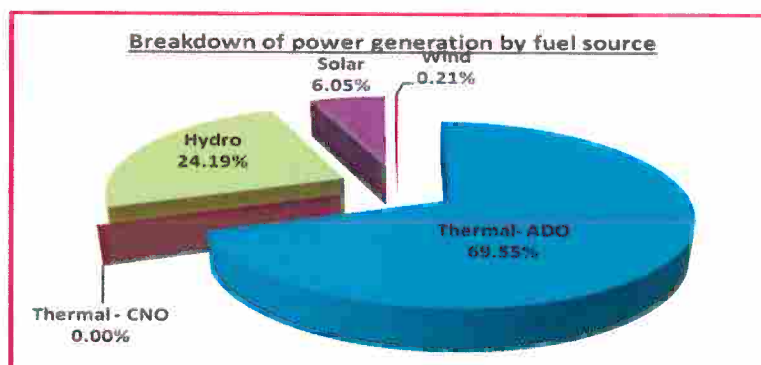


Figure 7: Electricity Generation by Sources

⁸ Figures 5-7 : Source SERR 2015; EPCMD, Ministry of Finance

The overall energy balance is the total final energy supplied equal to the total final energy consumption. Table 3 below shows the total final energy Supply in Samoa from the year 2012 to 2015.

Table 3: Total Energy Supply in Samoa (kTOE) 2012-2015⁹

		Total energy consumption by sector			
		2012	2013	2014	2015
Biomass	Commercial Sector	0.19	1.30	4.30	0.06
	Residential sector	32.83	35.40	36.81	14.30
Petroleum	Electricity Generation	18.08	18.92	17.47	21.05
	Transport	51.46	51.69	50.82	57.20
	Commercial Sector	7.10	5.36	7.77	6.31
	Residential Sector	1.30	0.01	1.40	0.62
	Fishing	1.10	1.36	1.29	1.28
Electricity	Hydropower	3.23	3.80	3.43	2.79
	CNO Bio-fuel	0.00	0.20	0.14	0.00
	Solar & Wind				0.72
Other Renewables	Solar and Biofuel	0.06	0.06	0.07	0.07
Total		115.34	116.2	123.5	104.4
	Lubricants & Grease	1.86	1.9	0.0	3.9
Total Final Energy Supply		117.20	118.1	123.5	108.3

Constraints and Challenges

The limitations of legislations and regulations to enforce and strengthen the energy sector plan was one of the main challenges. Another challenge was the mainstreaming of energy key outcomes and strategies to be aligned with other sectors and activities and vice versa. The most important challenge is the collection of data in a timely manner and its accuracy is crucial. Data is very important to provide analysis in which will assist the decision makers to make informed decisions, hence the importance of the collaboration of all data providers. The new SESP 2017-2022 will identify and address the gaps and issues that have been raised during the review of the 2012-2016 energy sector plan.

⁹ Table 3 : Source - EPCMD, Ministry of Finance

IV. THE SAMOA ENERGY SECTOR PLAN 2017 – 2022 : *End of Sector Plan Outcomes;*

1. Renewable Energy

Longer Term Outcome: Renewable Energy (RE) investment and generation increased;

End of Sector Plan Outcome: RE increased.

1.1 Status

The share of renewable energy of the total energy mix remains quite low although the contribution of renewable energy to the Total Final Energy Supply (TFES) has steadily increased to 3.6% in 2015. The contribution from renewable energy sources, particular solar is expected to have increased further as a number of grid-connected photovoltaic projects were commissioned in 2016. The Electric Power Corporation (EPC) is effectively generating electricity from hydro, solar energy and wind through enhancing partnerships with the private sector which has seen increasing private sector investment in renewable energy projects.



Figure 8: Hydro, Solar Farm – Faleata Racecourse & Vailoa-Aleipata Wind Farm ¹⁰

Of the primary energy supply, the greatest contribution is from Biomass (13%), used mainly as a cooking fuel for households in rural areas. For electricity generation, whilst the contribution from hydro on average basically remained the same over the last 5 years at around 2.6 %, contributions from solar and wind combined contribution is about 1 %.

EPC maintains a database of on-going renewable energy projects as well as projects in the pipeline. Successful completion of such projects will lead to increasing renewable energy share to the national electricity grid, reducing reliance on imported fossil fuels and, contribute to achieving Samoa’s Nationally Determined Contribution (NDC) target under the United Nations Framework Convention on Climate Change (UNFCCC);

Reducing Greenhouse Gas (GHG) emissions from the Electricity sub sector through the adoption of 100% Renewable Energy electricity generated towards 2025.

Moreover, there are also options available for heating and cooking purposes such as solar water heaters which are commonly used in hotels while biogas technology are encouraged in local communities for lighting and cooking. Additionally, the use of indigenous energy resources is also promoted for power generation. Feasibility studies are being conducted to assess forest biomass as

¹⁰ Figure 8: Sources- Hydro, (Samoa Observer April 11, 2016), solar & Wind (EPC website)

feedstock for potential biomass-electricity gasification power plant. Also, the Scientific Research Organization of Samoa (SROS) is conducting research and feasibility studies on suitable feedstock for Biodiesel and Biofuels that are economically viable for Samoa.



Figure 9¹¹: *Jatropha Curcas* (above), *Funtumia Elastica* (middle), *Castilla Elastica* (far right)

1.2 *Key Issues to be addressed*

- Increasing the share of renewable energy in the overall energy mix
- Public awareness and education on Renewable Energy and Energy Efficiency
- Partnerships among stakeholders for sharing experiences and expertise
- Access to funding and information
- Capacity development of locals
- Legislative and regulatory gaps for greater uptake of Renewable Energy

Existing renewable energy projects such as hydropower, solar and wind should be sustained as well as continuing the development of new projects with minimal impacts on the environment. Additionally, it is essential to introduce renewable energy in School Curriculum from primary to tertiary level, such that knowledge and information on renewable energy is shared. Thus, enabling the learners in the formal education sector to better understand the costs and benefits of renewable energy to the national economy as a whole.

Targeted public awareness and education programmes are needed for sharing knowledge and information on renewable energy, energy efficiency (EE), energy conservation and identifying costs and benefits of renewable energy. The public should also be well informed of Renewable Energy Technologies (RETs) which are environmentally friendly, reliable and applicable to their respective needs and how to use energy more efficiently.

Partnership with communities and all energy stakeholders must be strengthened in order to support renewable energy initiatives, activities and accessing financial and technical support from development partners will be encouraged for these projects. Moreover, affiliation between communities is also encouraged to share experience and expertise in developing renewable energy projects in villages.

¹¹ Figure 9: Source- Plant Species Booklet 2017, STEC

Most communities remain unaware of small grants scheme available from time to time. Consequently, advertisement of such financing schemes should extend to using other means of media including through Ministry of Women, Community and Social Development (MWCSD) as access point to distribute relevant information to communities. Activities targeted at capacity building and training of locals would improve and develop local skills and amongst others, enhance the planning, implementation, management and sustainability of renewable energy projects.

A centralized database for renewable energy projects needs to be developed to ensure information is readily made available and accessible across the sector. One of the ongoing challenges faced by the sector is the accuracy and reliability of the available data. Also, there are significant delays in data collection from relevant stakeholders. Therefore, an integrated information system advocates the consistency of information and quality data and reports are produced on time. This information is also useful in sector planning including accessing financial and technical assistance from potential development partners.

Samoa's economy is characterized by its high dependence on fossil fuels and currently, there the sector lacks a focused and clearly streamlined legislative and regulatory framework that provides a streamlined framework for sector governance, planning, coordination, implementation and monitoring of projects and interventions for greater utilization of renewable energy.

1.3 Renewable Energy sub-sector plan

Table 4: Outcomes, Strategies and Indicators for Renewable Energy

<i>Longer Term Outcome</i>	Renewable energy investment and generation increased
<i>End of Sector Plan Outcome (ESPO) 1 :</i>	<i>RENEWABLE ENERGY SHARE INCREASED</i>
Intermediate Outcomes	Strategies
Indicators	
1.1 Legal Framework developed	Develop an overarching energy sector legislation and supporting regulations
1.2 Confidence in the system improved	
1.3 Work ethic improved	
1.4 Partnerships strengthened	Encourage and facilitate partnerships amongst sector stakeholders
1.5 Private sector investment increased	Promote private sector investments in renewable energy
1.6 Quality Monitoring Plan for RE projects developed	Monitor development and implementation of renewable energy projects
1.7 RE inclusion in School Curriculum introduced	Integrate renewable energy education in school curriculum.
1.8 Sector Personnel Capacity increased	Identify specific skills development needs
1.9 Skills and knowledge on Renewable Energy Technologies increased	Invest in training opportunities for local personnel.
1.10 Confidence in local technical personnel's	

1.11 Centralised Energy Projects Database improved	Systematic collection and publication of data on renewable energy resources and projects.	Database contained information of all energy projects
1.12 Confidence to share information with the community	Promote uptake of renewable energy technologies for both off-grid and on-grid applications.	Up-to-date information recorded in the database
1.13 Availability of renewable energy and energy efficiency information improved	Share information on renewable energy and energy efficiency through various information dissemination platforms	Reliable information distributed Accurate data
1.14 Energy Awareness campaigns increased	Increase and support public awareness and education on renewable energy	Data repository established Data available and accessible by the Sector Number of Energy Awareness campaigns conducted

Details on sub-sector plans outlining the outcomes, indicators, outputs, activities, responsibilities and timelines are provided in Annex 1 (outcomes mapping matrix) and Annex 2 (M&E plan).

2. Electricity

Longer Term Outcome: Electricity supply access and reliability improved;

End of Sector Plan Outcome: Electricity Services Improved.

2.1 Status

Electricity Sub-sector comprises the sum of electricity supply system from the sourcing of fuels through to generation, transmission, distribution and end use. This includes both grid delivered electricity and the private supply of electricity through solar photovoltaic (PV) systems and diesel generators.

The national electrification rate is very close to 100%, with a total of 95% of households having access to grid connected electricity while the other remaining 5% are connected to small scale diesel generators or solar PV systems. Household income is one of the main factors affecting a family's ability to access electricity and as such, in line with the energy sector theme; "Affordable Energy for All", electricity service providers' work to ensure that electricity is available to every citizen at a reasonable cost.

Electric Power Corporation (EPC) is the sole supplier of electricity in Samoa and is consistently striving towards 100% electricity generation from renewable energy sources by 2025. The electricity sub-sector is heavily dependent on imported fossil fuels and diesel generation remains the dominant supply of electricity, which increased by 2% in 2015. The Government and EPC both work actively with stakeholders and prospective Independent Power Producers (IPPs) to reduce the importation and use of fossil fuels through harnessing of locally available renewable energy resources, mainly solar, wind and hydro resources.

¹²Renewable electricity generation for the grid is largely from hydro power plants and over the years the contribution has been slightly affected due to damages to infrastructure as a result of cyclone Evan in 2012. The reconstruction of damaged hydro stations as well as construction of new hydro power projects is part of EPC's plans. However, the total renewable energy generation accounted for 36.2% of the total electricity generated in 2015. The figure 10 summarises the contribution from diesel and hydro over the years as well as volume of diesel used for electricity generation.

The present mix of renewable energy generation apart from hydro is made up of contributions from a small scale wind power system (550 kW) and a number of grid connected solar systems; Green Power

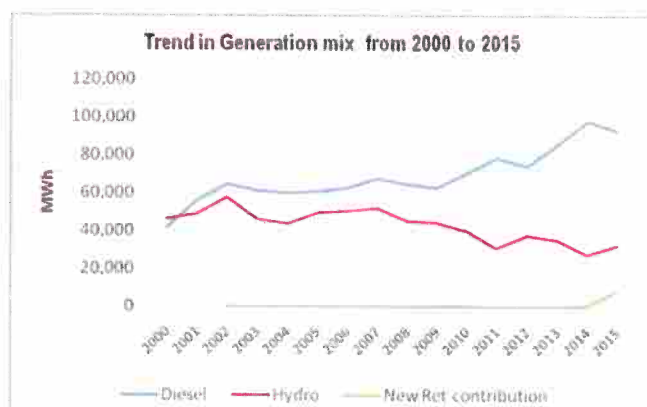


Figure 10: Electricity Generation mix.

¹² Figure 10: Source-SERR 2015; EPCMD, Ministry of Finance

(4 MW), Sun Pacific (2 MW) and Solar for Samoa (4 MW), whilst E-Power systems (25MW Wind and 10MW hydro storage) are under construction. However, greater utilisation of renewable energy resources for electricity generation is critical to achieve Samoa’s NDC target of 100% renewable energy fuelled electricity by 2025 which also minimize environmental impacts particularly with respect to greenhouse gas emissions.

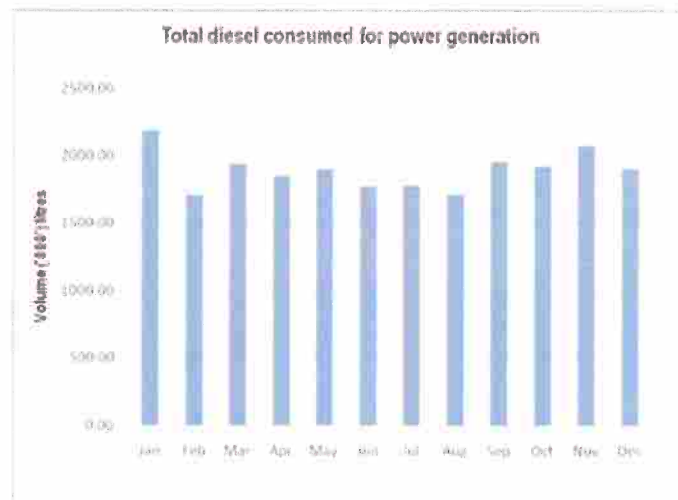


Figure 11: Diesel consumed for power generation, 2015¹³

2.2 Key Issues to be addressed

- Reducing reliance on imported fossil fuels for electricity generation
- Enabling environment for development of grid-connect renewable energy projects
- Energy efficiency improvements on supply side and demand side
- Capacity development vis a vis strengthening resilience to impacts of natural events
- Improving access to consumer services, including information sharing

Improving self-sufficiency in terms of energy needs is undoubtedly important and beneficial for the national economy. As such, resource assessments, financial and technical studies etc on readily available renewable energy resources such as hydro, solar, wind and biomass should be progressively pursued with a strong intent of realising utility scale grid-connect projects. Whilst recently, a number of IPPs have started supplying to the grid, a few prospective IPP projects have not come to fruition. Thus, the opportunity costs to the national economy due to such failed projects should be considered by the relevant decision making authorities.

Given the rapid developments in renewable energy technologies and their falling prices, enabling conditions such as financial, fiscal and policy measures are needed that facilitate development of utility scale projects. Also, existing policies, support systems and incentive mechanisms should undergo a systemic periodic review and if needed new instruments developed to further encourage private investments in renewable grid-connect projects.

¹³ Figure 11: Source- SERR 2015; EPCMD, Ministry of Finance

Improving energy efficiency on both supply and demand side is imperative. Whilst the EPC is responsible for efficiency improvements on supply side, Government is yet to fully rollout standards and labelling (S&L) program for household electrical appliances. Regulatory instruments for S&L need to be developed and enforced to address compliance with the energy efficiency and performance standards. Also, energy awareness programs on making smart energy choices regarding the use of energy efficient appliances should be ongoing.

Samoa's vulnerability to severe weather and climatic events such as cyclones and floods is further exacerbated by the changing climate. Thus, it is vital to focus on strengthening overall resilience to extreme events especially to mitigate loss and damage to critical national infrastructures that could potentially affect essential services. Therefore, capacity building needs within the energy sector including for personnel from EPC, should be prioritised and trainings facilitated to better identify, plan and respond to such risks.

Electricity consumers mainly in rural areas are greatly impacted by indirect costs of accessing electricity services and feel the need for efficient and affordable consumer support systems. In particular, the issue of few 'cash power' outlets and also not easily accessible by many rural communities. Any indirect costs to access electricity related services adds financial burden on low-income households. Thus, interventions such as development of web applications compatible with cell phones for ease of access to purchasing 'cash power' tokens should be supported. Also, timely responses to customer enquiries is essential as well as sharing of relevant information with national planning agencies, investors and development partners etc.

2.3 Electricity sub-sector plan

Table 5: Outcomes, Strategies and Indicators for Electricity

<i>Longer Term Outcome</i>	Electricity supply access and reliability improved	Indicators
End of Sector Plan Outcome (ESPO) 2 :	<i>ELECTRICITY SERVICES IMPROVED</i>	
Intermediate Outcomes	Strategies	
2.1 Electricity legislation improved	Review relevant legislations and other related electricity regulations i.e. EPC Act, Electricity Act etc	Electricity legislation enacted and enforced Efficient electricity services Timely reports produced Immediate response to customer enquiries Customer and public perception improved Increased number of community projects
2.2 Confidence in the system improved		
2.3 Public & Private Partnership in generation increased	Promote/Encourage Public & Private Partnership in electricity generation	Quality maintenance of the grid improved More RE connected to grid Reduce system loss (black outs) Reduce interruptions
2.4 Grid Stability improved	Sustain Electricity generation from proven RETs Ensure that the supply and distribution of electricity is environmentally friendly Ensure uninterrupted availability of electricity supply through integrating climate change & disaster risk management plans & standards	Reliability of the service Reduce electricity disruptions
2.5 Confidence in the supply of electricity		
2.6 Technical assistance improved	Explore funding opportunities for TAs	Quality and timely report provided to the sector Quality service provided Able to provide quality advice Improved customer services Efficient response to customer enquiries Customer satisfaction
2.7 Capacity Building increased	Identify specific skills development Explore training opportunities to build up capacity End user focused delivery of service is strengthened	
2.8 Work ethic improved		

2.9 Data Accuracy improved	Effective and reliable database management system & dissemination of information to stakeholders	Change in Research and Analysis capacity
2.10 Access to information improved		Accuracy of reports produced
2.11 Relevant information to stakeholders	Increase and sustain partnerships with communities & stakeholder through awareness campaigns	Sector access to relevant information needed
2.12 EPC service charter published and shared		Quality advice provided
2.13 Public Awareness campaigns increased		Accurate reports and proposals
		EPC service charter publically available
		Effective delivery of service
	Reduced # of customer complaints	
	Number of Energy Awareness campaigns conducted	

Details on sub-sector plans outlining the outcomes, indicators, outputs, activities, responsibilities and timelines are provided in Annex 1 (outcomes mapping matrix) and Annex 2 (M&E plan).

3. Transport

Longer Term Outcome: Road Transport energy efficiency policy planning improved;

End of Sector Plan Outcome: Energy Efficient Transport Sector.

3.1 Status

Transport sector has direct impacts on the growth in other sectors of the economy and transportation is a fundamental aspect to social and economic development of Samoa. It enables the movement of people, goods and services both domestically and abroad using various modes of transportation including land, sea and air. The transport sector consumes the largest volume of fossil fuel particularly road transport and the demand for transport fuel continues to grow. The Energy review report 2015 recorded the fuel consumption of 68.5 million litres which depicted an increase by 13% compared to 2014.

On the other hand, there has been gradual progress in research into producing alternative fuels for land transport, apart from coconut oil and Jatropha. The Scientific Research Organisation of Samoa (SROS) continues undertaking feasibility studies and laboratory testings on feasible feedstocks for Biodiesel/Biofuels that are economically viable to Samoa's local context. Bioethanol is also under SROS's scientific investigation as a potential and viable future renewable liquid fuel for transport.

¹⁴The public is encouraged to import fuel efficient vehicles as it not only helps reduce the volume of fossil fuel consumed per vehicle but also leads to reduction in GHG emissions. Additionally, introduction of electric vehicles are also being considered and the Land Transport Authority (LTA) is conducting trials with electric scooters. However, it is important to note that electric vehicles would prove useful only if any marginal increment in electricity demand due to E-vehicle charging is met by electricity generated from additional or new renewable energy resources. The MNRE in collaboration with LTA works closely in promoting fuel efficient vehicles by implementing numerous activities and projects.



Figure 12: New Electric Scooters presented to LTA

Furthermore, Samoa has submitted a proposal as its Nationally Appropriate Mitigation Action (NAMA) project focused on the Transport sector and includes piloting electric vehicles (E-vehicles) for taxis and buses. If the proposal gets approved with funding support then harnessing renewable energy for use by electric vehicles would become a reality.

¹⁴ Figure 12 : Source- Samoa Observer website

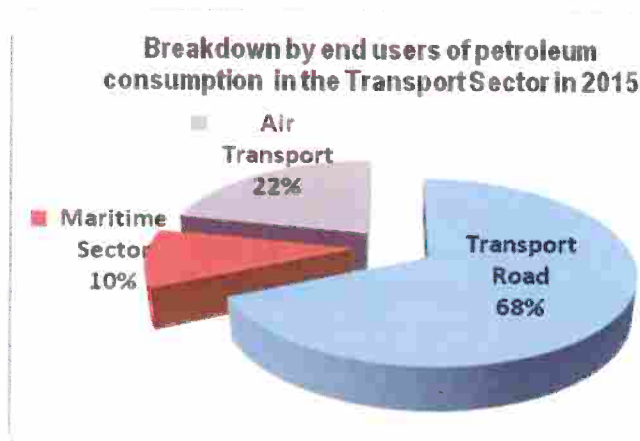


Figure 13: Petroleum Consumption in Transport Sector 2015

3.2 Key Issues to be addressed

- Improving Infrastructure and Transport Network System
- Promoting alternative modes of transport and its core benefits
- Promoting fuel efficiency in land transport
- Upscale research and investments in biofuels and in renewable fuels for E-vehicles
- Enforcement of compliance with regulatory standards

Development and improvement of existing transport infrastructures contributes to enhancing energy efficiency in transportation. This includes the rehabilitation of roads and bridges, roads expansions, constructing footpaths and other developments related to maritime transport infrastructures. Additionally, Climate Change Resilience measures and Disaster Risk Reduction and Management could be integrated into transport policy planning. For instance, climate proofing of roads ensures the roads can withstand extreme weather and climatic changes. Passive design features are also effective such as removal of speed humps, installation of surveillance cameras to manage car speed and the strategic placement of traffic lights.

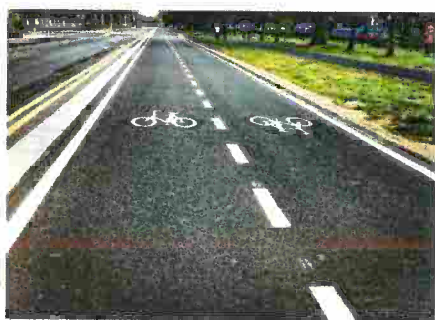


Figure 14: Cycling Lanes

¹⁵Good environmental practices usually goes hand in hand with good economic practice. Apart from the common environmental benefits, public should be informed about the direct co-benefits, such as reducing consumption of fossil fuels for transport will also result in substantial financial cost savings for the individual over the lifetime. Through awareness and education, public should be encouraged to consider alternatives like using public vehicles, car-pooling and use of non-motorized transport eg. bicycles. Also, while advocating for such changes, benefits such as health

improvements and reducing urban area road congestions and reduced travel times need to be emphasised.

¹⁵ Figure 13 : Source – SERR 2015; EPCMD, Ministry of Finance & Figure 14: Source - www.google.com - cycling lanes

Promoting energy and/or fuel efficiency is not limited to reduction of imported fossil fuels used by transport but also contributes to achieving Samoa's NDC target. It is important to review relevant legislations to enforce the review of existing tariff structures, registration fees and licensing to include fuel efficient vehicles, and the introduction of road user charges and carbon emission limits on car imports. The review should thoroughly consider the impacts of influx of the promoted fuel efficient vehicles such as electric vehicles. Conversely, customs duty and tariffs etc. should be relooked at for imported vehicles fueled by conventional fossil fuels. Furthermore, Government should consider additional incentives to encourage imports of energy efficient vehicles.

More resources should be dedicated towards research and development of alternative fuels such as biofuels and renewable energy fuelled (eg. solar) charging stations for electric vehicles. With positive steps undertaken by Government and more E-vehicle charging models available than ever, the landscape for electric vehicles in Samoa could look brighter in near future.

Enforcement of the Exhaust Emission Regulations and other related policies, penalties etc. to effectively monitor vehicles and vessels on road and sea would stimulate proper servicing and maintenance systems which contributes to improved fuel consumptions and reduced emissions.

3.3 Transport sub-sector plan

Table 6: Outcomes, Strategies and Indicators for Transport

Longer term outcome		Road Transport energy efficiency policy planning improved
End of Sector Plan Outcome (ESPO) 3 :		ENERGY EFFICIENT TRANSPORT SECTOR
Intermediate Outcomes	Strategies	Indicators
3.1 Review of relevant legislation	Ensure relevant legislations are reviewed	Number of existing legislation reviewed/introduced to promote fuel efficiency/discourage fuel wastage.
3.2 Exhaust emission regulation (70%) enforced		Number of vehicle tested increases annually, effective and maintenance efficient test equipment.
3.3 Pilot and New licensing structure for electric vehicles initiated		Licensing for electric vehicles endorsed
3.4 Electric vehicles incentives initiated		Number of E-cars registered
3.5 Confidence in the system	Ensure the enforcement of reviewed legislations	Reduced taxes on imported E-cars, charging costs reduced.
		Reduction of fossil fuels consumption in the transport sector.
		Reporting process improved (both internal and external) Timely response to customer enquiries Work completion achieved on time
3.6 Partnerships strengthened	Encourage and facilitate partnerships amongst sector stakeholders and communities	Collaboration from stakeholders increased
		Number of transport projects implemented in communities
3.7 Collaboration between stakeholders improved		Agreements signed between government and Development partners Organizational structure outlining roles & responsibilities of each stakeholder completed and used as monitoring tool. Increased KPI % for Transport Sector achieved.
3.8 CC& DRM Plan integrated	Ensure the incorporation of Climate Change and	Transport infrastructure supporting the use of green

	Disaster Risk Management into the transport sector. Ensure the compliance with Climate Change and Disaster risk plans	vehicles designed and implemented (bicycle and alternate green vehicle routes). Climate proofing road design standards developed and implemented Emergency Escape Routes/Roads constructed/improved.
3.9 Confidence in the safety and energy efficiency of transportation improves	Ensure compliance with safety regulations as well as the effective promotion of energy efficient across the transport sector	Transportation system enhanced through increased usage of network. Road Transport efficiency improved
3.10 Public awareness on fuel saving measures increased	Promote fuel efficiency in land and sea transport and ensure systems are reliable, efficient and affordable. Introduce rating system (similar to appliances) for vehicles (gas mileage, carbon output etc.) Promote greenhouse gas abatement through energy efficiency awareness and mechanisms such as car pooling	Fuel consumption for mode of transportation reduce Increase use of public transport, car pooling and non motorized vehicles. Reduced carbon output/vehicle and reduced number of high carbon emission vehicles. Increased number of fuel efficient vehicles. Other tips for fuel saving such as properly inflated tyres, regular vehicle servicing etc. Behaviour Change-reduced traffic congestion and national fuel usage. Awareness Programs Conducted
3.11 Car Pooling & use of public transport encouraged		
3.12 Work Ethic Improved	Enhance capacity building End-user focused delivery of service is strengthened	Update information and report available Change in research and analysis capacity All works complete in timely manner.
3.13 Accuracy of database improved		Change in Research and Analysis Capacity Accuracy of reports produced
3.14 Availability of data improved	Effective and reliable database management system and dissemination of information	Timely production of reports. Database updated

Details on sub-sector plans outlining the outcomes, indicators, outputs, activities, responsibilities and timelines are provided in Annex 1 (outcomes mapping matrix) and Annex 2 (M&E plan).

4. Petroleum

Longer Term Outcome: Petroleum supply, management and safety improved.

End of Sector Plan Outcome: Management of Petroleum Products Enhanced.

4.1 Status

Petroleum products remain the main source of energy supply in Samoa, they account for 81% of primary energy sources. The demand for petroleum products has increase over the last 5 years due to increases in the demand for Diesel + 21% driven by increased usage by the power and transport market sectors and growth in Petrol usage + 34% in the retail/transport sector. Continued growth of 4% per annum across the market sectors is forecast over the period 2016 to 2021.

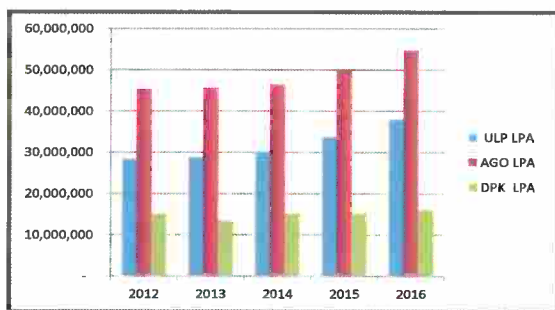


Figure 15: Sales Data 2012-2016

To enhance the management of petroleum products the Government acquired the ownership of all fuel storage facilities in 2003. A five year tender process is now carried out to select and award the offshore Bulk Fuel Supply Contract and the Onshore Terminal and Distribution Contract. This tendering process maintains a level of competition from potential suppliers and distributors within the region. The rationalization of supply and distribution has resulted

in lower fuel prices relative to other countries in the pacific. The Government through Ministry of Finance sets petrol, diesel and kerosene (including Jet A1) prices¹⁶.

A local company, Petroleum Product Supplies (PPS) Ltd manages the onshore terminal and distribution of petrol, diesel and DPK (Kerosene and Jet fuel). These products are imported from Singapore or Korea, is pumped from Apia Wharf via pipelines to the fuel storage tanks at the wharf and then to Sogi fuel depot. Current tank capacities are 8400 MT for diesel, 5400 MT for petrol and 2400 MT for DPK which includes Jet storage at Faleolo Airport. Savaii's fuel requirements are delivered by barge serviced from Salelologa Fuel Depot. The transportation of petroleum products to end users, service station, EPC and commercial customers is undertaken by PPS's by road tankers.

Government has secured loan funds from the Organisation of Petroleum Exporting Countries (OPEC) Fund for International Development to upgrade its storage facilities to meet international engineering standards and additional storage facilities has been built to meet the increasing demand. Government has targeted a security-of-supply stored volumes reserve of 15 days. Also, to address vulnerability concerns, Climate Change and Disaster Risks and its



Figure 16: Three new Petroleum Storage Tanks at Apia Wharf

¹⁶ Figures 15 & 16: Source- EPCMD, Ministry of Finance

management are incorporated into plans to prevent any disruptions to supply. The new storage facilities constructed at Apia wharf addresses some of these concerns being separated from the main Sogi Terminal.

4.2 *Key Issues to be addressed*

- Management of waste Petroleum products;
- Legislative provisions for regulation of Liquefied Petroleum Gas (LPG) price;
- Development of Health, Safety, Security and Environment (HSSE) standards for LPG;
- Regulatory provisions for enforcement of HSSE standards at service stations;
- Public education and awareness on petroleum consumption and its impacts;

Development of waste oil policy will provide a clear pathway for the safe disposal of waste oil in a manner that it will mitigate harmful impacts on the environment. This could be addressed within the Waste Management Act administered by the Ministry of Natural Resources and Environment.

The Petroleum Act 1984 with amended Act 2003 and 2015 defines *'petroleum' as any gas, liquid, or solid compound whether used as a fuel or for lubrication purposes, which is derived wholly or in part from the refining and blending of hydrocarbon compounds*. The amended Petroleum Act regulates the supply, transport and storage of all petroleum "products" (as noted above); however there is no provision for the regulation of LPG pricing.

The Health, Safety, Security and Environment (HSSE) guideline exists to ensure the safety at the service stations for storing, handling and distributing petroleum products to the public. However, there is no clear governance structure of HSSE standards at the retail level and should be included in the Petroleum Act. Further review and amendment of the current Act is required to reflect development of HSSE particularly for LPG as well as the enforcement of the HSSE standards at the Service Stations.

Petroleum Task Force (PTF) chaired by the Ministry of Finance is a committee that was set up to discuss, review and monitor all issues relating to service stations and ensuring that they adhere to the standards developed. Petroleum Licenses are issued annually after an inspection is carried out by the PTF to ensure that all service stations meet the minimum percentage of the HSSE standards for operation. The Petroleum Act is required to be reviewed to ensure all petroleum related matters and gaps identified are adequately addressed as well as the strengthening of the roles of the PTF and the CEO of Ministry of Finance in order to ensure enforcement of HSSE compliance requirements. This will increase the compliance of Service Station Operators and also reduce the risks of potential accidents.

The consumption for petroleum products had been constantly increasing over the years due to the high demand in the transport and electricity sector. Transport sector on average consumes about 60% of the total fossil fuels followed by electricity sector at 28 % and are jointly responsible for a substantial portion of greenhouse gas emissions and air pollutants. Informing the public with regards to Government plans in the petroleum sector and the negative impacts of fossil fuels on the environment is crucial. Emphasis on disseminating information through mainstream and social media as well as through education and awareness in public and in schools is urged.

4.3 Petroleum sub-sector plan

Table 7: Outcomes, Strategies and Indicators for Petroleum

<i>Longer Term Outcome</i>	Petroleum supply, management and safety improved	
<i>End of Sector Plan Outcome (ESPO) 4</i>	<i>MANAGEMENT OF PETROLEUM PRODUCTS ENHANCED</i>	
Intermediate Outcomes	Strategies	Indicator
4.1 Compliance with operational safety improved	Review the HSSE standards and ensure the alignment with international standards.	<ul style="list-style-type: none"> GoS engineers safety report. Key staff change in attitude and comply with safety procedures.
4.2 Legislation strengthened	<ul style="list-style-type: none"> Review the Petroleum Act to ensure the inclusion of the regulation of LPG and governance of HSSE standards. 	<ul style="list-style-type: none"> Safety supply, distribution and storage of fuel. Increase compliance Spot fines/penalties endorsed by cabinet
4.3 Petroleum Task Force roles strengthened	<ul style="list-style-type: none"> Inclusion of a provision within the Petroleum Act to enable the PTF to enforce HSSE standards for Service Stations and private companies with overhead tanks. 	<ul style="list-style-type: none"> Endorsed Act amendment to provide legal support to the Petroleum Task Force for decisions.
4.4 Partnership collaboration improved	<ul style="list-style-type: none"> Community engagement programs. 	<ul style="list-style-type: none"> Better coordination role across the sector. Accessibility to information and data. Communication events with communities.
4.5 Sector personnel capacity improved	<ul style="list-style-type: none"> Provide capacity building training for personnel. 	<ul style="list-style-type: none"> Key staff skills and knowledge change in research and analysis. Quality advice and reports provided to the sector.
4.6 Individual usage of petroleum products well managed.	<ul style="list-style-type: none"> Conduct awareness training on the safety issues pertaining to handling, transportation, storage, quality and use of petroleum products 	<ul style="list-style-type: none"> Awareness programs conducted Reports on the consumption of petroleum products. Compliance to the HSSE standards. Training
4.7 Capacity of staff/communities on handling petroleum products improved		
4.8 Storage and disposal responsibilities relating to waste oil improved	<ul style="list-style-type: none"> Develop Waste Oil Policy and review Waste Oil Act. Develop appropriate procedures for the safe 	<ul style="list-style-type: none"> Storage facilities comply with international standards. Waste oil policy approved and in place.

	collection, storage and disposal of waste oil.	<ul style="list-style-type: none"> Waste Act in place and mandated by MNRE.
4.9 Work ethic improved	<ul style="list-style-type: none"> Develop contingency plans for management of oil spills. Ensure that all work is produced of high quality and completed within the time frame allocated. 	<ul style="list-style-type: none"> Updated information and report available. Change in research and analysis capacity All works complete in timely manner
4.10 Access to petroleum information improved	<ul style="list-style-type: none"> A centralised and accessible petroleum database. 	<ul style="list-style-type: none"> Across sector access to information. Sector program use of information. Timely Reports.
4.11 Public awareness on fuel saving measures increased.	<ul style="list-style-type: none"> Conduct awareness on car pooling and non motorized vehicles. 	<ul style="list-style-type: none"> Training programs completed. Number of awareness campaign conducted. Population well informed.
4.12 Coordination and dissemination of information enhanced	<ul style="list-style-type: none"> Systematic collection and publication of all petroleum data. 	<ul style="list-style-type: none"> Validity and reliability of information. Staff confidence in accuracy of information. Staff use of information in policy and strategy development.
4.13 Safety of the storage system improved	<ul style="list-style-type: none"> Ensure the compliance with National and International Safety Regulations of all fuel storage facilities, the supplying of fuel and distribution. 	<ul style="list-style-type: none"> Compliance with international standards and best practice.
4.14 Confidence in the supply and distribution processes increased.	<ul style="list-style-type: none"> Ensure the capacity of the storage system meets the minimum required. 	<ul style="list-style-type: none"> Minimum storage requirement increased. Reliability of the supply and safety of distribution. Consistency of the supply and distribution of fuel.
4.15 Confidence in the transparency of the government procurement process increased.	<ul style="list-style-type: none"> Review the tender procedure for the Request for Proposals to attract more suppliers. 	<ul style="list-style-type: none"> Best practice of GoS procurement performance system. Timely approval.

Details on sub-sector plans outlining the outcomes, indicators, outputs, activities, responsibilities and timelines are provided in Annex 1 (outcomes mapping matrix) and Annex 2 (M&E plan).

5. Institutional Setting and Governance Framework

Longer Term Outcome: Climate and Disaster resilience management integrated into energy planning and implementation;

End of Sector Plan Outcome: Coordination of Energy Sector improved.

The Energy sector remains one of the key sectors of the national economy as it enables provision of goods and services in all other respective sectors. Also, provision of affordable and reliable supply of energy including electricity is an important catalyst to developments. As such, Samoa needs to be progressively strengthening its institutional frameworks and governance mechanisms to continue providing conducive, all-encompassing, stable and transparent platform for further developments in the economy.

5.1 Institutional Setting

The Institutional setup within the Energy sector consists of different ministries, corporations and organisations that administer various energy related resources, projects and services at different levels under the guidance of a National Energy Coordination Committee (NECC), supported by various ministries of the Government.

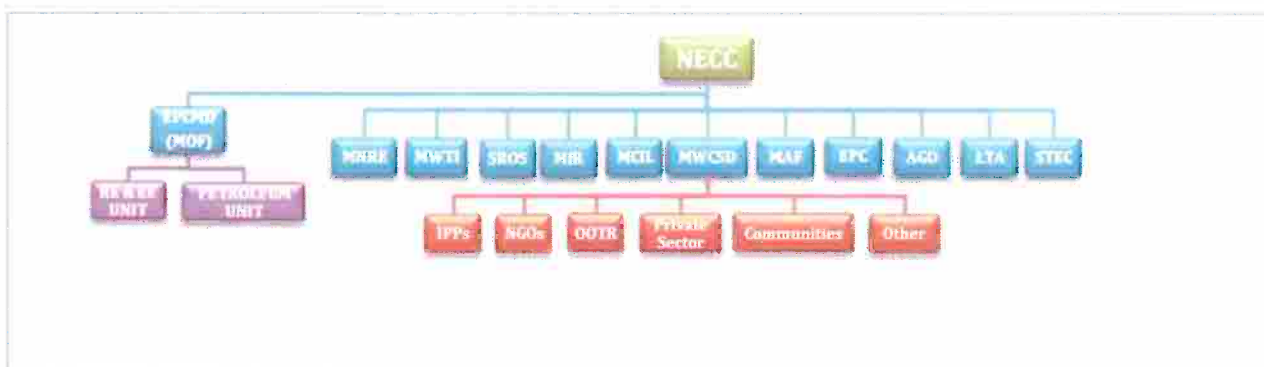


Figure 17: Energy Sector Institutional setup

The NECC was established in 2010 to provide overall guidance to key stakeholders and administrators within the energy sector. The core function of the NECC is advising and contributing to the establishment of a strong governance framework with clear policies, plans, legislations, institutional and organisational arrangements that are all interlinked as well as creating a harmonised engaging environment for regional entities, international organisations and development partners. Main roles and responsibilities of the NECC includes; overseeing energy sector management and ensure a coordinated effort by all, review and endorse activities in both private and public sector, and recommend initiatives and activities that call for government approval. In situations requiring urgent decisions in relation to technical energy matters, a sub-NECC is convened to appraise and determine the course of action, which then is recommended to the NECC. The NECC and sub-NECC consists of representatives from all key government ministries and agencies.

5.2 Lead and Supporting Agencies

The lead agency for the sector is the Ministry of Finance, Energy Policy and Coordination Management Division (EPCMD). Aptly referred to as the Energy Division, is responsible for overall

planning, coordination and oversight of national energy related activities as well as responsible for the implementation of the Energy Sector Plan in collaboration with relevant stakeholders. The EPCMD also serves as the secretariat to the NECC. Other responsibility of the EPCMD is to administer the Petroleum Act, which includes the issuance of petroleum licenses, coordination and circulation of monthly fuel price notices, collection and reconciliation of petroleum levy payments as well as the management of funding arrangements for petroleum infrastructure/s to name a few. Monthly spot checks of petrol service stations are carried out to ensure they adhere to the price notices and the Health, Safety, Security and Environment (HSSE) standards. Other duties of EPCMD include but are not limited to, development of energy supply and demand database, collection and compilation of all energy related information in the country which is then published as annual Energy Review Report.

Other key partners supporting the implementation of the sector plan includes:

- Ministry of Natural Resources and Environment (MNRE), Renewable Energy Division
- Ministry of Works, Transport and Infrastructure (MWTI)
- Scientific Research Organisation of Samoa (SROS)
- Ministry for Revenue (MfR), Customs Department
- Ministry of Commerce, Industry and Labour (MCIL)
- Ministry of Women, Community and Social Development (MWCSO)
- Ministry of Agriculture and Fisheries (MAF), Crops Division
- Electric Power Corporation (EPC)
- Attorney General's Office (AGO)
- Land Transport Authority (LTA)
- Samoa Trust Estates Corporation (STEC)
- Electricity Regulator - Office of the Regulator (OOTR)
- Others - Various other agencies not specified above also contribute to implementation of the Energy Sector Plan such as the Samoa Bureau of Statistics, Chamber of Commerce, Petroleum Products Suppliers as well as the Private Sector, NGOs etc.

5.3 Governance Framework

There are a number of instruments such as policies, strategies, institutions, legislations, and regulations etc that have been formulated over time to govern the energy sector. A key national strategy to which the Energy Sector Plan is closely aligned is the Strategy for the Development of Samoa (SDS) 2017 – 2021, with a particular focus on *Key Outcome 12: Quality Energy Supply* and that also is the basis of Samoa Energy Sector Plan (SESP) 2017 – 2022. Other policies and legislations with strong linkages to the energy sector are highlighted below.

5.3.1 Policies

- National Infrastructure Strategic Plan (NISP)
- Transport Sector Plan 2014 - 2019
- National Policy of Combating Climate Change 2007
- Greenhouse Gas Abatement Strategy 2008 – 2018

5.3.2 Legislations

- Electric Power Corporation Act 1980
- Electricity Act 2010
- Petroleum Act 1984 (amended 2003 and 2015)

- Oil Fuel Supply Act 1974
- Land Transport Authority Act 2007
- Planning and Urban Management Act 2004
- Disaster and Emergency Management Act 2007

5.4 *Key Issues to be addressed*

- Integrated Planning including Renewable Energy and Energy Efficiency
- Development of an overarching Energy Legislation
- Strengthening of Institutional and Governance frameworks
- Information and data sharing for national planning

Renewable energy and energy efficiency needs to be incorporated as much as possible into all project planning phases and government initiatives extending beyond the Energy Sector such that the overall national development goals as outlined in the SDS are met. Specifically, inclusion of Renewable Energy and Energy Efficiency into building codes for both commercial and residential buildings will provide positive long term effects.

Development of a comprehensive Energy Bill that will outline a legal framework for energy sector operations and provide greater clarity and certainty to investors in the Energy Sector as well as private investors, is required. A particular focus on the processes for entering into contractual obligations is essential to minimise risks by incorporating terms and conditions in Power Purchase Agreements (PPAs) for Independent Power Producers (IPPs). Such legal framework will promote investments within the Energy Sector. Additionally, amendments to some of the existing legislations may be required to ensure consistency with the overarching energy legislation.

The Institutional Framework for sector governance and coordination is adequate for the current direction of the energy sector. However, continued strengthening is still required in relation to roles and responsibilities, staffing resources and or future expansion of the EPCMD in improving the governance of the sector. As such, a number of legislative and regulatory gaps have been identified under the petroleum sub-sector and to address those, mainly the Petroleum Act and the Oil Fuel Supply Act needs to be reviewed.

Energy review reports are published on an annual basis providing the Government, businesses and communities with information into the status of energy demand, supply and consumption in Samoa. However, accuracy and availability of data can hinder the publication of these reports. Thus, it is prudent that dissemination of data by key agencies is done in a timely manner.

Something to be considered in the long term is the establishment of a Ministry of Energy or a Department of Energy whose main functions would be to formulate energy policies, regulatory frameworks and legislation, and oversee their implementation as well as the development, processing, utilisation and management of energy sources, with the overall mission to ensure energy security, promotion of environmentally-friendly energy and access to affordable and reliable energy for all.

5.5 Institutional Setting and Governance Framework plan

Table 8: Outcomes, Strategies and Indicators for Institutional Setting and Governance Framework

<i>Longer Term Outcome</i>	Climate and Disaster resilience management integrated into energy planning and implementation	
<i>End of Sector Plan Outcome (ESPO) 5:</i>	<i>COORDINATION OF ENERGY SECTOR IMPROVED</i>	
<i>Intermediate Outcomes</i>	<i>Strategies</i>	<i>Indicators</i>
5.1 Legal Framework developed	Develop an overarching legal framework for the energy sector and related legislations & regulations.	Legal framework in place.
5.2 Quality and timely policy advice provided	Ensure policy advice is provided to the private sector within an acceptable timeframe and is of high quality.	Comprehensive recommendations. Timeliness response.
5.3 NECC role enhanced	Ensure strong leadership, with clarity of roles and responsibilities of all stakeholders. All energy activities should be approved by NECC and channelled through the NECC secretariat (Energy Policy & Coordination Management Division)	Change in the effectiveness as well as the impact of the NECC and the sub-NECC.
5.4 Partnership with private sector enhanced	Encourage and facilitate partnerships with the private sector to promote investments in the energy sector.	Partnerships enhanced through changes to incentives. MOU signed between GoS and private sector. Number of projects implemented at the community level.
5.5 Community engagement strengthened	Promote and sustain partnerships with communities through awareness campaigns and outreach programmes.	Public consultations conducted out in the communities. Community outreach programmes. Positive perception of the energy sector.
5.6 Sector personnel capacity increased	Identify skills specific development needs. Invest in training opportunities for local personnel.	Number of relevant trainings conducted. Change in skills and knowledge with how research and analysis is conducted.

	Increase in responsibilities allocated to staff. Improve and sustain human resource capacity within the Energy Sector.	Quality advice and reports improved. Staff motivation increased through capacity building opportunities. Team building exercises. Staff recognition. Reduced staff turnover Restructure of the Sector Coordination Unit approved. Rapport built between Ministries and Agencies. Increased partnership collaboration. Change in attitudes. Change in accuracy of database. Reliability and validity rating of data collected. Ways in which the database can be accessed. Staff confidence in data accuracy. Database up to date. Reliability and validity of information. Confident to share and use the information.
5.7 Staff motivation increased		
5.8 Confidence of staff members strengthened		
5.9 Networking skills improved	Encourage and facilitate partnership collaboration within energy stakeholders.	
5.10 Accuracy of database improved	Effective and reliable database management system. Efficient dissemination of information across the energy sector. Systematic collection and publication of data.	
5.11 Confidence to share relevant information to stakeholders increased		
5.12 Energy awareness campaigns increased	Consider how the energy sector strategies will assist in the alleviation of hardship and educate communities around preventative measures. Increase and support public awareness and education on energy	Number of energy awareness campaigns. Use of information gained by recipients. Change in attitudes/behaviors regarding energy.
5.13 Confidence in the energy sector system enhanced	Increased capacity building for energy personnel enabling them to provide accurate information. Effective and efficient system in place from top level	Efficient management of complaints. Staff use of energy sector system increased. Staff confident to use the system. Timely response to enquiries.

	down to the end user	Knowledge and understanding of correct process.
5.14 Confidence in the coordination of the sector increased	<p>Ensure that the Sector Coordination Unit maintain and sustain the capacity to coordinate energy sector policies.</p> <p>Ensure the role of the Sector Coordination Unit (Energy Policy & Coordination Management Division) is clearly defined and reflected in the Energy Bill.</p>	<p>Energy sector governance.</p> <p>Unified energy sector.</p> <p>Clarity of roles and responsibilities amongst stakeholders.</p>

Details on plans outlining the outcomes, indicators, outputs, inputs, activities, responsibilities and timelines are provided in Annex 1 (outcomes mapping matrix) and Annex 2 (M&E plan).

6. MONITORING AND EVALUATION

To ensure the effective and efficient implementation of the sector plan, the monitoring and evaluation (M&E) of the SESP will be overseen by the National Energy Coordination Committee with the EPCMD as its technical arm acting as the Secretariat. The M&E will ensure that the strategic directions are achieving the identified end of sector plan outcomes for each of the sub-sectors. The M&E matrix is attached as Annex 1 in which highlights the indicators and those responsible with the collection of the data. The costing and funding of this sector plan will be from the respective stakeholders budget under its own ministry's and agency's budget and not limited to that but also to seek funding from potential development partners to assist with the funding of some activities. Some of these activities could include the capacity building across the sector, awareness programs and consultations, technical assistance, equipments and any other form of assistance that is required as stated in the outcome mapping for the energy sector plan. A Medium Term Expenditure Framework (MTEF) will be developed and will be continuously updated accordingly depending to available funds and the implementation.

Annex 1: Samoa Energy Sector Plan 2017 – 2022: Participatory Outcomes Mapping Matrix

Vision	Access to Quality Energy Supply for All Improved				
Theme	“Sustainable and Affordable Energy for All”				
Longer Term Outcomes	1. Renewable Energy investment and generation increased;	2. Electricity supply access and reliability improved;	3. Road Transport energy efficiency policy planning improved;	4. Petroleum supply, management and safety improved.	5. Climate and Disaster resilience management integrated into energy planning and implementation;
‘End of SP’ Outcomes – <i>Achievable in the life of the SP</i>	1. <i>Renewable Energy Increased.</i>	2. Electricity Services Improved	3. <i>Energy Efficient Transport Sector;</i>	4. <i>Management of Petroleum Products Enhanced.</i>	5. <i>Coordination of Energy Sector improved</i>
Intermediate outcomes					
Organizational Change	Legal Framework developed	Electricity Legislations improved	Review of relevant legislation	Compliance with operational safety improved	Legal Framework Developed
	Partnerships strengthened	Public & Private Partnership in generation increased	CC & DRM Plan integrated	Legislations Strengthened	Quality and timely policy advice provided
	Private sector investment increased	Technical Assistance increased	Partnership strengthened	Petroleum Task Force Roles Strengthened	NECC role enhanced
	Quality Monitoring Plan for RE projects developed	Electricity Efficiency improved	Exhaust emission regulation (70%) enforced	Pilot and New licensing structure for Electric vehicle initiated	Partnership with private sector enhanced
	RE inclusion in School Curriculum introduced	Grid Stability improved	Electric vehicles incentives initiated	Partnership collaboration improved.	Community Engagement strengthened

Individual Change	Sector Personnel Capacity increased	Capacity Building increased	Individual compliance improved	Sector Personnel Capacity Improved	Sector Personnel Capacity Increased
	Skills and knowledge on Renewable Energy Technologies increased		Collaboration between stakeholders improved Car-pooling & use of public transport encouraged	Individual usage of Petroleum Products well managed. Capacity of Staff/communities on handling petroleum products improved Storage and disposal responsibilities relating to waste oil improved	Staff Motivation increased Networking skills improved
Access to Information	Centralised Energy Projects Database improved	Work ethic improved	Accuracy of Database improved	Database updated	Accuracy of Database improved
			Transport policy awareness increased	Access to Petroleum information improved	
			Public awareness of various laws/regulations improved		
Knowledge sharing	Energy Awareness campaigns increased	EPC service charter published/shared	Availability of data improved	Public awareness on fuel-saving measures increased	Energy Awareness Campaigns increased
	Availability of energy (RE and EE) information improved	Public awareness campaigns increased	Public awareness on fuel saving measures increased	Coordination and dissemination of information enhanced, Public awareness campaign increased.	

Confidence Built	Confidence in the system improved		Confidence in the energy sector system enhanced	
	Confidence to share information with the community	Relevant information to stakeholders shared	Confidence in the coordination of the Sector increased	
	Confidence in local engineers	Confidence in the supply of Electricity	Confidence of staff members strengthened	
	Confidence in the safety and energy efficiency of transportation improved		Confidence to share relevant information to stakeholders increased	
Immediate 'end of SP' outcomes				
Outputs	Energy Bill endorsed	Amended Acts and Legislation enacted	GHG emissions reduced	Timely reports produced
	GHG baseline established	Web app. designed and commissioned		
	Risk Assessment report	Capacity of staff enhanced	CC & DRM Plan integrated	NECC processes strengthened
	Targeted Training opportunities	Efficiency standards enforced		
	Community Awareness program	Electricity affordably priced		
	Locally Trained Engineers	More RE electricity connected	Quality and timely reports produced	Energy Bill endorsed
		Centralised database formulated		
		Disaster Risk Management Plans strengthened		

Activities	Energy Bill drafted	Relevant Acts and Legislations reviewed	Fuel efficient cars imported	Waste Oil Policy Developed	Research and Data analysis conducted
Consultations conducted					
Risk Assessment conducted	Web app. proposal developed	Data collected	Review HSSE Standards	Timely data collection	
Investment opportunities for private sector/communities sought	Accurate and adequate data collected	Enforcement of Marine pollution Act monitored	Petroleum Act Reviewed	NECC TOR and guidelines reviewed	
INDC verification report produced	Technology enablers installed	Enforcement of Civil Aviation rules and regulation monitored	Electric cars imported	Capacity Building for Sector personnel	
RETs Trainings carried out	OoTR Intervention roles strengthened	Cycling lanes constructed	Updated information produced	Legislations reviewed	
	EPC power expansion plan implemented	Tariffs reviewed	Integrated information systems established.		
	Climate Change Resilience measures integrated		Tendering processes revised (quality, etc)		
Inputs	Funding secured				
Technical Assistance secured	Equipments procured	Procurement completed	Equipments procured	Existing legislations and policies	
Contracts signed (PPA, MOU etc)	Contracts signed (TAs, Legal Drafters, Contractors)	Road reserve extended and compensated for cycling lanes	HSSE standards and Acts in place		
INDC signed	MOUs Signed	Contracts signed	Contracts signed	Contract awarded and signed	
Feasibility studies completed	Workforce plan in place	NAMA proposal approved			
Workforce Plan in place	Feasibility study completed	Financial Agreements signed			
Training needs identified	PPA (Power Purchase Agreement) signed	Cabinet Directive endorsed	Training completed	Workforce plan in place	
(Getting Ready)					

Annex 2: Monitoring and Evaluation Matrix for the SESP 2017-2022

MONITORING AND EVALUATION FOR THE SUB SECTOR: RENEWABLE ENERGY

Output/Outcome	Monitoring and Evaluation Questions	User (who needs to know this?)	Indicator Unit (Unit of Data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
INDC signed	Has the INDC been signed?	Ministries/Agencies	Contract signed and executed	INDC Verification report	Quarterly and Annually basis	MNRE/EPC	National Energy Coordination Committee (NECC)
Contracts signed (PPAs, MOU etc)	Have contracts been awarded?	Community Private Sector	Execution of contract works Monitoring and Evaluation of performance contracts	Review progress reports		Sector Coordinator (supported by EPCMD)	SP Midterm review report
Feasibility studies completed	Have feasibility studies been completed?	Development Partners Sector Coordination (SC) Unit	Complete Feasibility studies	Feasibility studies report		Ministries/Agencies Donors	Annual SP review reports
Workforce plan in place	Is there a workforce plan in place?		Number of personnel hired Assignment of Roles and Responsibilities Works completed before deadlines	Implementation plan Work performance report Human Resource (HR) Appraisal	Weekly and Monthly updates Quarterly and Annually basis		SP Final report
Training needs identified	Have training needs been identified?		Training proposal compiled Trainings provided to targeted individuals	Training reports	Quarterly and Annually basis		
Funding secured	Has funding been secured?		Financial agreement signed	Financial proposals			
Technical Assistance secured	Has TA been secured?		Contract signed and implemented	ToR for TA Review progress report			
Equipments procured	Has equipment been procured?		Budget allocation Implementation of the project started	Request for Quotation (RFQ) Tenders Board Conveyance	Initial stage of any project/activity		
Energy Bill Drafted	Has the Energy Bill been formulated?		Complete review of existing policies and legislations Energy Bill draft in place	Initial Overview report	Quarterly but reported annually		

Output/Outcome	Monitoring and Evaluation Questions	User (who needs to know this?)	Indicator Unit (Unit of Data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
INDC Verification report produced	Has INDC verification report been produced?	Ministries/Agencies	Commitments and activities to achieve INDC target implemented	Data analysis reports	Annually	Sector Coordinator (supported by EPCMD) Ministries/Agencies Donors	National Energy Coordination Committee (NECC) SP Midterm review report Annual SP review reports SP Final report
Risk Assessment conducted	Has the Risk Assessment been conducted?	Community	Reduction GHG emissions	Risk Assessment reports			
Investment opportunities for private sector/communities sought	Are investment opportunities for private sector/communities being identified?	Private Sector	Number of Potential RE projects risk assessments completed	Investment reports			
Consultations conducted	Have consultations been carried out?	Development Partners	Number of Investment opportunities	RE progress report			
RETs Training carried out	Have trainings on RETs been conducted?	Sector Coordination (SC) Unit	Number of successful applications	Progress reports			
Energy Bill endorsed	Has the Energy Bill been endorsed?		Number of consultations conducted	Training reports			
GHG baseline established	Is GHG baseline being established?		Number of RET trainings conducted	Cabinet Directive			
Risk assessment report	Is the Risk Assessment report being compiled?		Energy Bill passed by Parliament	Parliament endorsement			
Targeted Training opportunities	Have targeted training opportunities been identified?		GHG Historical data collected/ compiled	Review reports			
Community Awareness Program	Has community awareness program been conducted?		All RE projects completed	Assessment results			
Locally trained Engineers	Was it effective? Are there any locally trained engineers on RETs?		Risk Assessment report	Risk and Assumption analysis			
			Number of training opportunities conducted	Training proposals			
			Community Awareness program completed	Training reports			
			Behavioral change in people	Awareness reports			
			Number of locally trained engineers	Training reports			

Output/Outcome	Monitoring and Evaluation Questions	User (who needs to know this?)	Indicator Unit (Unit of Data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
Confidence in the system	Does the system produce quality service/output? Are there any delays in the completion of the works? Are the customers satisfied?	Ministries/Agencies Community Private Sector Development Partners	Reporting process improved (both internal and external) Timely response to customer enquiries Work completion achieved on time	Divisional output Customer Survey	Divisional meeting minutes	Sector Coordinator (supported by EPCMD) Ministries/Agencies Donors	National Energy Coordination Committee (NECC) SP Midterm review report Annual SP review reports SP Final report
Confidence to share information with the community	Is the source of information reliable	Sector Coordination (SC) Unit	Reliable information distributed Accurate data	Customer feedback and follow up	Quarterly but reported annually		
Confidence in local engineers	Has confidence been built in local engineers?		Number of successful RE projects implemented by local experts	Local experts CVs			
Energy Awareness campaigns increased	Have Energy Awareness campaigns increased?		Number of Energy Awareness campaigns conducted	RE project profiles Awareness reports			
Availability of RE and EE information improved	Is the information easily accessible?		Data repository established Data available and accessible by the Sector	Energy Demand and Supply Data collection Energy Review reports Pacific Region Data Repository website			
Centralized Energy Projects Database improved	Has the centralized energy projects database been improved?		Database contained information of all energy projects Up-to-date information recorded in the Database Staff performance enhanced	Project submissions/proposals to NECC Project progress report Staff Performance Appraisals			
Sector Personnel Capacity increased	Has Sector Personnel Capacity increased?		Key resulted areas achieved Sustainability of RETs increased Quality maintenance provided	Review reports Feasibility studies			
Skills and knowledge on RETs increased	Have the skills and knowledge on RETs increased?						

Output/Outcome	Monitoring and Evaluation Questions	User (who needs to know this?)	Indicator Unit (Unit of Data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
Work ethic improved	Has the work ethic been improved?	Ministries/Agencies Community	Improved customer services	Public survey	Monthly, Quarterly, Annually		
Legal Framework developed	Has the legal framework been developed?	Private Sector	Efficient response to enquiries relating to RE	Review report on existing legislations		Sector Coordinator (supported by EPCMD)	National Energy Coordination Committee (NECC)
Partnerships strengthened	Have partnerships been strengthened?	Development Partners Sector Coordination (SC) Unit	Customer satisfaction Energy regulation in place	MOUs Progress reports		Ministries/Agencies Donors	SP Midterm review report Annual SP review reports SP Final report
Private Sector investment increased	Has the Private Sector investment been increased?		Collaboration from stakeholders increased				
Quality Monitoring Plan for RE projects developed	Has a quality monitoring plan for RE projects been developed?		Number of RE projects implemented in communities				
RE introduced in School Curriculum	Has RE been introduced in School Curriculum?		Number of PPA signed and executed	PPA			
RENEWABLE ENERGY INCREASED	Has Renewable Energy been increased?		Agreements signed between government and Development partners	Annual reports ToR for TA			
			Number of IPPs commissioned	Contract signed			
			Procured TA				
			Consultations conducted				
			Effective monitoring plan in place				
			RE included in School curriculum	Current syllabus review report			
			RE courses offered				
			New RETs successfully implemented	SP annual review			
			Number of RE investment increased within Private sector and community	Annual Energy Review reports			
			- RE contribution to TFES increased	NECC meeting minutes			

MONITORING AND EVALUATION FOR THE SUB SECTOR: ELECTRICITY

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
Contract signed (TAs, Legal Drafters, Contractors)	Have the relevant contracts been signed? (TAs, legal drafters, contractors)	Ministries/Agencies Private Sector Development Partners Sector Coordination EPC Development Partners	Number of contract signed and executed	Tenders board evaluation reports. Signed off report on completion of the contracts.	Initial phase of the project. Progress report after every phase until complete.	Ministry / Agency Sector Coordination (SC) EPC Development Partners	Annual SP review/report SP Midterm review/ report SP Final review/report NECC Committee EPC Board Cabinet
MOU signed	Have MOU's been signed?	Ministries/Agencies Private Sector Development Partners Sector Coordination (SC) EPC Development Partners	MOU signed Financial agreement signed	EPC progress report Signed MOU	Quarterly basis and annually	Ministries / Agencies EPC	Annual SP review/report SP Midterm review/ report SP Final review/report NECC / Cabinet
Work force plan in place	Is there any work force plan in place?	Ministries / Agencies Development Partners Sector Coordination unit(SC Unit)	Work force plan implemented Staff performance enhanced	Performance appraisal Work performance report	Monthly and annually	EPC	EPC Board NECC Committee
Feasibility study completed	Have any relevant feasibility studies been completed?	Ministries / Agencies Private Sector Development Partners Communities	Number of experienced staff Completed feasibility report Project implementation plan	Feasibility study report	Quarterly and annually	Ministries / Agencies EPC SC Unit	Annual SP review/report SP midterm review/report NECC EPC Board
PPA (Power Purchase Agreement) signed	Are there any PPA's signed? Have the signed PPA's been executed?	Ministries / Agencies SC Unit Development Partners EPC Board Regulator	Signed PPA Number of IPP's Commissioned and connected to the grid	Actual signed PPA IPP's progress report	Quarterly and annually	EPC OOTR AG office SC Unit	Annual SP review/report SP midterm review/report EPC Board NECC Cabinet
Funding secured	Has funding been secured?	Ministries / Agencies SC Unit Development Partners EPC Board Regulator	Financial agreement signed	Financial proposals	Monthly Quarterly	EPC SC Unit Development Partners	Annual SP review/report SP midterm review/report EPC Board NECC Cabinet
Equipment procured	Has the procurement been completed on time and within budget?	Ministries/ Agencies Development Partners	Contract Awarded and Signed Budget Allocation	RFP/ RFQ and Evaluation Report	Procurement Period	Project Partners Ministries/ Agencies	NECC Annual SP Review /Report EPC Board

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
Relevant Legislations reviewed	Have the relevant Legislation been reviewed and pass by parliament?	Ministries / Agencies EPC Development Partners Communities Private Sector	Legislations enacted	Parliament Endorsement	Annually	EPC OOTR	Annual SP review/report Mid Term review/report Final SP review/report NECC EPC Board Cabinet Parliament
EPC Act reviewed	Has the EPC Act been reviewed?	Ministries/Agencies EPC	Reviewing of the Electricity Tariff Structure Current act reviewed and passed by parliament	Incident report Cabinet Directive Parliament endorsement	Monthly Quarterly Annually	OOTR Samoa Law Reform EPC	Annual SP review/report Mid Term review/report Final SP review/report Cabinet Parliament
Web app proposal developed	Has the web app proposal been developed?	Ministries / Agencies SC Unit Development Partners Communities Private Sector	Web app proposal approved Contract signed and awarded	Web app proposal approved App progress report Tender procurement report	Annually Procurement period	EPC	Annual SP report/ review Mid Term SP review/report NECC Cabinet EPC Board
Consultations conducted	Have consultations been conducted?	Ministries / Agencies SC Unit Development Partners Communities Private Sector	Signed MOU between government and communities Number of consultations conducted	Signed MOU Consultation report	Quarterly and annually as required	EPC MWCSD	SP report and review Mid Term SP review/report Final SP review/ report EPC Board
Technology enablers installed	Have the technology enablers been installed?	Ministries / Agencies SC Unit	technology enablers installed stabilized electricity storage transmission and distribution	EPC progress report EPC quarterly report EPC annual report EDS database EPC Corporate Plan	Quarterly and annually	EPC SC Unit	Mid Term SP review/report SP Review/Report Final SP Review/Report EPC Board NECC
OOTR Intervention roles strengthened	Are the OOTR intervention roles strengthened?	OOTR EPC SC Unit Communities Private Sector	Quality service provided Affordable electricity	Public surveys Electricity tariff review report	Quarterly and annually	OOTR EPC	OOTR Corporate Plan
EPC power expansion plan implemented	Has the EPC power expansion plan been implemented?	Ministries / Agencies SC Unit CDC Development Partners Private Sector Communities	Number of rehabilitation projects completed Increase of RE development	EPC quarterly report EPC progress report EPC annual report	Quarterly and annually	SC Unit Ministries / Agencies EPC	NECC committee EPC Board Mid Term and Final SP report and review Cabinet

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
Accurate and adequate data collected	Is the data collected accurate? Is the data collected adequate?	Ministries / Agencies SC Unit Private Sector Communities Development Partners	Internal and external partners well inform Quality report produced	EPC database EDS database	Monthly Quarterly Annually	EPC SC Unit	Annual SP report and review Mid Term SP review and report EPC Board NECC
Climate change resilience measure integrated	Have climate change resilience measures been integrated?	Ministries / Agencies SC Unit Development Partners	CCR measure integrated in EPC Plans Inclusion of CCRM in all	EPC Database	EPC reports	EPC	Annual SP report and review Mid Term SP review and report EPC Board NECC
Web app designed and commissioned	Has the web app been designed? Has it been commissioned?	Ministries & Agencies EPC board SC Unit Communities Development Partners Private Sector	Web app successfully designed Web app publically available	Web app database Public reviews Web app surveys	Quarterly and annually		Annual SP review/Report, Mid Term SP Review/report and Final SP review/Report EPC Board
Capacity of staff enhanced	Has staff capacity been enhanced?	Ministries / Agencies EPC Development Partners	Number of trainings conducted Capability plan in place Quality service improved	Training proposals/report Performance Appraisals Surveys	Quarterly and Annually		Mid Term SP Review/report and final SP review/ report EPC review EPC Board NECC
Electricity affordably priced	Is the electricity price affordable?	Ministries / Agencies Private Sector Development Partners Communities.	Effective review of electricity tariff Increased electricity coverage Increased RE grid connected	EPC report EPC public notices Energy Demand & Supply Database	Monthly Quarterly Annually	EPC OOTR	Mid Term SP review /report SP final review report EPC Board NECC
More RE electricity connected	How much electricity is generated from RE? Has RE contribution been increased?	Ministries / Agencies IPP's Development Partners Communities	% of electricity from RE increased number of grid connected RE	Energy review report EPC quarterly report EPC Annual report EDS database	Quarterly and annually	EPC SC Unit MNRE STEC	Mid Term SP review/reports Annual SP Review/Report NECC EPC Board
Centralized database formulated	Has a centralized database been formulated?	Ministries / Agencies IPP's Development Partners EPC staff Private Sector	access across sector	EPC progress report Surveys	Quarterly and annually	EPC SC Unit	Annual SP review/reports Mid Term SP review/reports Final SP report NECC and Cabinet EPC Board

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
Disaster Risk Management Plans strengthened	Have the disaster risk management plans been strengthened?	Ministries / Agencies Development Partners EPC MNRE	Contingency plan in place Coverage increased	EPC progress report Contingency implementation plan report	Quarterly and annually	EPC	Final SP review/reports Mid SP review and report EPC Board
Relevant information to stakeholders	Have the relevant information been provided to stakeholders?	Ministries / Agencies SC Unit Communities Development Partner Private sector	Quality advice provided Accurate reports and proposals	EDS database EPC database	Quarterly Annually	EPC SC Unit	Mid Term SP review and report SP final review/report EPC Board NECC
Confidence in system improve	Has the confidence in the system improved?	Ministries / Agencies SC Unit CDC Private Sector Communities	Timely reporting Immediate response to Customers enquires Customer and public perception improved	Internal review Public surveys	Weekly Monthly Annually	EPC	EPC Board NECC Mid Term SP review and report SP Final review/ report
Confidence in the supply of electricity	How confident is the EPC in electricity supply? Is the EPC confident in the Supply of Electricity?	Ministries / Agencies SC Unit EPC	Reduce system loss (black outs) Reduce interruptions	Monthly reports EPC Quarter Report	Monthly Quarterly Annually	EPC	Mid Term SP Review/Report Final SP Review/Report EPC Board NECC
EPC service charter published and shared	Has the EPC service charter been published and shared?	Ministries / Agencies Communities Development Partners	EPC service charter publically available Effective delivery of services Reduced # of customer complaints	Customers satisfaction surveys	Monthly Quarterly Annually	EPC	Mid Term SP review report and final SP review/report EPC Board
Public awareness campaigns increased	Have Energy Awareness campaigns increased?	Ministries/Agencies Communities Development Partners Private Sector	Number of Energy Awareness campaigns conducted	Awareness reports	Monthly Quarterly Annually	EPC	Mid Term SP review report and final SP review report EPC Board
Data accuracy improved	Has the database for collecting data improved? Has the accuracy of database improved?	Ministries / Agencies Development Partners Private Sector Communities Students	Change in Research and Analysis Capacity Accuracy of reports produced	ADS data collection	Annually	Ministries/ Agencies EPC	SP Review/Report NECC
Access to information improved	To what extent has the EPC available information improved?	IPPs Development Partners Ministries / Agencies Communities	Sector access to relevant information needed	Quality assessment of information	Weekly Monthly	EPC SC Unit.	Annual SP report EPC Annual Report EPC Board
Capacity building increased	Has the sector personnel capacity increased?	Ministries / Agencies EPC Board	Quality and timely report provided to the sector Quality serviced provided Able to provide quality advice	Training reports Performance appraisals	EPC Training Reports	EPC	EPC Board

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
Work ethic improved	Has the work ethic been improved?	Ministries/Agencies Development Partners Private Sector Communities EPC	- Improved customer services - Efficient response to enquiries relating to RE - Customer satisfaction	Public survey	Monthly Quarterly Annually	EPC	EPC Board Mid Term SP review report and final SP review report
Electricity legislation improved	Has the electricity legislation improved?	Ministries/Agencies Development Partners Private Sector Communities EPC	Electricity legislation enacted and enforced Efficient electricity services	Parliament endorsement Cabinet directive	Quarterly Annually	EPC	Mid Term SP review report and final SP review report EPC Board NECC Cabinet Parliament
Public and private partnership in generation increased	Has the public and private partnership in generation increased?	Ministries/Agencies Development Partners Private Sector Communities EPC	Increased number of community projects	MOU signed EPC project agreements	Quarterly Monthly Annually	EPC	Mid Term SP review report and final SP review report EPC Board NECC Cabinet
Technical assistance improved	Has the technical assistance improved?	Ministries / Agencies IPP's Communities Private Sector	Reliability of the service Reduce electricity disruptions	Quarterly report Annual Report	Quarterly/Annually	EPC	Mid Term SP review report and final SP review report EPC Board NECC Cabinet
Grid stability improved	Has the grid stability improved?	Ministries / Agencies IPP's Communities Private Sector	Quality maintenance of the grid improved More RE connected to grid	EPC progress reports EPC quarter reports	Quarterly Annually	EPC	NECC EPC Board Mid Term SP review report and final SP review report EPC Board
Electricity service improved	Has the electricity service improved?	Ministries / Agencies IPP's Communities Private Sector	Affordable and quality electricity services Smart meter introduced Less complaints	Consultations Public surveys	Quarterly Annually	EPC	EPC Board Annual review report Final SP report

MONITORING AND EVALUATION FOR THE SUB SECTOR: TRANSPORT

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
NAMA Proposed approved	Has NAMA proposal being approved?	Ministries/ Agencies Development Partners	NAMA proposal uploaded to Donor Market place (websites)	NAMA Progress Reports	Annually	Steering Committee LTA, MNRE	NECC meeting Annual Sector Plan Review
Contracts Signed	Have contracts been signed?	Ministries/Agencies Development Partners Private Sectors	Number of Contract signed and executed.	Practical Completion Certificate Complete signed of report	Progress Reports	Ministries/ Agencies	Cabinet, NECC, Annual Sector Plan Review
Financial Agreements signed	Has financial agreement signed?	Development Partners Ministries/Agencies	Disbursement of funds Execution of Financial Agreements	Financial Proposals Signed Financial Agreements	Quarterly/ Annually	Ministries/ Agencies	SP Annual Reviews Development Partners meeting (Bilateral and Multilateral)
Funding Secured	Has funding being secured?	Development Partners Ministries/Agencies	Number of successful financial proposal Financial Agreements Signed.	Financial Proposals Signed Financial Agreement.	Quarterly and Annually	Ministries/ Agencies	SP Annual Review NECC
Procurement completed	Has the procurement been completed on time and within budget?	Ministries/ Agencies Development Partners	Contract Awarded and Signed Budget Allocation	RFP/RFQ and Evaluation Report	Procurement Period	Project Partners Ministries/ Agencies	NECC Annual SP Review
Road reserve extended and compensated for cycling	Has road reserve extended?	Communities Development Partners Ministries/ Agencies	(LARAP) Land Acquisition and Resettlement Action Plan in place. Construction of cycling lanes.	LARAP Reports Action Plan Consultation Reports	Annual	LTA, MWTI, MNRE	NECC Cabinet SP Review
Fuel efficient cars imported	Have fuel efficient cars been imported?	Ministries/ Agencies Communities Development Partners Private Sector	Number of Fuel efficient cars	Annually Energy Demand & Supply Data Collection	Annual	MNRE MWTI	Annual SP Review NECC Cabinet
Consultations conducted	Have Consultation Conducted? Were they Productive?	Communities Development Partners Ministries/ Agencies Private Sector	Number of Consultation Conducted Communities and Stakeholders empowerment Database Updated Annual Energy Review Report.	Consultation Reports	Annually	Ministries/ Agencies	Annual SP review
Data collected	Has data collection improved? If yes. How?	Private Sector Development Partners Communities		Energy Demand Supply Database (EDS)	Annual	Ministries/ Agencies MOF	NECC Annual Review Cabinet

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
Cycling lanes constructed	Has Cycling lanes been constructed?	Ministries/ Agencies Development Partners Private Sector Communities	Non- Motorized transport increased Population Census Survey Cycling lanes constructed	Procurement Report Census Report Progress Report of construction	Annual Every 5 years	LTA/MWTI/ SBS	Annual Sector Review
Tariffs Reviewed?	Have tariffs been reviewed?	MFR (Customs) LTA Communities	Complete Review of the tariffs endorsed by Cabinet	Cabinet Directive	Annually	MFR LTA MNRE	Annual Sector Plan Review
GHG emission reduced?	Has GHG emission in Samoa reduced?	Ministries/ Agencies Development Partners Communities Private Sectors	GHG update Report	GHG update inventory Report	Annually	MNRE	NECC Annual Sector Plan Review
CC & DRM Plan Integrated	Has CC & DRM Plan integrated?	Ministries/ Agencies Development Partners Communities	Transport infrastructure supporting the use of green vehicles designed and implemented (bicycle and alternate green vehicle routes). Climate proofing road design standards developed and implemented Emergency Escape Routes/Roads constructed/improved.	Project Proposals Progress Report	Procurement Period Annually	MNRE LTA MWTI	Annual SP Review
Quality and timely reports produced?	Have quality and timely reports been produced?	Ministries/ Agencies Development Partners	Accurate data presented in report Reports available on time	'Data Collection	Annually and Quarterly	Ministries/ Agencies Sector Coordinator Unit	Annual Sector Plan Reviews
Confidence in the System	Does the system produce quality service/output? Are there any delays in the completion of the works? Are the customers satisfied?	Ministries/ Agencies Development Partners Private Sector Sector Coordination Unit Communities	Reporting process improved (both internal and external) Timely response to customer enquiries Work completion achieved on time	Divisional output Customer Survey	Annually Division Meeting minutes	Ministries/ Agencies MOF	SP review
Confidence in the safety and efficiency of transportation improved?	Has the confident and efficient of transportation improved?	Ministries/ Agencies Development Partners Private Sector Communities	Transportation system enhanced through increased usage of network. Road Transport efficiency	Progress Reports	Annually	Ministries/ Agencies	Annual SP Review

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
Availability of Data Improved	Have the available data improved?	Ministries/ Agencies Development Partners Private Sector Communities	Improved Timely reports produce on time Database Update	EDS data Collection	Annually	Ministries/ Agencies	Annual SP Review
Public awareness on fuel saving measures increased	Has public awareness on fuel saving measures increased?	Communities, Development Partners Ministries/ Agencies	Fuel consumption for mode of transportation reduce Increase use of public transport, car pooling and non motorized vehicles.	Energy Data Collected Population Census Report on Public Awareness	Annually 5 Years	MOF SBS	Final Sector Plan Review
Accuracy of Database improved	Has the database for collecting data improved? Has the accuracy of database improved?	Ministries/ Agencies Development Partners Private Sector Communities Students	Change in Research and Analysis Capacity Accuracy of reports produced	ADS data collection	Annually	Ministries/ Agencies MOF	SP Review NECC
Collaborations between stakeholders improved	Has collaboration between stakeholders improved? If yes. How?	Development Partners Ministries/Agencies Communities	Organizational structure & outlining roles of each responsibilities of stakeholder completed and used as monitoring tool. Increased KPI % for Transport Sector achieved.	TOR Mid Sector Plan Review	Mid Review and SP Reports	Ministries/ Agencies MOF	NECC SP Review
Car-pooling & use of public transport encouraged	Has car pooling and use of Public transport encouraged? How?	Communities, Ministries/ Agencies Development Partners	Behavior Change Awareness Programs Conducted	Awareness Reports	Annual	LTA MNRB MWTI	NECC Meeting Cabinet SP Annual Reports
Work ethic improved	Has the work ethic improved?	Ministries/ Agencies Communities	Update information and report available Change in research and analysis capacity All works complete in timely manner.	Performance Appraisals	Annual	MOF	Annual SP Report
Review of relevant legislation	Has relevant legislation improved?	Ministries/Agencies Development Partners Communities	Number of existing legislation reviewed	Consultation	Consultation Reports	MOF	Cabinet/ Parliament
Partnership strengthened	Have partnerships been strengthened?	Ministries/Agencies Development Partners Private Sector Communities	Collaboration from stakeholders increased Number of transport projects	Progress Report	Annual	Ministries/ Agencies	SP Review

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
			implemented in communities				
Exhaust emission regulation (70%) enforced	Has emission regulation been enforced?	Development Partners, Ministries/Agencies	Number of vehicles tested	Register Vehicles	Monthly	LTA MNRE MOF	Cabinet /NECC SP Review
Pilot and New licensing structure for Electric & vehicles initiated	Has piloting and the new licensing structure for Electric been developed? Has it initiated?	Ministries/ Agencies Development Partners Private Sector Communities	Licensing for electric and Hybrid vehicles endorsed. Number of E-Cars and Hybrid Vehicles register	Vehicles registration report Energy Demand Supply data collection	Monthly Annually	LTA MOF	Sector Plan Review NECC Cabinet
Electric and Hybrid vehicles incentives initiated.	Are incentives in place for E-Cars and Hybrid Vehicles?	Ministries/ Agencies Development Partners Private Sector Communities	Reduce taxes on imported E-Cars. Reduction of fossil fuels consumption in Land Transport. Reduce GHG emission	Energy Demand Supply database collection	Annually	Sector Coordinator MFR LTA SBS MNRE	Annual SP Reports
Energy Efficient Transport Sector	Has the Energy Efficient of Transport improved? If Yes. How?	Ministries/ Agencies Development Partners Private Sector Communities	Reduction of fossil fuel consumption in transport sector. Reliability of Transport Network/ System.	Energy Demand Supply data collection Data Plan Final Report Review Report	Annually	Ministries/ Agencies MOF	Cabinet NECC/ CDC SP Annual Review Final SP Review

MONITORING AND EVALUATION FOR THE SUB SECTOR: PETROLEUM

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
Contracts developed and signed.	Have the relevant contracts been developed and signed?	Ministries/Agencies relevant managers. Development Partners.	Number of contracts signed and executed	-Complete signed off report on the completion of the contract work. -Practical completion certificate	Progress report after each phase until complete.	Sector Coordinator Ministries/Agencies	Annual SP Review NECC Cabinet
Complete training for personnel.	-Have personnel been trained on specific need of expertise? -Were training needs identified? -Have trainings been conducted?	Key Ministries/Agencies Service Stations Operators	-Number of training conducted -Specific trainings offered for precise expertise. -TA have been contracted to implement the trainings. -Staff capacity improved.	Training Reports TA contract signed Training Presentation PTF Meeting Minutes	Depend on trainings completed.	Ministries/Agencies	Annual SP Review Petroleum Task Force.
Funding secured	Has funding been secured? Has the proposal for funding been developed?	SC. GoS Ministries/Agencies. Funding Agencies	-Proposals developed and endorsed by NECC and Cabinet -Finance Agreement signed between GoS and Funding Agency	Monthly Petroleum Reports Finance Agreement.	Monthly Quarterly	MoF	Annual SP Review Cabinet
Equipments procured	Has equipment been procured?	SC. SP Partners.	Budget allocation. RFQ/RFP Award of Contract.	Request for Quotation and Evaluation report.	Depend on the due dates for the RFQ and the need to procure equipments.	Project Implementing Partner Project Manager/Coordinator	Funding Agencies Cabinet
Waste Oil Policy Developed	Has TA been procured to develop the Policy? Has the consultations been conducted? Has the waste oil policy been developed?	SC. Ministries/Agencies. Donors.	Waste Oil Policy in place. Waste Oil Policy monitoring plan. Consultations complete	Waste Review Report. Waste Steering Committee meeting minutes Complete consultation report	Quarterly Annually	MNRE	Annual SP Review Waste Steering Committee.
Review HSSE Standards	-Has an internal review of the HSSE been conducted?	SC Ministries/Agencies Petroleum Task Force.	-Complete review of HSSE Standards. -Compliance of all Service	Inspection Report compile by MOF. Consultation Report	Annual Inspection for renewal of SSO	MOF PTF	Annual SP Review.

Output/ Outcome	Monitoring and evaluation questions	User (who to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
	-Have Service Station Owners and all construction companies with overhead tank facilities been consulted? -Has the HSSE standards reviewed to include LPG?	Gas companies	Station and companies with overhead tank facilities with HSSE Standards. -Renewal SSO License issued.		license Monthly inspection of Petroleum price & HSSE		
Petroleum Act Reviewed	Has the Petroleum Act reviewed to include the regulation of LPG pricing? Has the reviewed Petroleum Act been approved by cabinet and passed by Parliament?	SC Ministries/Agencies	Safety handling of LPG product. Review Petroleum Act passed by Parliament. LPG prices regulated. HSSE standards specific for LPG. LPG included in the Revised standards.	Incident Reports Cabinet Directive Parliament Endorsement Inspection Report	Monthly Quarterly Annually	MOF PTF	Annual SP Review Parliament Cabinet
Electric cars imported	Has the tariff for the importation of vehicles reviewed to incorporate electric cars? Has the cabinet endorsed tariffs for electric cars? Has the number of electric cars imported increase?	SC Ministries/Agencies Communities/Public	Complete review of the tariffs endorsed by cabinet Number of imported electric cars Fuel consumption decrease for vehicles. Proposal for imported electric cars approved by NECC.	Energy Review Report. Energy data collection from MFR Customs and LTA NAMA Report	Annually	Sector Coordinator Ministries/Agencies	Annual SP Review NECC Cabinet
Updated information produced	Have all information on petroleum updated?	Ministries/Agencies Communities Funding Agencies Development Partners	Quality of information change. Timeliness of updated information available.	Structured qualitative assessment of information by staff and managers of relevant Ministries/Agencies Demand and supply data collection	Monthly	MOF	Annual SP Review
Integrated information systems established	Have we established the integrated information systems?	Sector Coordinator. Ministries/Agencies	Linked information systems established. Across sector access to	Annual Review and activity reports Number of users	Monthly	MOF	Annual SP Review

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
	How has the integrated information systems help improved the data?	Ministries/Agencies. Communities Fuel Companies Private Sector	information. Sector program areas use of information.	access the information			
Tendering processes revised (quality, etc)	Is the tendering process efficient?	Ministries/Agencies. Communities Fuel Companies Private Sector	Procurement system comparison with best practice model. Timely clearance of contract and award Simplified tendering process.	Tendering process review report Contract award and signed	Procurement Period	MoF	Annual SP Review.
Waste Oil Policy guidelines endorsed and implemented	Have the waste oil policy guidelines been endorsed? Has it implemented by the relevant ministry? How the environment is impacted by the endorsement of the waste oil policy guidelines?	Ministries/Agencies. Petroleum Product Supplies Company.	The waste oil policy and guidelines in place. Implementation Plan Waste Oil Disposal Station Waste Database	Waste Reports.	Annually Quarterly Monthly	MNRE	Annual SP Review
Electricity generation from Diesel reduced	Have the consumption of diesel for electricity generation reduced?	Ministries/Corporation Donors	The number of renewable energy technology to generate electricity connected to the grid. Reduced diesel volume for electricity generation	Energy Review Report EPC Annual Report	Annually	MoF	Annual SP Review NECC
Timely Reports produced	Are reports produced on a timely basis?	Ministries/Agencies Communities Private Sector Development Partners	Use of reports by recipient Timeliness of reports change	Structured qualitative assessment of reports by staff and managers of relevant Ministries/Agencies	Monthly Quarterly Annually	Ministries/Agencies	Annual SP Review
Safety of the storage system improved	Has the safety of the storage system improved? If yes, how?	Ministries/Agencies Funding Agencies	Compliance with international standards and best practice. Minimum storage requirement increased	Audited Report by Petroleum Government Engineers.	Monthly Annually	MoF/	Annual SP Review
Confidence in the supply and distribution processes increased.	Has confidence in the supply and distribution processes increased? If yes, how?	Ministries/Agencies Communities Service Stations Owners	Reliability of the supply and safety of distribution. Consistency of the supply and	Petroleum reports	Monthly	MoF	Annual SP Review

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
Confidence in the system increase (auditing, standards, procedures and guidelines)	Has the confidence in the system through auditing, procedures and guidelines increased?	SC. Ministries/Agencies. Funding Agencies Development Partners	distribution of fuel. Change in efficiency and effectiveness and impact of auditing systems. The adherence of the Service Station Owners and public to the procedures and guidelines.	Audit Report	Monthly	MoF	Annual SP Review.
Confidence in the transparency of the government procurement process increased.	Has the transparency of the GoS procurement increased? If yes, how?	SC. Ministries/Agencies. Funding Agencies	Best practise of GoS procurement performance system Timely approval	External review of procurement practice. Internal review of changed system.	Procurement Period	Ministries/Agencies	Annual SP Review Cabinet
Public awareness on fuel-saving measures increased	Has the awareness of the public on fuel saving measures increased? What ways this awareness impact on saving fuel?	SC. Ministries/Agencies Funding Agencies	Number of awareness programs conducted. Behavioral change of the community towards fuel saving. The consumption for fuel reduced.	Awareness Programs report Internal review of awareness program.	Annually	SC Ministries/Agencies	Annual SP Review
Coordination and dissemination of information enhanced	Has the coordination and dissemination of information enhanced? If yes, how?	SC. Ministries/Agencies Communities Private Sector	Validity and reliability of information. Staff confidence in accuracy of information. Staff use of information in policy and strategy development	Energy Review Report Internal review of information	Monthly Annually	SC Ministries/Agencies	Annual SP Review
Public awareness campaign increased	Has public awareness campaign increased? If so, to what extent?	SC. Ministries/Agencies. Development Partners	Training programs completed Number of awareness campaign conducted Population well informed	Awareness Report Training Report	Annual	SC Ministries/Agencies	Annual SP Review

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
Database updated	Has the database been updated?	SC. Ministries/Agencies. Development Partners	Validity and reliability of data collected Staff confidence about data accuracy. Database up to date	Energy Review Report data collection.	Annually Monthly	MoF	Annual SP Review
Access to Petroleum information improved.	To what extent has the Petroleum information improved? If so, how?	SC. Ministries/Agencies.	Across sector access to information. Sector program use of information. Timely Reports	Quality assessment of information	Monthly	MoF	Annual SP Review
Sector personnel capacity improved	Has the sector personnel capacity improved? If so, how?	SC. Ministries/Agencies. Development Partners	Key staff skills and knowledge change in research and analysis. Quality advice and reports provided to the sector.	Training Reports	Ad hoc basis	MoF	Annual SP Review
Individual usage of Petroleum products well managed	Has the individual usage of petroleum products well managed?	SC. Ministries/Agencies	Awareness programs conducted. Reports on the consumption of petroleum products.	Energy Review Report data collection	Annual	MoF	Final SP Review
Capacity of staff/communities on handling petroleum products improved.	To what extent has the staff/communities capacity on handling petroleum products improved?	SC. Ministries/Agencies	-Compliance to the HSSE standards. -Training for Service Station Personnel conducted -Best practice applied by staff/communities on handling petroleum products	Training reports	Annually	SC MoF	Annual SP Review
Storage and disposal responsibilities relating to waste oil improved.	Has the storage and disposal of waste oil improved? If yes, how?	SC Ministries/Agencies	Storage facilities comply with international standards. Waste oil policy approved and in place. Waste Act in place and mandated by MNRE.	Internal review of waste oil policy Waste Report. Audit Report by Government Petroleum Engineers	Monthly Annually	SC MoF MNRE	Annual SP Review.

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
Work ethic improved	Has the work ethic improved?	SC Ministries/Agencies Communities	Updated information and report available Change in research and analysis capacity All works complete in a timely manner.	Performance appraisal	Annual	MoF	Annual SP Review
Compliance with operational safety improved.	Has the compliance with operational safety improved? If so, how?	SC Petroleum Product Supplies Co. Ministries/Agencies	GoS Engineers safety report Key staff change in attitude and comply with safety procedures.	HSSE Inspection Report Audit Report by Government Petroleum Engineers	Monthly	MoF GoS Petroleum Engineers	Annual SP Review
Legislations strengthened	Has the legislations strengthened?	Ministries/Agencies Communities Private Sector Funding Agencies	Safety supply, distribution and storage of fuel. Increase compliance Spot fines/penalties endorsed by cabinet	Inspection Report Cabinet directive Audit Report by Government Petroleum Engineers	Monthly Annually	MoF	Annual SP Review
Petroleum Task Force roles strengthened	Has the PTF roles strengthened? If so, how?	Ministries/Agencies Service Station Operators	Cabinet Directive to provide support to the Petroleum Task Force decisions. Compliance of Service Stations to the HSSE standards	Petroleum Task Force meetings minutes. Inspection report Cabinet directive	Quarterly Monthly	MoF	Annual SP review.
Partnership collaboration improved	Has the partnership collaboration improved? If yes, how?	Ministries/Agencies Communities Funding Agencies Development Partners	Better coordination role across the sector. Accessibility to information and data. Communication events with communities.	Consultation Reports. PTF meeting minutes.	Monthly Quarterly	MoF	Annual SP Review
Management of petroleum products enhanced	Has the management of petroleum products enhanced? If so, how?	SC. Ministries/Agencies. Funding Agencies Private Sector Communities Development Partners	-Fuel Facility Assets aligned to international standards. - Petroleum legislations enacted. -Efficient supply, distribution, storage and handling of Petroleum products. High quality fuel imported.	Government engineer report	Annual Energy Review Report SP Annual Report	MoF SC	Annual SP Review

MONITORING AND EVALUATION FOR THE SUB SECTOR: INSTITUTIONAL FRAMEWORK

Output/ Outcome	Monitoring and evaluation questions	User (who to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
<i>Workforce Plan in place</i>	-Has a workforce plan been developed and implemented? -Were roles and responsibilities clearly defined?	Ministries/Agencies Relevant managers Sector Coordination Unit	Workforce implemented with roles clearly defined in job descriptions. Number of personnel employed	Updated job descriptions Approved workforce plan	Annually	Sector Coordination Unit Ministries/Agencies	Sector Plan annual and mid-term review. Sector Plan review/reports. Final Sector Plan report. NECC Development Partner meetings Cabinet
<i>Contracts awarded and signed</i>	-Have the TORs been developed and vacancies advertised? -Have the positions been filled and contracts signed?	GoS Ministries/Agencies Development Partners	TOR developed and vacancies advertised. Signed contracts and services commenced.	-TORs -Tender Documents -Evaluation reports -Contracts -Progress reports	Initial Project phase	Sector Coordination Unit	
<i>Funding secured</i>	-Has a financial agreement been signed? -Has a request for 1 st disbursement of funds been completed?	GoS Ministries/Agencies Development Partners	Financial Agreement signed disbursement of funds received and activities commenced	-Financial agreements -Bank statements -Financial reports/progress reports	Collected quarterly and reported annually	Sector Coordination Unit	
<i>Research and Data analysis conducted</i>	Has research and analysis been conducted regarding proposals?	Ministries/Agencies Relevant Managers Consultants/Contractors Sector Coordination Unit	Approved proposals.	-Proposals submitted to NECC -Research and analysis reports	Dependent on proposal submissions	Sector Coordination Unit	-Sector Plan annual and mid-term review. -Sector Plan review/reports. -Final Sector Plan report. -NECC -Development Partner meetings -Cabinet
<i>Timely data collection</i>	Has there been an improvement in the timely collection of data? How?	Ministries/Agencies Relevant Managers Consultants/Contractors Sector Coordination Unit	Timeliness of data collected change Rapport built between stakeholders allowing better flow of information sharing	-Frequency of data received -Energy Demand & Supply data collection -Survey across ministries/agencies regarding attitudes and timely receipt of information	Annually	Sector Coordination Unit Ministries/Agencies	
<i>NECC TOR and guidelines reviewed</i>	Has a review of the NECC TOR and guidelines been completed?	Ministries/Agencies Relevant Managers Consultants/Contractors Sector Coordination Unit	Updated NECC TOR and guidelines endorsed by NECC and approved by Cabinet	NECC meeting minutes Cabinet Directive	At time of review	Sector Coordination Unit	

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
<i>Consultations conducted</i>	Have the relevant consultations been conducted?	Unit Development Partners Independent Power Producers	Number of consultations conducted	Reports on consultation outcomes Participants lists	Collected quarterly and reported annually	Sector Coordination Unit Ministries/Agencies	Sector Plan annual and mid-term review. Sector Plan review/reports. Final Sector Plan report. Cabinet
<i>Capacity building for Sector Personnel</i>	-Have training needs been identified? -Have opportunities for capacity building been sought? -Is the delegation of training opportunities been allocated to the correct personnel?	Ministries/Agencies Relevant Managers Consultants/Contractors Sector Coordination Unit Development Partners	-Assessment of Individual Development Plans -Number of trainings conducted -Quality work produced -Overall individual performance improved	-Individual Development Plans/Training Needs Assessments -Training proposals -Training reports -Presentations -Performance Appraisals	Collected quarterly and reported annually	Sector Coordination Unit Ministries/Agencies	Sector Plan annual and mid-term review. Sector Plan review/reports. Final Sector Plan report. NECC Cabinet
<i>Legislations reviewed</i>	Have the relevant energy legislations been reviewed?		Complete review of the relevant legislations by Legal consultant	Initial Overview Report Draft amendments to legislation if required		Sector Coordination Unit Ministries/Agencies	
<i>Timely reports produced</i>	Have the relevant reports been produced in a timely manner?	Ministries/Agencies Relevant Managers Consultants/Contractors Sector Coordination Unit Development Partners Independent Power Producers	Use of reports by recipient Timeliness of reports change	-Survey across ministries/agencies regarding timely delivery of reports inter-sectoral -Thorough assessment of reports by staff and managers of relevant Ministries/Agencies	Collected monthly and reported quarterly and/or annually	Sector Coordination Unit Ministries/Agencies	Sector Plan annual and mid-term review. Sector Plan review/reports. Final Sector Plan report. NECC Cabinet
<i>NECC processes strengthened</i>	Have the NECC processes been reviewed to identify areas that need strengthening?		-Change in NECC processes -Compliance of public and private sector -Energy Project registry -Revised NECC TOR	Appraisals of Energy related project proposals. NECC meeting minutes Project progress reports	Collected quarterly and reported annually	Sector Coordination Unit Ministries/Agencies	

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
<i>Energy bill endorsed</i>	Has the Energy Bill been endorsed?	Ministries/Agencies Relevant Managers Consultants/Contractors Sector Coordination Unit Development Partners	-Energy Bill drafted and submitted to cabinet. -Bill passed by Parliament	-Cabinet directive -Endorsement of Bill by Head of State	Period of drafting and endorsement	Sector Coordination Unit	SP annual and mid-term review. -SP review/reports. Final SP report. NECC Cabinet.
Confidence in the coordination of the Sector increased	-Has the confidence in the coordination of the sector increased? -If so, what has created the increase?	Ministries/Agencies Relevant Managers Sector Coordination Unit	-Energy sector governance. -Unified Energy Sector -Clarity of roles and responsibilities amongst stakeholders	Sector Plan midterm review report Meeting minutes	Monthly	Sector Coordination Unit Energy Stakeholders	Sector Plan annual and mid-term review. Sector Plan review/reports. Final Sector Plan report.
Confidence of staff members strengthened	Has the confidence of staff members increased?	Ministries/Agencies Relevant Managers Sector Coordination Unit	- Reduced staff turnover - Sector Coordination Unit restructure approved	Performance appraisals	Annually	Sector Coordination Unit Ministries/Agencies	Sector Plan annual and mid-term review. Sector Plan review/reports. Final Sector Plan report.
Confidence to share relevant information to stakeholders increased	Has the sharing of information between stakeholders increased? How?	Ministries/Agencies Relevant Managers Sector Coordination Unit	-Reliability and validity of information - confident to share and use the information	Review of information shared. Energy Demand and Supply data collection	Annually	Sector Coordination Unit Ministries/Agencies	Sector Plan annual and mid-term review. Sector Plan review/reports. Final Sector Plan report.
Confidence in the energy sector system enhanced	Have we enhanced the energy sector system? If so what changes have been made to build confidence in the system?	Ministries/Agencies Relevant Managers Sector Coordination Unit	-Efficient management of complaints -Staff use of energy sector system increased -Staff confident to use the system -Timely response to enquiries -Knowledge and understanding of correct processes	Meeting minutes Sector Plan review	Collected quarterly and reported annually	Sector Coordination Unit	-Sector Plan annual and mid-term review. -Sector Plan review/reports. -Final Sector Plan report.
Energy Awareness campaigns increased	Has there been an increase in the Energy Awareness campaigns conducted?	Ministries/Agencies Relevant Managers Sector Coordination Unit Communities	-Number of Energy awareness campaigns -Use of information gained by recipients -Change in attitudes/behaviors regarding Energy	Awareness reports Evaluation of campaigns by participants			

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
Accuracy of database increased	Has the accuracy of the database increased? How?	Ministries/Agencies Relevant Managers Sector Coordination Unit	-Change in accuracy of database -Reliability and validity rating of data collected -Ways in which the database can be accessed -Staff confidence in data accuracy. -Database up to date	Survey of database users Database usage records	Collected quarterly and reported annually	Sector Coordination Unit	Sector Plan annual and mid-term review. Sector Plan review/reports. Final Sector Plan report.
Sector Personnel capacity increased	Has personnel capacity increased? How and what was done to increase capacity?		Number of relevant trainings conducted Change in skills and knowledge with how research and analysis is conducted. Quality advice and reports improved.	Assessment by staff members regarding knowledge products One on One review between staff and line manager	Collected monthly/quarterly and reported annually		
Staff motivation increased	Has the motivation of staff increased? How?	Ministries/Agencies Relevant Managers Sector Coordination Unit	-Staff motivation increased through capacity building opportunities. -Team building exercises -Recognition	Public Service Commission surveys Awards	Annually		
Work ethic improved	Has the work ethic of staff improved?		- responsibilities allocated to individual staff -Recognition -Incentives (bonuses)	Staff self assessment survey One on One with managers	Annually	Sector Coordination Unit Ministries/Agencies	Sector Plan annual mid-term review. Sector Plan review/reports. Final Sector Plan report.
Networking skills improved	Has staff networking skills improved? How?	Ministries/Agencies Relevant Managers Consultants/Contractors Sector Coordination Unit	-Rapport built between ministries and agencies -Increased partnership collaboration -Change in attitudes	Focus groups across key ministries/agencies	Annually		
Legal framework developed	Has the Legal framework been developed?	Development Partners	Legal Framework in place.	Review of all relevant legislations Cabinet Directive Energy Bill	Collected quarterly and reported annually		Sector Plan annual and mid-term review. Sector Plan review/reports. Final Sector Plan

Output/ Outcome	Monitoring and evaluation questions	User (who needs to know this?)	Indicator (Unit of data)	Data collection method	Frequency and timing of collection	Responsibility for collection	Where data will be presented
Quality and timely policy advice provided	Has quality policy advice been provided? Has it been provided in a timely manner?	Ministries/Agencies Relevant Managers Consultants/Contractors Sector Coordination Unit	Comprehensive recommendations Timeliness response	-Annual review of policies -Focus groups with relevant ministries/agencies -Project database	Annually		report. NECC Development Partner meetings Cabinet
NECC role enhanced	Has the role of the NECC been clearly defined? If so, has there been an enhancement?	Development Partners Unit	Change in the effectiveness and the impact of the NECC and sub-NECC	-Number of proposals submitted through NECC secretariat -NECC and sub-NECC meeting minutes	Monthly	Sector Coordination Unit	Sector Plan annual mid-term review. Sector Plan review/reports. Final Sector Plan report. NECC Development Partner meetings
Partnership with private sector enhanced	Have the partnership between the public and private sectors been enhanced? How?	Ministries/Agencies Relevant Managers Consultants/Contractors Sector Coordination Unit	-Partnerships enhanced through changes to incentives -MOU signed between GoS and private sector -Number of projects implemented at the community level	-Focus groups between relevant ministries/agencies and private sector -Number of MOUs -Progress/inspection reports	Collected quarterly and reported annually	Implementing Agencies Private Sector	
Community engagement strengthened	-Is the community more involved? -Have we strengthened the relationship with the communities? - What have we done to strengthen it?	Ministries/Agencies Relevant Managers Consultants/Contractors Sector Coordination Unit Communities	-Public consultations conducted out in the communities -Community outreach -Positive perception of the Energy Sector	-Number and type of consultation -Evaluation of consultation by communities Progress reports	Annually	Sector Coordination Unit Ministries/Agencies	
Coordination of the Energy Sector improved	Has the overall coordination of the energy sector improved? What improvements have been made?	Ministries/Agencies Relevant Managers Sector Coordinator/Coordination Unit	-Increase in Project approval and implementation complete. -Clear definition of NECC and sub-NECC roles -Clarity of the roles and responsibilities of Energy Stakeholders -Process improvements regarding energy related matters	-Collation of information from all of the above. -Analysis of Sector Performance through special reports – such as Sector Plan annual and mid-term reports and reviews. -Energy Demand and Supply data collection	Annually	Sector Coordination Unit Energy Stakeholders	Sector Plan annual mid-term review. Sector Plan review/reports. Final Sector Plan report. NECC

Annex 3: List of Participants for the Public and Energy Stakeholders Consultations

GOVERNMENT MINISTRIES

MINISTRY OF FINANCE

CHIEF EXECUTIVE OFFICER - Lavea Tupa'imatuna Iulai Lavea

ACEO-CSSD – Faaolatane Soane Leota

ACEO-Budget – Abigail Lee Hang

ACEO-PFM – Tofilau Lae Siliva

ACEO-CRICD - Litara Taulealo

ACEO-Procurement – Soteria Noaese

ACEO-Legal Consultant – Salote Peteru

ACEO-Accounts – Rosita Mauai Matalavea

ACEO-IT – Wellington Seufale

Sheliza Tapua'i

Feagaimaleata Tafunai

ENERGY POLICY & COORDINATION DIVISION

Sione Foliaki

Heremoni Suapaia-Ah Hoy

Flavia Luamanuvae

Lorraine Salesa

Faasaina Faataga-Gwilliam

Leilani Tagiilima

Faatali Simanu

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Joy Pagaiali'i

Felicity Pogi

Faavae Mulitalo

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Siaituvao Talataina

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Fiasōsōtamali'i Siasoi

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Etiseli Fauatea

Renolla Matatia

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Petone Ainuu Tofia

Tracey Faasii

Enesi Fesootai

Lisabella Ropati

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Keyonce Lee Hang

Tai Matatumua

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Akeripa Jr. Misa

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Rebecca Schuster
Siovia Liu
Eleanor Fruen

OFFICE OF THE REGULATOR

Sua Faumuina
Cecily Faasau
Temukisa Ray

SAMOA BUREAU OF STATISTICS

Silaulii Misiluki
Mose Topeto
Siata Ulu

STATE OWNED ENTERPRISES

ELECTRIC POWER CORPORATION

Tupa'i Mau Simanu
Nuulopa Hill
Vavaemuitiiti Samasoni Fepuleai
Fiu Moeonā Leo
Tiatia Ferila Lokeni

SCIENTIFIC RESEARCH ORGANISATION OF SAMOA

Fonoti Lilo Samani Tupufia

LAND TRANSPORT AUTHORITY

Tuvale Reupena

SAMOA TRUST ESTATE CORPORATION

Natasha Kolose
Toetu Taeaolii

SAMOA AIRPORT AUTHORITY

Amosa Amosa

SAMOA FIRE EMERGENCY AUTHORITY

Anthony Moananu
James Maui

NON-GOVERNMENT ORGANISATIONS:

SAMOA UMBRELLA FOR NGO'S

Raymond Voigt

PRIVATE SECTOR ORGANISATIONS:

PETROLEUM PRODUCTS SUPPLY

Peter Ripley

ORIGIN ENERGY

Felise Sam Chong

BOC GASES

Ryan Moleenar

CHAMBER OF COMMERCE & INDUSTRY

Tupe Crawley

SOLAR FOR SAMOA CO. LTD

Oloipola Terrance Betham

LE AUTE GAS

Nally Tafue

GREEN POWER SAMOA

Chen
Wang

SAMOA PROPANE GAS

Tenney

PONIFASIO LAWYERS
Saron Ponifasio

COMMUNITIES

Village Representatives

Suluape Aliivaa Petelo Suluape
Taupau Afioa'e
Popo Petelu Papu
Olo Tolovae
Asa Michael Leausa
Falemalu Sitagata Hunt
Savea Willie Sinclair
Tanupo Joe Chan Foom
Lepale Fafitu
Toeafua Auaapau Faamasino Sione
Tauai Tavita Laki Nafaitoa
Ainuu Iva Chan Chui
Faasoutele Savaliga
Tuilimu Manuele Paletasala
Su'a Amani
Foluena Foetuese Mapu
Tuilagi Vaefaga
Taua Falaniko
Tevaga Ioane
Polutea Faletao
Nafai Selemaea
Peauala Tupu Folo
Tauoa Silipa Burgess
Faumuina Faaeteete
Taala Ekuuati
Talifala Manimani Hugo
Faaolatane Faono
Paletaoga Tupu
Moemai Kome
Malaerule Amoni
Vui Aileone
Galuvao Seko
Oloipola Sefo

Women Representatives

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Ana Seilala
Lini Toomata
Toala Schuster
Sasa Patū
Faafetai Laasaga
Tumau Faasavalu
Fetu Elia

Women Representatives cont'd

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Susana Fuimaono
Pepe Faopopo
Taulalo Siavao
Susitina Lene
Lalokava Pousui
Tulipe Mataafa Malu
Ala Nuufuli Sevesi
Nuufou Sao Faru
Fili Tuato
Elisapeta Laulu
Legoga Togagae
Tapuvae Mafutaga
Asiasiga Kasiano
Fasia Valeni
Taofi Aufai
Vaelua Siufofoga
Elisapeta Tusitala Taotua
Toalua Meni
Elaumate N.

YOUTH NATIONAL COUNCIL

Theresa Mann
Ioakimo Manu
Misa Tautua Neo
Curtis Fiti
Ben Tuala
Tafunaina Fereti
Petaia Leuta
Uli Taaolo
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Letoae Matagi
Tuala Victor Vaauli
Niu Mapuiafa
Ionatana Toleafoa
Sefo Sao
Alama Muaulu
Eseta Nuulelei
Fito Palenapa
Tevita Tapuai
Matalena Poiva
Faalialia Fiamatai



EUROPEAN UNION



PACIFIC ISLANDS
FORUM SECRETARIAT

EU-GIZ ACSE
ADAPTING TO CLIMATE CHANGE
AND SUSTAINABLE ENERGY



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