



SOLOMON ISLANDS NATIONAL ENERGY POLICY AND STRATEGIC PLAN

Volume 3

PETROLEUM AND ALTERNATIVE LIQUID FUELS STRATEGIES AND INVESTMENT PLAN (2014–2019)

MINISTRY OF MINES, ENERGY AND RURAL ELECTRIFICATION





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Foreword



I am pleased to present to you the third volume of the *Solomon Islands National Energy Policy and Strategic Plan* which presents the priorities of the government and the strategic directions for the petroleum sub-sector over the next five years. The *Petroleum and Alternative Liquid Fuels Strategy and Investment plan* (PET- ALT SIP) is one of the Solomon Islands Government Strategic Plan which is aligned to the 2014 National Energy Policy vision and goals.

Petroleum use will continue for a long time and its use for electricity and transport has increased over the past years. Therefore coordination to monitor and regulates the safety and standards of imported petroleum products as well as providing fair prices to all people of the Solomon Islands is vital. This strategy provides complementary activities to improving the implementation of existing regulations relating to the petroleum pricing, safety and standards.

It is also very important to note the need for promoting alternative liquid fuels for both electricity and transportation uses and I am happy to note that it is also considered as one of the outcome of this strategy and investment plan.

The PET-ALT SIP was developed in close consultation with energy service providers, representatives of the government and community, the private sector, and development partners. The strategy also includes capacity development and technical assistance and it is anticipated that through the implementation of this strategy that efficient petroleum supply and that affordable and safe products reaches the remote and isolated communities.

In conclusion, I wish to thank all national stakeholders and development partners for their contributions to this strategy and investment plan. Its implementation requires concerted effort from all stakeholders and I strongly encourage you to continue to support and contribute to the implementation of the strategies and activities identified in this document that will help improve the lives of all Solomon Islanders.

Hon. Moses Garu

Minister for Mines, Energy and Rural Electrification

Preface and Acknowledgement

The Energy Programme of the Economic Development Division is acknowledged for the technical support provided to the Energy Division in the formulation of this strategy and investment plan. In addition, appreciation is accorded to the local stakeholders, government ministries, private sectors, non-government organisations who have participated at both the national consultations and those who have provided direct inputs to this strategy.

The formulation of this strategy was done as part of the review and development of the 2014 SINEP and formulation of energy sub sectors strategies and investment plan including the energy efficiency and conservation and renewable energy. The Ministry of Energy, Mines and Rural Electrification has been instrumental in directing the development of SINEP and strategy and investment plans as it sees a need for a more cohesive approach to its planning and that all its efforts are aligned to the National Development Strategy key focus areas. A five years approach to budget allocations by Parliament has also been adopted by the Solomon Islands Government in 2014 and this provides a clear direction in financial resources that are available against implementation of sectoral policies and strategies. Thus the PET-ALT SIP is a five year plan and is intended as a guiding document to the Solomon Islands government and development partners.

The first consultation on the review and the formulation of the PET-ALT SIP was conducted in November 2012. The final draft was presented at the National Energy Forum held in Honiara in June 2013. The draft PET-ALT SIP was circulated for comments by various stakeholders in November 2013.

This PET-ALT SIP is presented as Volume 3 of the Solomon Islands National Energy Policy and Strategic Plan which contains 4 Volumes; Volume I covers the overarching policy and how its aligns to the National Development Strategy, Volume II contains the Energy efficiency and conservation sub sector strategies, actions and investment plan, Volume III contains petroleum sub sector strategies, actions and investment plans, while Volume IV contains renewable energy strategies, action and investment plan. A report titled "Solomon Islands Energy Sector Review "provides a review of the 2007 SINEP and its 2009 National Action Plan as well baseline information and data on the different energy sub sectors.

Executive summary

The Petroleum and alternative liquid fuels strategies and investment plan (PET-ALT SIP) is delivered at an appropriate time as government strives to underline the importance of good governance, credible and stable policies guided by the newly developed Solomon Islands National Development Strategy 2013–2020 (NDS). This PET-ALT SIP provides a way forward in meeting one of the 2014 Solomon Islands National Energy Policy (SINEP) goals: Increase the access of safe, affordable and reliable petroleum products and alternative liquid and gaseous fuels.

The strategy has four outcomes, which are also taken from the SINEP petroleum sector priorities.

- 1) Supply and affordability of petroleum products to outer islands and remote rural locations are improved.
- 2) Petroleum storage and handling facilities conformed to local and international safety, health and environmental standards.
- 3) Regulated petroleum prices effectively monitored in the nine provinces.
- 4) Alternative fuel projects coordinated.

The reliance on petroleum products will continue into the foreseeable future as the country improves its economic base through increasing production of its natural resources. In 2009, Solomon Islands petroleum imports accounted for over 15% of its GDP, which is significantly higher than its neighbouring Pacific Island countries (PICs) such as Fiji and Vanuatu. In 2012, the total import cost of petroleum fuels was SBD 843 million, which, as a proportion of GDP, accounted for slightly less – 14%.

It is estimated that more than 50% of Solomon Islands fuel is used for the transport sector (land vehicles and domestic shipping vessels) while the remaining is used for electricity generation, mainly for the urban areas in Honiara and provincial centres. The cost of electricity and fuel prices in Honiara is amongst the highest in the Pacific region and is directly affected by the fluctuation in global prices. Petroleum products are not always available in the outer islands and access to grid connected electricity in limited to 16% of the population, mostly in the urban areas. There is high dependence on the use of kerosene for lighting and on small solar PV home systems in rural and outer islands. Improving energy security in rural areas could be enhanced through the use of renewable energy sources such as bio-fuel. However, there is a need for collaboration with relevant stakeholders and for government to set acceptable quality standards on alternative fuels. While this is being pursued, the need for further collaboration with provincial councils on the supply, storage and regulation of petroleum prices in the rural and outer islands should be a priority.

This strategy highlights commitments, policy statements, strategies and activities that the Ministry of Mines, Energy and Rural Electrification (MMERE) through its Energy Division will focus on in the next five years to better manage and coordinate the petroleum sector in Solomon Islands. It is highly likely that there will be continued reliance on petroleum products for transport and electricity generation into the foreseeable future and the onus is on government to ensure that reliable and affordable energy services are provided with improved accessibility and energy security.

The 2014 SINEP emphasises the need for strong leadership and a clear forward vision in the energy sector to be supported by a relevant legislative framework, capacity, commitment and resources. Training in all aspects of the energy sector and in particular in the petroleum sector is still a challenge due to limited capacity and resources and the out-dated *Petroleum Act 1978*. However, this strategy, PET-ALT SIP, hopes to reduce these challenges.

PET-ALT SIP is presented in four parts. Part 1 is an introduction to the strategy but also highlights the methodology used in developing PET-ALT SIP, as well linking the energy sector to the economic development of Solomon Islands. Part 2 contains a review of the petroleum sub-sector and discusses the need for a broader regulatory framework governing the petroleum sector and the need for a sector-wide approach. Part 3 covers the strategies and actions, and Part 4 covers petroleum investment plans.

PART 1 INTRODUCTION

1.1 Purpose

The purpose of developing this PET-ALT SIP is to provide a clear vision of how best to plan, manage, coordinate and lead the petroleum sector. The strategy is developed in line with the Solomon Islands Government's focus areas and objectives as outlined in the *National Development Strategy 2011–2020* (NDS) and considers the challenges to the supply of safe, reliable and affordable petroleum products to the population.

The governance of the petroleum sector in Solomon Islands in terms of safety, environmental and health standards is covered by the *Petroleum Act 1978*, which is outdated and in need of review. Price control and related regulation of petroleum products pricing are governed under the *Price Control Act 1982*, which is also outdated. There are inadequate provisions for fines for non-compliance. The two acts are administered by two government ministries, the Ministry of Mines, Energy and Rural Electrification administers the *Petroleum Act*, while the Ministry of Commerce, Industry, Labour and Immigration administers the *Price Control Act*.

Petroleum fuels such as diesel and gasoline are used for land and sea transportation and diesel is used for electricity generation. Dual purpose kerosene is mainly used for aviation fuel but also for cooking and lighting.

Rising fuel prices in past years, notably in the first half of 2011, have translated into an increase in the cost of electricity in Solomon Islands. The electricity tariff for domestic users was increased by 27%, to USD 5.25 per kWh from USD 4.15 per kilowatt hour (kWh) and is noted as the highest in the Pacific region.

The energy sector is dependent on petroleum products for driving the electricity and transport sector (land, air and sea) of the economy and it is therefore very important that the petroleum sub sector is properly regulated to ensure that suppliers and end users get a fair deal.

There are several challenges faced by government relating to the petroleum industry and the promotion of alternative liquid fuels. Four such challenges are:

- ensuring that fuel prices are fair and reasonable. Enforcement of the *Price Control Act* has been a serious challenge, especially in the outer islands, due to a serious lack of resources made available to government enforcement officers;
- the limited availability of affordable petroleum fuels in the outer islands and remote rural areas is hindering development opportunities;
- > the lack of alternative fuel project coordination; and
- the lack of safety and environmental standards.

1.1.2 Fuel price regulation

Enforcement of the *Price Control Act* in the outer islands is not effective due to the lack of resources (human resources and financial constraints). It has been suggested that a minor levy could be placed on imported petroleum fuels and that those funds could be made available to assist the Price Control Unit to check that proper prices are applied in rural and remote areas. The amount of the levy would need to be based on what activities it would need to fund.

1.1.3 Availability and affordability of fuel in outer islands and remote rural areas

The limited availability of affordable petroleum fuels in a safe and sustainable manner in the outer islands and remote rural areas is a challenge that the government needs to address. This limitation hinders opportunities for energy access and uses.

1.1.4 Coordination of alternative fuel projects

Currently, alternative fuel projects are being undertaken on a small scale and would benefit from improved coordination.

The Asian Development Bank (ADB) and Solomon Island Electricity Authority (SIEA) biofuel plant of 36 kW is being trialled in Auki in Malaita Province and SIEA is promoting and scaling up its use. SIEA also has a power purchase agreement with Solomon Tropical on generation using biofuel. The transport trial in Honiara and Lata is still in small-scale use.

The challenges faced by the SIEA in maintaining the use of coconut oil is the shortage of copra supply from plantation owners and farmers which is related to competition from well-established exporters to foreign markets that have links to local farmers.

The potential for harnessing biomass through a gasification process of by-products and forest waste needs to be properly assessed in terms of harnessing this technology as an economically viable alternative for power generation.

1.1.5 Safety and environment standards

The lack of safety and environmental standards has been related to limited local capacity to develop these standards. They can be based on international standards but may need to be adapted to local conditions.

It is anticipated that PET-ALT SIP will assist government to address the issues related to the proper management of the petroleum sector and encourage collaboration among relevant stakeholders.

1.2 Methodology

PET-ALT SIP was developed through the following methodologies.

- Review of the 2007 *Solomon Islands National Energy Policy* and action plans which includes the petroleum sub-sector review
- Consultations with the relevant ministries, the private sector and non-governmental organisations (NGOs) in Solomon Islands. (Refer to Annex 1 for list of stakeholders consulted.)
- A two-day workshop conducted in Honiara, Solomon Islands in November 2012.
- A two-day National Energy Forum held in Honiara, Solomon Islands on 19–20 June 2013 for presentation of the draft strategy and more input. (Refer Annex 1 for list of organisations.)

1.3 Links to the National Development Strategy focus areas

The correlation between access to energy and economic and social development for Solomon Islands has not been well documented, even though the energy sector has been integrated into the NDS.

The SI NDS 2011-2020 is a ten-year planning document that identifies government's development priorities. The focus areas of the NDS include:

- the overarching focus area: Building better lives for all Solomon Islanders;
- the central focus area: Taking better care of the people;
- the central focus area: Improving the livelihoods of the people; and
- the underlying focus area: Creating and maintaining the enabling environment.

The objectives of the NDS are supported by the medium-term strategy of the Ministry of Mines, Energy and Rural Electrification with budget details, timelines, indicators and strategies aligned to national sector policies and strategic areas. The energy sector plays an important role in facilitating the achievements of the NDS focus areas and this is highlighted in Table 1.

Table 1: Links between the energy sector strategic areas, the NDS and the MMERE corporate plan

2014 National	een the energy sector strategic areas, the	
Energy Policy sub-	Key policy statements	National Development Strategy focus areas and
sectors	key poney statements	objectives
Energy sector planning, coordination, leadership and partnership	 Leadership is strengthened through an approved high-level multi-sectoral coordinating mechanism, supported by legislation. The energy sector is provided with the appropriate level of legal authority and resources (financial and human) to perform its leadership role. Partnerships are established and strengthened at local, national, regional and international levels for the development of energy programmes and projects. 	Focus Area: Improving the livelihoods of the people Objective 6: Develop physical infrastructure and utilities to ensure that all Solomon Islanders have access to essential services and markets Energy sector planning and management: Strengthen energy sector planning and policy implementation through an integrated approach supported by appropriate capacity and dissemination of energy-related information through school curricula, community training and wider consultations on policy issues, legislation and regulations.
Electricity sector – rural	 Increase the supply and coverage of electricity by responding to community requests. Increase the supply of modern energy services in rural schools, telecommunication and health centres. Plan sustainable energy development consistent with government objectives. Develop a renewable energy policy and a rural electrification policy. 	Focus Area: Building better lives for all Solomon Islanders Objective 1: To alleviate poverty and provide greater benefits and opportunities to Improve the lives of Solomon Islanders in a peaceful and stable society. Electricity – rural areas: 1998 Master Plan – focus on hydro power on large islands and solar power on water short atolls, PPP and IPP, energy conservation and efficiency
Renewable Energy Energy efficiency and conservation	 Establish an appropriate, reliable, affordable and sustainable renewable energy-based power supply. Assess, cost, promote and enhance the potential for renewable energy resources. Increase productivity in rural communities with the use of renewable energy services. Develop renewable energy policy instruments (standards and regulations, net metering policies, market-based instruments, procurement strategies) to meet the renewable energy targets. Facilitate partnerships in development of renewable energy developments. Promote energy conservation and efficiency measures in government, residential, commercial and business sectors. Encourage energy efficiency in appliances, equipment and 	Focus Area: Improving the livelihoods of the people Objective 5: To increase the rate of economic growth and equitably distribute the benefits of employment and higher incomes amongst all provinces and people of the Solomon Islands

Petroleum and alternative liquid fuels

- The monitoring and regulating of petroleum prices is done in transparent and coordinated ways.
- A reliable supply of good quality petroleum products at landed cost is supplied to all people in Solomon Islands.
- Petroleum storage and handling facilities conform to local and international safety and environmental standards.
- Suppliers and users of petroleum products dispose of petroleum-related waste in an environmentally sound manner.
- Research in alternative liquid and gaseous fuels is promoted, supported and well-coordinated.

Petroleum

- Ensure petroleum storage and handling conforms to local and international safety and environmental standards.
- Ensure that fuel costs are fair and equitable including in outer islands and remote rural locations
- Require the petroleum industry to protect the environment where it is directly at risk from petroleum sector activity.
- Review and update the Petroleum Act, including identification and introduction of appropriate dangerous goods storage, handling and transportation.
- Review and update the Price Control Act as it applies to petroleum fuels.
- Improve enforcement of the Price Control Act, especially as it applies to the outer islands and remote rural regions.
- Improve coordination of alternative fuel projects.

The petroleum sub-sector, in addition to electricity and energy sector planning and coordination, will assist in achieving one of the two focus areas of the NDS – *Improving the livelihoods of the people* – as well as meeting the NDS Objective 6 – *Develop physical Infrastructure and utilities to ensure that all Solomon Islanders have access to essential services and markets.*

Solomon Islands' geographical setting requires that petroleum fuels are readily and economically available to support the transportation of goods and services. Therefore, links to the transportation sector are integrated in this strategy. Solomon Islands can improve its economic development potentials by improving energy services to its urban, rural and remote communities through the use of renewable energy sources, proper management of its petroleum-based power supplies, improving the efficiency of energy generation and consumption, strengthening institutional energy sectors, and improving partnerships locally, regionally and internationally to foster funding resources.

1.4 Preface and acknowledgment

The Energy Programme of the Secretariat of the Pacific Community's Economic Development Division is acknowledged for the technical support provided to the Energy Division in the formulation of this strategy and investment plan. In addition, appreciation is accorded to the local stakeholders, government ministries, the private sector and non-governmental organisations that have participated at the national consultations and have provided direct input to this strategy.

The formulation of this strategy was done as part of the review and development of the 2014 SINEP and the formulation of the energy sub-sector's strategies and investment plan, including energy efficiency and conservation and renewable energy. The Ministry of Energy, Mines and Rural Electrification has been instrumental in directing the development of SINEP and strategy and investment plans, as it sees the need for a more cohesive approach to its planning and aligning all its efforts to the NDS key focus areas. A five-year approach to budget allocations by parliament was adopted by the Solomon Islands Government in 2014. It provides a clear direction for financial resources that are available against implementation of sectoral policies and strategies. Thus, PET-ALT SIP is a five-year plan and is intended as a guiding document to the Solomon Islands Government and development partners.

The first consultation on the review and development of PET-ALT SIP was conducted in November 2012. The final draft was presented at the National Energy Forum held in Honiara in June 2013. The draft PET-ALT SIP was circulated for comment by various stakeholders in November 2013.

This PET-ALT SIP is presented as Volume 3 of the Solomon Islands National Energy Policy and Strategic Plan which contains four volumes; Volume I covers the overarching policy and how its aligns to the NDS; Volume 2 contains the energy efficiency and conservation sub-sector strategies, actions and investment plan; Volume 3 contains the petroleum sub-sector strategies, actions and investment plans; and Volume 4 contains renewable energy strategies, action and investment plans.

A monitoring and evaluation (M&E) plan is to be developed as part of the administration and planning sub sector work plan. A report titled *Solomon Islands Energy Sector Review* provides a review of the 2007 SINEP and its 2009 National Action Plan, as well baseline information and data on the different energy sub-sectors.

PART 2 REVIEW OF THE PETROLEUM SUB SECTOR

2.1 Introduction

Solomon Islands is heavily dependent on petroleum fuels to sustain its economy. The provision of a secure, reliable and affordable fuel supply to both urban and rural areas is of paramount importance. Storage facilities and fuel supply infrastructure in Solomon Islands require stringent adherence to international safety and environmental standards. Fuel quality is also of importance and the development of national fuel standards is fundamental to an efficient and sustainable petroleum sector.

The Solomon Island Government understands that substantial capital investments will need to be made to improve the fuel supply security into the future. This will necessarily involve discussions with current operators, including finally addressing the national necessity and implications of moving one or more of the fuel terminals to a more long-term sustainable location. Legislation related to fuel price regulation needs to be reviewed to achieve affordable prices and a fair return to suppliers.

Innovative solutions must be found to have a positive impact on improving the security of supply without adversely affecting the people in the outer islands and rural provinces. Related legislation is long overdue for review. Reviewing legislation and increasing capacity building should focus on efficient price monitoring in rural areas, as well as monitoring the operations of petroleum importers, retailers and distributors. Strategic investment by government could assist in achieving downward pressure on prices, as well as improving compliance of oil companies to safety, health and environment standards. More efficient local distribution and government subsidies would have an impact on lowering the price in the rural provinces. This, however, needs to be evaluated from a national benefit perspective.

2.2 Regulatory framework

The petroleum sector in Solomon Islands needs updated legislation, as the policies and national plans are not effectively monitored and reported to ensure that the envisioned outcomes, strategies and targeted activities are being met. Two pieces of legislation relating to the petroleum sector that need updating and reviewing are the regulatory framework that provides for storage and supply of petroleum products, i.e. the *Petroleum Act* (1939, revised in 1978) and the *Price Control Act* 1982, related to the monitoring and regulating of petroleum prices in Solomon Islands.

2.2.1 Petroleum Act 1978

The Petroleum Act (1978) defines the word petroleum as 'any oil, liquid or spirit derived wholly or in part from any petroleum, shale, coal, peat, bitumen or similar substance, but does not include any oil ordinarily used for lubricating purposes or having a flash-point above two hundred degrees Fahrenheit'. As such, the act does not cover biodiesel.

The *Petroleum Act* needs to be amended so that it addresses a broader definition of petroleum and includes liquefied petroleum gas, biodiesel and biofuel. In addition, the review will cover data and information sharing; licensing of petroleum companies, including offshore bunkering and logging companies; and stricter penalties for breaches of the act.

2.2.2 Price Control Act 1982

The *Price Control Act* provides for the 'review of prices or charges for sale of goods or supply of services'. The act needs to be amended to include an efficient price monitoring process, lubricants and biofuel as a regulated good, and penalties for breaches of the act.

Petroleum products prices are monitored in Honiara but not in rural provinces, so prices there are often unaffordable. Lack of human resource capacity is one of the factors that makes price monitoring in rural provinces a challenge, one that the government needs to address. Monitoring may improve suppliers' incentives to pass on efficiency gains, hence limiting the upward pressure on petroleum prices and making petroleum products more affordable in the provinces.

2.2 Empowering and holding accountable key energy sector institutions

Regulating the petroleum sector will require strong and effective institutions, which need to be empowered in order to effectively implement petroleum sector initiatives. Establishing effective price monitoring and/or regulation of petroleum products in Honiara and the provinces will require capacity building and engaging provincial council officers to monitor prices in the rural areas. Price monitoring is the responsibility of the Price Control Unit (PCU) under the Ministry of Commerce, Industry, Labour and Immigration (MCILI). A more strategic approach to improving capacity and effective price monitoring in the nine provinces could be by training and updating the officers at provincial councils on changes in petroleum prices.

The government needs to be committed to ensuring that the PCU has the capacity to monitor prices at regular intervals in order to ensure that customers are charged equitable fuel prices. Additional funding is required to support the PCU and in the 2011 Annual Review of pricing, the Price Advisory Committee recommended that a 1 cent per litre levy be applied to fuel prices through the pricing template. This fund would be allocated to reviewing petroleum price instruments and recruiting staff so that price regulatory functions are fully enforced.

2.3 Implementing a sector-wide approach (SWAp) to investment

The increasing consumption of petroleum fuel poses concerns in terms of environmental impacts, not only in terms of carbon emissions but also from improper handling and management of petroleum products. Discharge and storage of petroleum products and disposal of waste produced in a petroleum storage facility need to be managed properly. This section describes the investments in the petroleum sector that the government should be requiring of suppliers in order to improve the security of supply and affordability of petroleum products throughout Solomon Islands.

2.3.1 Barge for local distribution

Improving the efficiency of the distribution of petroleum products to outer islands will place downward pressure on retail fuel prices in rural locations. Efficient distribution will also significantly improve the security of petroleum supply in the outer islands.

Fuel suppliers and shipping companies need to explore the option of using barges for local and inter-island distribution. Barges will help to increase the efficiency of the domestic supply chain, in addition to improving the operating and safety standards of domestic distribution.

At this time there are no plans by government or the oil companies to invest in barges for local distribution. This contrasts with neighbouring countries such as Vanuatu, where the government and the Pacific Petroleum Company (PPC) have signed a memorandum of understanding to invest in a double-hulled fuelled barge for efficient distribution to outer islands. The government will contribute 30% towards the cost of the barge, with PPC investing the remaining 70%. The Solomon Island Government can similarly look into the prospect of partnerships with oil companies for investment in barges for local distribution.

2.3.2 Additional storage

There is a need to rationalise and, if necessary, to increase bulk fuel storage capacity on Guadalcanal in order to achieve economies of scale available through bulk shipments by medium range (MR) tankers.

New storage facilities in outer islands may also be required to improve the security of supply of petroleum products. Improving storage facilities will facilitate better distribution of petroleum products to the population living in the outer islands. A more strategic approach is for the government-owned company South Pacific Oil Limited (SPOL) and the Energy Division to work together with the provincial council to set up proper storage facilities and depots to increase energy security and facilitate proper safety and environmental standards. The government is targeting achieving a balance between improving security of supply (by increasing storage) and keeping prices down. Therefore, the government will need to enter into negotiations with fuel and LPG suppliers to understand how the required investments can be incorporated into capital investment plans.

2.3.3 Upgrade safety of infrastructure

A variety of investments may be needed to address safety and environmental risks in the bulk storage terminals. Minimising the risks of fire and spills will improve the reliability of the supply chain for both petroleum and LPG.

The current location of bulk fuel storage terminals in the main Honiara town centre poses significant risks of fire, explosion and oil spills. The government believes that in order to improve the safety of the terminals, Markwarth Oil and SPOL will need to relocate outside Honiara.

SPOL capital investments include:

- relocation of terminal to Ranadi Industrial Area, with only one diesel storage tank to remain at the present location to cater for marine sector;
- > construction of 500 ppm diesel tanks for additional storage at Lungga for Solomon Islands Electricity Authority (SIEA); and
- \succ construction of T55,000 litre diesel tanks in provinces where SIEA power houses are located.

Markwarth Oil capital investments include the construction of a depot at Lungga.

2.4 Review of the 2007 SINEP and petroleum strategic action plan

The 2007 SINEP with its strategic action plan was reviewed in 2013 and the outcome of the review formed part of the 2014 SINEP and the Energy Efficiency and Conservation Strategy and Investment Plan, the Renewable Energy Investment Plan and this PET-ALT SIP.

The 2007 petroleum sub-sector policy and action plan has six key policy statements, nine strategies and nineteen key actions. The goal is 'an efficient and well-managed petroleum sector'.

The table below provides a summary of the achievements on the implementation of the petroleum sector from 2007 to 2013, showing whether the policy statements, strategies and activities have been fulfilled, and providing an explanation, a ranking and also whether the policy statement, strategy or activity is still relevant.

Table 2: Summary of petroleum sub-sector status of implementation

Reference	2007 policy	Fulfilled	Explanation	Ranking	Relevant
	statements				to
					Future
1.1	Ensure a reliable supply of quality petroleum products at minimum landed cost to all people in Solomon Islands.	No	Not all people have a reliable supply of petroleum products. Only 52% of the rural population has access to modern energy. (2009 Energy security indicator)	Unsatisfactory	Yes
1.2	Ensure that petroleum storage and handling facilities conform to local and international safety and environmental standards.	No	Comment: This issue can be remedied rather quickly by simply adopting recognised regional petroleum industry standards which are broadly consistent with standard used in other parts of the world.	Unsatisfactory	No
1.3	Ensure that there is sufficient holding capacity to satisfy ongoing consumer demand under normal re-supply schedules.	Yes	There is sufficient holding capacity provided by the two oil companies for main urban Honiara but not in the provinces. Comment: Holding capacity needs to be better defined in terms of targeted days stock and the observed actuals. National energy security is very important and both major oil companies need to have alternative supply options.	Marginally satisfactory	Yes

1.4	Ensure that waste related to petroleum products is disposed of in an environmentally sound manner.	No	There is no monitoring of waste related to petroleum by ED or environment people. Comment: The disposal or recycling of petroleum related waste should be prioritised due to its high pollution potential. The oil companies should be required to effectively deal with the sludge from internal tank cleanings.	Unsatisfactory	No ¹
1.5	Encourage fuel conservation and efficient energy end-use.	No	No awareness programme on incentives or regulations developed for fuel conservation and efficient energy end-use. SIEA has done some awareness programmes.	Marginally satisfactory	
1.6	Encourage research in alternative sources of energy.	Yes	ADB grant funded a CNO demonstration plant (new generator, conditioning unit, CNO supply contract) and extended the distribution grid at Auki, Malaita in 2011. A 360 kW generator was installed in August 2011 and operation continues to date. No trial on ethanol.	Marginally satisfactory	Yes
Strategies an	d actions				
1.1	Ensure an appropriate regulatory framework is in place.	No	Petroleum Act still outdated	Unsatisfactory	Yes
1.1.1	Review existing supply chain mechanism and regulations.	Yes	Annual Review for 2010 done in March 2010. Annual Review 2011 done in August 2011. Report of the 2012 review not available.	Satisfactory	Yes
1.1.2	Implement recommendations as per above.	Yes	The PAC has approved two recommendations from the 2011 review: 1 cent per litre levy to be used for monitoring outer island fuel price and removed 45 cents per litre recovery fee from fuel as at 1 November 2011 due to the financial crisis and exchange rate losses. The bulk purchasing from the two companies was also implemented.	Satisfactory	Yes
1.2	Ensure government ownership of storage facilities.	Yes	Comment: The fuel depot at Noro is owned by the province and leased to Markwarth Oil.	Marginally satisfactory	No
1.2.1	Undertake a life cycle cost and benefit analysis of government taking ownership of storage facilities.	No	No funding and capacity to progress this activity. Comment: Government does not necessarily need to own the fuel storage facilities. They could be owned independently and the supply tendered out periodically to test the market. This type of reform would need to be very carefully planned before being considered for implementation.	Unsatisfactory	No
1.2.2	Produce and submit a cabinet information paper on fuel storage ownership.	No	No cabinet paper produced due to change in priority by the government to focus on development of renewable energy (hydro) for Honiara as a matter of urgency as the fuel costs kept increasing and the situation was worsened with SIEA's incapability to deliver reliable electricity services. Adequate fuel infrastructure for outer islands and remote rural locations needs to be established to cater for the immediate needs of the population. This can then be used to support liquid biofuels at a later time. Comment: Fossil fuels will continue to dominate the country's energy consumption; hence	Unsatisfactory	No

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 $^{^{1}\,\}mbox{This}$ issue should be covered under the environment legislation

	1	1	F	1	1
			diverting attention to renewable energy		
			without some investment in fossil fuels is not a good idea.		
1.2.3	Implement cabinet	No	Related to the 1.2.1 & 1.2.2	Unsatisfactory	No
1.2.5	decision	140	Neidled to the 1.2.1 & 1.2.2	Onsatisfactory	140
1.3	Promote petroleum fuel substitution	No	Unsatisfactory: Petroleum Act is still very outdated The Energy Division needs training in basic	Unsatisfactory	Yes
			fuel testing procedures to monitor safety and quality of fuel imported into the country. Training is on inspection of fuel storage facilities.		
1.3.1	Demonstrate the use of coconut bio-fuel and ethanol for electricity generation and as a transportation fuel.	No	Coconut biofuel use in ADB project. Ethanol has not been produced for electricity and transport.	Marginally satisfactory	Yes
1.3.2	Conduct awareness programmes on potential/benefits of biofuels and other alternative fuels.	No	Not done, as only trial purposes.	Unsatisfactory	Yes
1.4	Improve handling and supply of petroleum fuels to all consumers.	No	ED is to check that oil companies improve handling and supply of good quality petroleum fuels but the <i>Petroleum Act</i> is not up to date.	Unsatisfactory	Yes
1.4.1	Develop, implement and monitor a regulatory framework for safe transportation, handling and storage of petroleum fuels.	No	No regulations developed related to safe transportation, handling and storage of petroleum fuels.	Unsatisfactory	Yes
2.1	Ensure regular monitoring of standards for petroleum storage and handling facilities.	No	No national standard.	Unsatisfactory	Yes
2.1.1	Carry out a six-monthly inspection of all petroleum fuel storage facilities.	No	No funding or capacity to deliver this activity.	Unsatisfactory	Yes
2.2	Ensure the Energy Division has the capacity to plan and manage the petroleum sector.	Partly	Only one officer has position aligned to petroleum work but this person also manages the ODS activities.	Marginally satisfactory	Yes
2.2.1	Recruit a qualified petroleum officer.	No	Current officer needed capacity development. In May 2013, the officer was able to do an attachment with Fiji petroleum companies facilitated and co funded by SPC	Unsatisfactory	Yes
2.2.2	Provide targeted training programmes for staff.	No	No targeted training has been developed, even though there are avenues for training through online courses discussed during the first consultation	Unsatisfactory	Yes
2.2.3	Establish a national petroleum database.	No	There is not database available on petroleum with regards to supply and distribution	Unsatisfactory	Yes
2.2.4	Review of Petroleum Act	No	There was no funding or capacity to review. External expertise is required.	Unsatisfactory	Yes
2.3	Strengthen enforcement of safety standards.	No	No safety standards under the Petroleum Act.	Unsatisfactory	Yes
2.3.1	Establish a national safety standard and fuel quality.	No	There is no national safety standard and fuel quality. ED should adopt standards already set by joint industry council.	Unsatisfactory	Yes
	Review existing penalty clause for breach of safety standards.	No	Penalty clause for breach of safety standards not reviewed	Unsatisfactory	
	Review of Petroleum Act	No	This is repetitive of 2.2.4	Unsatisfactory	Yes

3.1	Maintain a minimum volume of petroleum fuels.	Partly	There is energy security for 30 days, enough to meet the demand in the urban centres. Comment: The strategy should be to spread the stock level across provinces and avoid complete shutdown with centralised stock levels in one location. Supply to provinces should be considered independently and on its merits according to demand and resupply cycles.	Marginally satisfactory	Yes
3.1.1	Carry out an assessment of fuel consumption and existing storage capacity.	Yes	SPC has assisted with putting in recommendations for improving energy security, bulk purchasing of fuel and shipment.	Satisfactory	No
4.1	Ensure a contingency oil spill plan is in place.	No	There is no contingency oil spill plan in place Comment: A draft oil spill contingency plan has been in draft for the last ten years.	Unsatisfactory	No
4.1.1	Develop a contingency oil spill plan.	No	There is no contingency oil spill plan in place.	Unsatisfactory	No
4.2	Ensure there is regulation for the disposal of petroleum related waste.	No	No regulation on the disposal. <i>Petroleum Act</i> is still outdated.	Unsatisfactory	No
4.2.1	Collaborate with the Department of Environment to develop appropriate regulations.	No	No collaboration on developing regulations.	Unsatisfactory	No
5.1	Encourage the use of public transport.	No	No awareness, no incentives developed.	Unsatisfactory	No
5.1.1	Monitor standard of public transport.	No	No national standard on public transport.	Unsatisfactory	No
5.1.2	Conduct awareness programmes on benefits of improved public transport system.	No	No awareness has been carried out on benefits of improved public transport system.	Unsatisfactory	No
6.1	Promote the use of non- fossil fuels.	Partly	ADB biofuel project demonstration for use of biofuel for power generation.	Unsatisfactory	Yes
6.1.1	Develop a subsidy scheme for the non-fossil fuel industry.	No	No subsidy scheme been developed for the non- fossil fuel industry.	Unsatisfactory	Yes

	Strategies	Actions	Total
Fulfilled	1	2	3
Partly	3	0	3
Not fulfilled	9	19	28

Summary of the review

Out of the six policy statements only one policy statement was fulfilled:

> Demonstration of the biofuel plant in Auki implemented by ADB's Solomon Islands Sustainable Energy Project in collaboration with SIEA.

Out of the nine strategies, only one was fulfilled and three were partly fulfilled.

- Ensure government ownership of the petroleum storage. As noted during the consultations the government owns the Noro petroleum storage depot and it is leased to Markwarth Oil.
- Ensure the Energy Division has the capacity to plan and manage the petroleum sector. One officer was assigned the role of Petroleum Officer but also manages the ODS activities, which seem to have a higher priority than petroleum.
- Maintain a minimum volume of petroleum fuels. There is energy security for 30 days, enough to meet the demand in the urban centre but not the rural areas.

Promote the use of non-fossil fuels. ADB biofuel project demonstration for use of biofuel for power generation.

Out of the 19 activities, only two activities were fulfilled. These activities are:

- > The review of the supply chain mechanism and regulations which was done by the Price Advisory Committee under the *Price Control Act*. A review was carried out in 2010 and 2011.
- > The 2011 annual review was independently reviewed by the SPC Petroleum Officer. The 2011 Annual Review Report was adopted and three recommendations as per the annual review were approved. The first was the approval of a 1 cent per litre levy to be set aside to cover the cost of monitoring the outer Island fuel price. The second recommendation was the removal of the 45 cents per litre recovery fee from fuel as at 1 November 2011 due to the financial crisis and exchange rate losses. The third recommendation was that the two companies opted for bulk purchasing, which was implemented.

The overall assessment of the 2007–2009 petroleum sub-sector strategies could be stated as not satisfactory and this may be attributed to the following:

- > a lack of capacity and resources within the Energy Division to effectively enforce the *Petroleum Act*;
- > the changes in priority of government and therefore reallocation of funding resources away from the petroleum sub-sector;
- > the Petroleum Officer within the Energy Division focused on implementing the Montreal Protocol, related to ozone depleting substances, as more resources and support were provided to this project; and
- the legal framework, the *Petroleum Act*, is out-dated with fines too low to cover the cost of enforcement.

It was also noted that the strategies and activities fulfilled or achieved are those that are implemented with external assistance or funding.

PART 3. PETROLEUM AND ALTERNATIVE LIQUID FUELS STRATEGIES

The following section discusses the links of this strategy to the 2014 SINEP, highlighting the petroleum sector outcomes, goal, policy statement, strategies and relevant activities.

3.1 Energy sector vision

The SINEP energy sector vision is: *Unlocking the development potential of Solomon Islands' economic base through a dynamic and effective energy sector.*

3.2 Petroleum sector outcomes

The SINEP petroleum sector priority areas are presented in this strategy as outcomes.

- Supply and affordability of petroleum products to outer islands and remote rural locations are improved;
- 2. Petroleum storage and handling facilities conform to local and international safety, health and environmental standards;
- 3. Regulated petroleum prices in the nine provinces are effectively monitored; and
- 4. Alternative fuel projects are coordinated.

3.3 Petroleum sector policy goal

To increase access to safe, affordable and reliable petroleum products and alternative liquid fuels and gaseous fuels

3.4 Petroleum sector policy statements

The petroleum sector policy statements are also aligned to the PET-ALT SIP outcomes and these are commitments or intentions which the stakeholders will commit to, thereby meeting the outcome and goals of SINEP.

- 1) A reliable supply of quality petroleum products at landed cost is provided to all people in Solomon Islands.
- Petroleum storage and handling facilities conform to local and international safety, health and environmental standards.
- 3) Suppliers and users of petroleum products dispose of petroleum-related waste in an environmentally sound manner.
- 4) The monitoring and regulating of petroleum prices is done in transparent and coordinated ways.
- 5) Research in alternative liquid and gaseous fuels is promoted and supported.

3.5 Petroleum sector strategies

The strategies are aligned to the policy statements, which directly also contribute to achievement of the goal and ultimately the petroleum sector outcomes.

- 1. A reliable supply of quality petroleum products at landed cost is provided to all people in the Solomon Islands.
- 1.1 Ensure a secure and reliable supply of petroleum products within Solomon Islands.
- 1.2 Develop appropriate technical guidelines and standards for petroleum storage permits.
- 2. Petroleum storage and handling facilities conform to local and international safety, health and environmental standards.
- 2.1 Ensure that petroleum storage and handling facilities conform to local and international safety, health and environmental standards.

- 3 Suppliers and users of petroleum products dispose of petroleum-related waste in an environmentally sound manner.
- 3.1 Ensure the draft contingency oil spill plan is finalised and implemented.
- 3.2 Ensure there is regulation for disposal of petroleum-related waste.
- 4 The monitoring and regulating of petroleum prices is done in transparent and coordinated ways.
- 4.1 Ensure that an appropriate and effective regulatory framework is in place.
- 4.2 Ensure compliance to regulated oil and gas prices in urban and rural areas.
- 5 Research in alternative liquid and gaseous fuel is promoted, supported and well-coordinated.
- 5.1 Promote the use of biofuel for power and transportation.
- 5.2 Enhance private sector participation in production and supply of alternative fuels.
- 5.3 Promote the use of cleaner fuels for cooking.

3.6 Summary of outcome, policy statements, strategies and actions

Table 3: Key strategies, activities and indicators and estimate costs

Outcome 1: Supply and affordability of petroleum products to outer islands and remote rural locations are improved Policy statement 1: A reliable supply of good quality petroleum products at landed cost is provided to all people in Solomon Islands

Strategy 1.1 Ensure a secure and reliable supply of	Strategy 1.1 Ensure a secure and reliable supply of petroleum products at landed cost to all people in Solomon Islands				
Activities	Stakeholders	Indicators	Estimated		
			cost (SBD)		
1.1.1 Carry out diagnostic studies on fuel distribution chain	MMERE (ED) Consultant	Reports are available for;			
		1.Least cost analysis on alternative options for distribution of fuel ²	76,000		
1.1.2 Feasibility study on distribution of fuel by barges and setting up fuel storage depots in	MMERE (ED) Consultant	Feasibility study on setting up fuel depot in each of the provinces	76,000		
provinces for ease of distribution	Provincial councils				
1.1.3 Feasibility study on setting up alternative	MMERE (ED), Consultant	Feasibility study on setting up fuel	76,000		
bulk storage facilities as back up to existing		depot as back up to the existing			
depots in case of disaster		depot in Honiara			

Outcome 2: Petroleum storage and handling facilities conform to local and international safety, health and environmental standards

Policy statement 2.1 Petroleum storage and handling facilities conform to local and international safety, health and environmental standards

Strategy 2.1.1 Ensure that petroleum storage and handling facilities conform to local and international safety, health and environmental standards

Activities	Stakeholders	Indicators	Estimate
			d cost (SBD)
2.1.1.1 Review and update the <i>Petroleum Act</i> 1978	MMERE (ED),	The Petroleum Act is revised and includes new licensing criteria; offshore bunkering regulations; fuel standards; safety, health and environmental standards	300,000
2.1.1.2 Training needs assessment (TNA) on enforcement of the <i>Petroleum Act</i>	MMERE (ED)	Training needs assessment report available and recommendations with associated costs available	200,000
2.1.1.3 Facilitate and seek funds for training of ED & Customs Department staff to monitor petroleum storage facilities based on TNA report	MMERE (ED) Customs Oil companies SPC	Training reports available and ED staff confident to administer the <i>Petroleum Act</i>	420,000
2.1.1.4 Facilitate the development of appropriate standards for oil storage permits in urban and rural areas	Consultant as part of the review	Standards and guidelines regulated and implemented in urban and rural areas	100,000

² It is expected that the study can be done within 60 days at a rate of USD 450.00 a day, USD 30000 for rural areas visits

2.1.1.5 Facilitate the development and	ED	Relevant international standards are	75,296
regulations on fuel, safety and environmental	Oil companies Regional and	regulated under the <i>Petroleum Act</i> ³ and	
standards	international agencies	verified by ED – Petroleum Officers	
2.1.1.6 Training programmes are identified on	ED	Training programmes identified and	225,887
health, safety, and environment and		included in the staff development	
incorporated into the staff development plan		programme and submitted to PSC's	
		Human Resources Development for	
		inclusion in the national training	
		programme	
		HSSE training provided to staff	
2.1.1.7 Development of competency-based	ED/Consultant	A competent and well qualified	50,000
training program for Petroleum Officers		petroleum officer is available	
(Training Matrix Performance)	FD/Consultant	Consultant to develop and condinate	FO 000
2.1.1.8 Development of maintenance	ED/Consultant	Consultant to develop and coordinates	50,000
programme for all installed equipment that		delivery and improvement of	
should cater for weekly/monthly/six-monthly and yearly checks		programme	
Policy statement 2.2: Suppliers and users or	f petroleum products dispos	e of petroleum-related waste in an	
environmentally sound manner	,		
Strategy 2.2.1 Ensure that the draft contingency of	oil spill plan is finalised and imple	mented	
Activities	Stakeholders	Indicators	Estimated
			cost
			(SBD)
2.2.1.1 Review the draft oil spill contingency	ED	The draft oil spill contingency plan is	339,000 ⁴
plan	Ministry of Environment	finalised/endorsed	
	NDMO		
	Oil companies, Ministry of		
	Fisheries and Marine		
	Resources		
	SIMSA SPREP		
2.2.1.2 Licensing of oil companies and retailers	ED	Updated <i>Petroleum Act</i> for effective	Part of the
complies with the proper storage standards	Provincial councils	enforcement/licensing	review
Strategy 2.2.2 Ensure there is regulation for dispo	sal of petroleum related waste	, ,	
2.2.2.1 Integrate the need for waste disposal of	Ministry of Environment	Disposal of petroleum-related waste is	112,943
petroleum-related waste in Environment Act	ivinistry or Environment	regulated Officers are trained	112,515
and carry out training to environment		regulated Childers and trained	
officers/inspectors			
Outcome 3: Regulated petroleum prices in			
Policy statement 3: The monitoring and reg		done in transparent and coordinated	ways.
Strategy 3.1 Ensure an appropriate and effective and Activities	regulatory framework is in place Stakeholders	Indicato	rs Estima
Activities	Stakenoiders	mulcato	ted
			cost
			(SBD)
3.1.1 Review and update the <i>Price Control Act</i>	Price Control Unit (PCU)	The Price Control Act reviewed and	300,00
1982 to allow provincial councils to monitor and	` '	includes new enforcing regimes for the	0
enforce petroleum prices		rural areas and outer islands, use of	
		petroleum levy fund accounts, etc.	
3.1.2 Annual review of supply chain mechanism	PCU	Annual review reports made available	300,00
with recommendations implemented	Petroleum companies and		0
	retailers		
3.1.3 Develop proper or legal mechanisms on	PCU	Proper account set up for the petroleum	
the use of the 1 cent per litre levy to be used	Ministry of Finance	levy fund and its use is regulated	the
for effective monitoring of rural and outer	Petroleum companies		review
island fuel prices	nd gas prices at urban and an i		work
Strategy 3.2 Ensure compliance to regulated oil a	nu gas prices at urban and provir	iciai ievei	
3.2.1 Training and capacity development of PC	CU - MCII and Provincials	Funding and training is offered to all nine	e 350,00

³ Oil companies have their own operating HSSE standards. The *Petroleum Act* has provisions for licensing companies for storage and cartage and this can be used to monitor operations of oil companies by having conditions of operation attached to the licences.

⁴ Consultancy rate of AUD450 per day for 10 days

provincial officers to monitor prices in rural provinces over a 6 years period)			rincial councils east two officers trained from each rince annually	(
Outcome 4: Alternative fuel projects ar	e coordinated			
Policy statement 4: Research in alterna	tive liquid and gaseous fuels is p	romot	ed, supported and well-coordina	ted
Strategy 4.1 Promote the use of biofuel for p	ower generation and transportation	1		
Activities	Stakeholders		Indicators	Estimate d cos (SBD
4.1.1 Develop biofuel options for power generation and land transport	ED, ADB, SIEA, Department of Agriculture, Oil companies Copra cutters Private biofuel companies		Successful trials on biofuel use in power generation and transport is replicated	9,035,46
4.1.2 Establish and regulate the biofuel standards, including training, testing and equipment	ED/Consultant		Biofuel standards established and regulated	338,830
4.1.3 Assess and submit tax/financial incentives and policy options for biofuel use in power generation	ED/Consultant		Assessment reports developed	50,000
4.1.4 Assess and submit tax/financial incentives and policy options for biofuel use and LPG for transport	ED/Consultant		Assessment reports developed	50,00
Strategy 4.2 Enhance private sector participa	tion in the production and supply of a	alternat	ive fuels	
4.2.1 Support the private sector to establish professional alternative fuel producers	SIEA ED Private investors	take	sultation reports, including stock- reports of alternative fuel lucers	50,00
4.2.2 Supporting primary producers that can supply raw materials through developing fiscal incentives	ED SIEA farmers	Num supp	orting producing of biofuel for er generation and transport	50,00
4.2.3 Construct infrastructure as necessary to support new alternative fuel industry through private investors	ED SIEA Private investors	Num	nber of investors supplying rnative fuel	50,00
Strategy 4.3 Promote the use of cleaner fuels	for cooking			
4.3.1 Research and demonstrations on appropriate design of biogas	ED/Consultant/Biogas trainer/expert	dem	ding proposal for building a Biogas onstration plant is developed	112,00
4.3.2 Develop a <i>Cooking for Life</i> strategy to promote the use of LPG as a cleaner cooking fuel and efficient cooking technologies	ED NGOs CBOs		rategy is developed to promote the of efficient biomass stoves and LPG es	50,00

Costing for the PET-ALT SIP was done during two in-country consultations and the National Energy Forum in Honiara in June 2013. A proposal submitted to the Energy Division on the development of a laboratory and the training of energy officers on safety, health and environmental standards was also used, assuming that costs would remain in 2014. The consultancy fees such as those required for the review of the acts were based on previous consultancy quotations and costs.

On the monitoring of petroleum prices in the outer islands, the costs are exorbitant due to remoteness. Transport costs by air, sea and land are quite high and therefore costs incurred are only for training of provincial officers.

Table 4: Key activities timelines (2014–2018)

Table 4. Rey activities timelines (2014–2016)										
Activities	2014	2015	2016	2017	2018					
Outcome 1: Supply and affordability of petroleum products to outer islands and remote rural locations are improved										
Policy statement 1: A reliable supply of good quality petroleum products at landed cost is provided to all people in										
Solomon Islands										
Strategy 1.1 Ensure a secure and reliable supply of petroleum products at landed cost to all people in Solomon Islands										
1.1.1 Carry out diagnostic	ED draft TOR for recruiting a	Funding available and TA	Investment							
studies on: Fuel distribution consultant & proposal recruited, Draft report strategy developed										
chain	developed	available								

1.1.2 Feasibility study on	As above	Feasibility study complete	Investment strategy			
distribution of fuel by	715 05070	and draft report available	developed			
barges and setting up		and draft report available	developed			
fuel storage depots in						
the provinces for ease of						
distribution						
1.1.3 Feasibility study on	As above – 1.1.1	Feasibility study on setting	investment strategy			
setting up alternative	to 1.1.3 to be	up fuel depot as back up to	developed			
bulk storage facilities as		the existing depot in	developed			
back up to existing	done as one	Honiara complete				
depots in case of disaster	study with 3					
	components					
		andling facilities conform	to local and intern	ational safety,	health	and
environmental standard						
Policy statement 2.1 Per	troleum storage aı	nd handling facilities conforr	n to local and internati	onal safety, hea	lth and	
environmental standard	ls					
Strategy 2.1.1 Ensure that	petroleum storage a	nd handling facilities conform to	local and international s	afety, health and		
environmental standards						
2.1.1.1 Review and	MMERE (ED) to	Recruitment process and	The Petroleum Act			
update the Petroleum	draft TOR and	review starts	revised, passed by			
Act 1978 and	seek assistance		Parliament			
endorsement of the	on funding or TA					
revised act	– either through					
	SPC or PACTAM					
2.1.1.2 Training needs	1.2.2 to be	Training needs assessment	Recommendations on			
assessment (TNA) on	included as part	report available and	TNA report			
enforcement of the	of the TOR for	presented	implemented			
Petroleum Act	1.2.1					
2.1.1.3 Facilitate and		Seek funding for training	Training delivered			
seek funds for training of			and ED staff confident			
ED & Customs			to administer the			
Department staff to			Petroleum Act			
monitor petroleum						
storage facilities based						
on TNA report						
2.1.1.4 Facilitate the	TA recommends	Standards and guidelines	Standards are			
development of	guidelines,	regulated under the	enforced under the			
appropriate standards	standards and	Petroleum Act	Petroleum Act			
for oil storage permits in	templates					
urban and rural areas	through					
	consultative					
	process					
2.1.1.5 Facilitate the	ED/TA to	Appropriate and uniform	Standards are			
development and	facilitate	fuel standards, safety and	included under the			
regulations on fuel,	discussions on	environmental standards in	revised Petroleum Act			
safety, health and	safety, health	place and regulated under	and passed			
environmental standards	and	the <i>Petroleum Act</i> ⁵				
	environmental					
	fuel standards					
2.1.1.6 Training	As part of the	Training programme	HSSE training			
programmes are	review of the	identified and included in	provided to staff. This			
identified on health,	standards,	the staff development plan	can be offered as			
safety, and environment	training	and submitted to PSC's	attachments to			
and incorporated into	programmes are	Human Resources	regional or overseas			
the staff development	developed	Development for inclusion	institutions/oil			
plan		in the national training	companies			
		programme				
2.1.1.7 Development of	This activity is to	A competent and well	A competent and well			
competency-based	be done in	qualified petroleum officer	qualified petroleum			
training programme for	parallel to	is available	officer is available			
	· ·		Officer is available			
Petroleum Officers (training matrix	2.1.1.4		officer is available			

⁵ Oil companies have their own operating HSSE standards. The Petroleum Act has provisions for licensing companies for storage and cartage and this can be used to monitor operations of oil companies by having conditions of operation attached to the licences.

performance)					
2.1.1.8 Development of	This activity is to	Consultant to develop and			
maintenance programme	be done in	coordinate delivery and			
for all installed	parallel to 2.1.1.4	improvement of			
equipment that should	paramer to 2121211	maintenance programme			
cater for		mantenance programme			
weekly/monthly/six-					
monthly and yearly					
checks					
	nnliers and users o	of petroleum products dispo	se of netroleum-relate	d waste in an	
environmentally sound		or petroleum products dispo	se or petroleum relate	a waste iii aii	
Strategy 2.2.1 Ensure that t	he draft contingency	oil spill plan is finalised and imp	lemented		
2.2.1.1 Review the draft	Concept note and	Oil spill equipment procured	Training completed		
oil spill contingency plan	funding proposal				
	developed and				
	submitted for				
	funding				
2.2.1.2 Licensing of oil	Concept note	Updating of the Petroleum	Awareness to all	Enforcement	
companies and retailers	developed and	Act for effective	stakeholders on	of Petroleum	
complies with the proper	funding proposed	enforcement/licensing	revised Petroleum Act	Act	
storage standards					
	is regulation for disp	osal of petroleum-related waste			
2.2.2.1 Integrate the	To be reviewed	Disposal of petroleum-			
need for disposal of	as part of the	related waste is regulated.			
petroleum-related waste	review of	Environment and petroleum			
in Environment Act and	Petroleum Act	officers are trained			
carry out training of					
environment					
officers/inspector					
Outcome 3: Regulated p	etroleum prices in	the nine provinces are effe	ctively monitored		
		gulating of petroleum prices		and coordinated	ways.
		regulatory framework is in plac			
3.1.1 Review and update	Price Control Unit	TA recruited and	An effective	Petroleum	Petroleum
the Price Control Act	(PCU) draft TOR	consultations carried out,	regulatory structure is	prices are	prices are
1982 to allow provincial	for review of the	including at provincial levels	in place in the	monitored	monitored
councils to monitor and	act and also seek		provinces		
enforce petroleum prices	funding				
3.1.2 Annual review of	A concept paper			Annual review	No charge
supply chain mechanism	on the review of			reports made	as it is part
with recommendations	the supply chain			available	of PCU
implemented	mechanism				activities
3.1.3 Develop proper or	PCU			Proper	Part of the
legal mechanisms on the	Ministry of			account set up	review
use of the 1 cent per	Finance			for the	work
Phys. Lemin 1				1	I
litre levy to be used for	Petroleum			petroleum levy	
•				fund and its	
effective monitoring of	Petroleum				
effective monitoring of rural and outer islands fuel price	Petroleum companies			fund and its	
effective monitoring of rural and outer islands fuel price	Petroleum companies	and gas prices at urban and pro	ovincial level	fund and its use is	
effective monitoring of rural and outer islands fuel price Strategy 3.2 Ensure complia	Petroleum companies	and gas prices at urban and pro	ovincial level	fund and its use is	
effective monitoring of rural and outer islands fuel price Strategy 3.2 Ensure compliance 3.2.1 Training and	Petroleum companies ance to regulated oil		ovincial level	fund and its use is	
effective monitoring of rural and outer islands fuel price Strategy 3.2 Ensure complia 3.2.1 Training and capacity development of	Petroleum companies ance to regulated oil PCU - MCII	Funding and training is	ovincial level	fund and its use is	
effective monitoring of rural and outer islands fuel price Strategy 3.2 Ensure complia 3.2.1 Training and capacity development of provincial officers to	Petroleum companies ance to regulated oil PCU - MCII Provincial	Funding and training is offered to all nine provincial	ovincial level	fund and its use is	
effective monitoring of rural and outer islands fuel price Strategy 3.2 Ensure compliance 3.2.1 Training and capacity development of provincial officers to monitor prices in rural	Petroleum companies ance to regulated oil PCU - MCII Provincial	Funding and training is offered to all nine provincial councils.	ovincial level	fund and its use is	
effective monitoring of rural and outer islands fuel price Strategy 3.2 Ensure complia 3.2.1 Training and capacity development of provincial officers to monitor prices in rural provinces over a six-year	Petroleum companies ance to regulated oil PCU - MCII Provincial	Funding and training is offered to all nine provincial councils. At least two officers trained	ovincial level	fund and its use is	
effective monitoring of rural and outer islands fuel price Strategy 3.2 Ensure complia 3.2.1 Training and capacity development of provincial officers to monitor prices in rural provinces over a six-year period	Petroleum companies ance to regulated oil PCU - MCII Provincial councils	Funding and training is offered to all nine provincial councils. At least two officers trained from each province annually	ovincial level	fund and its use is	
effective monitoring of rural and outer islands fuel price Strategy 3.2 Ensure complia 3.2.1 Training and capacity development of provincial officers to monitor prices in rural provinces over a six-year period Outcome 4: Alternative	Petroleum companies ance to regulated oil PCU - MCII Provincial councils	Funding and training is offered to all nine provincial councils. At least two officers trained from each province annually		fund and its use is regulated	ated
effective monitoring of rural and outer islands fuel price Strategy 3.2 Ensure complia 3.2.1 Training and capacity development of provincial officers to monitor prices in rural provinces over a six-year period Outcome 4: Alternative Policy statement 4: Reservant	Petroleum companies ance to regulated oil PCU - MCII Provincial councils fuel projects are coearch in alternative	Funding and training is offered to all nine provincial councils. At least two officers trained from each province annually	promoted, supported a	fund and its use is regulated	ated
effective monitoring of rural and outer islands fuel price Strategy 3.2 Ensure complia 3.2.1 Training and capacity development of provincial officers to monitor prices in rural provinces over a six-year period Outcome 4: Alternative Policy statement 4: Resessariates	Petroleum companies ance to regulated oil PCU - MCII Provincial councils fuel projects are coearch in alternative	Funding and training is offered to all nine provincial councils. At least two officers trained from each province annually coordinated eliquid and gaseous fuels is	promoted, supported a	fund and its use is regulated	nated
effective monitoring of rural and outer islands fuel price Strategy 3.2 Ensure complia 3.2.1 Training and capacity development of provincial officers to monitor prices in rural provinces over a six-year period Outcome 4: Alternative Policy statement 4: Resesstrategy 4.1 Promote the use 4.1.1 Develop biofuel	Petroleum companies ance to regulated oil PCU - MCII Provincial councils fuel projects are coearch in alternative se of biofuel for power	Funding and training is offered to all nine provincial councils. At least two officers trained from each province annually coordinated eliquid and gaseous fuels is er generation and transportation	promoted, supported a	fund and its use is regulated	ated
effective monitoring of rural and outer islands fuel price Strategy 3.2 Ensure complia 3.2.1 Training and capacity development of provincial officers to monitor prices in rural provinces over a six-year period Outcome 4: Alternative Policy statement 4: Resessariance of the use of the state of the six of	Petroleum companies ance to regulated oil PCU - MCII Provincial councils fuel projects are coearch in alternative se of biofuel for power concept paper	Funding and training is offered to all nine provincial councils. At least two officers trained from each province annually coordinated eliquid and gaseous fuels is er generation and transportation ADB bio-fuel project	promoted, supported a	fund and its use is regulated	ated
rural and outer islands fuel price Strategy 3.2 Ensure complied 3.2.1 Training and capacity development of provincial officers to monitor prices in rural provinces over a six-year period Outcome 4: Alternative Policy statement 4: Reses Strategy 4.1 Promote the use 4.1.1 Develop biofuel options for power	Petroleum companies ance to regulated oil PCU - MCII Provincial councils fuel projects are coearch in alternative se of biofuel for power developed for	Funding and training is offered to all nine provincial councils. At least two officers trained from each province annually coordinated eliquid and gaseous fuels is er generation and transportation ADB bio-fuel project concept is replicated in	promoted, supported a	fund and its use is regulated	ated

4.1.2 Establish and regulate the biofuel standards including training, testing and equipment	Biofuel standards are approved and regulated	Biofuel use for power generation and transport	Biofuel use for power generation and transport	Biofuel use for power generation and transport
4.1.3 Assess and submit tax/financial incentives and policy options for biofuel use in power generation	Policy paper on the production and supply of biofuel drafted	Approval of policy paper and incentives	Regulation of financial incentives	
4.1.4 Assess and submit tax/financial incentives and policy options for biofuel use and LPG for transport	Assess the use of LPG for cooking and transportation	Financial incentives proposed	Regulation of financial incentives	
	articipation in the production and supply o		T	ı
4.2.1 Support the private sector to establish professional alternative fuel producers	Consultation reports including stock-take reports of alternative fuel producers	Develop policies required for production and supply		
4.2.2 Supporting primary producers that can supply raw materials	Number of registered farmers supporting production of biofuel for power generation and transport	Develop policies required for production and supply		
4.2.3 Construct infrastructure as necessary to support new alternative fuel industry	Number of investors supplying alternative fuel	Develop policies required for production and supply		
Strategy 4.3 Promote the use of clean	er fuels for cooking			
4.3.1 Research and demonstrations on appropriate design of biogas	Research and developing national biogas strategy	A strategy is developed with investments/ costs included	Strategy submitted and funds for pilot projects available	
4.3.2 Develop a Cooking for Life strategy to promote the use of LPG as a cleaner cooking fuel and efficient cooking technologies	Develop a Cooking for Life strategy	A strategy is developed to promote the use of efficient biomass stoves and LPG stoves	Strategy submitted for funding	

PART 4. PETROLEUM AND ALTERNATIVE LIQUID FUELS INVESTMENT PLANS

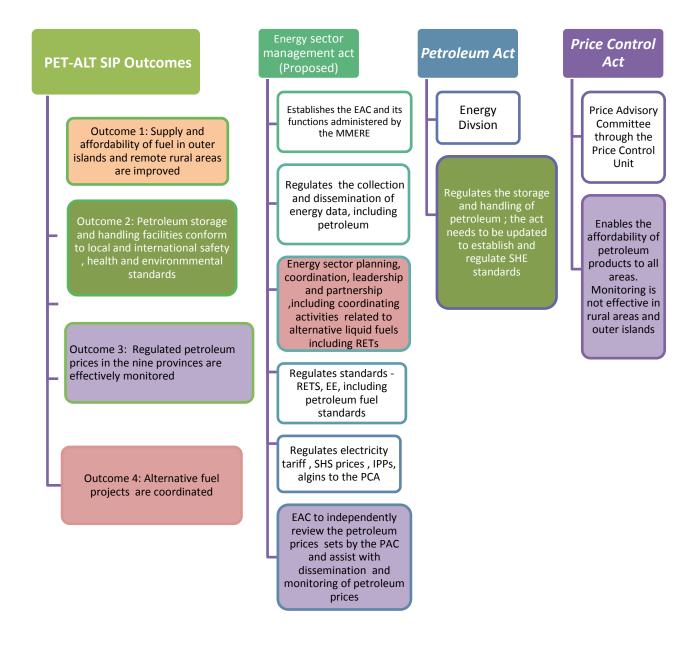
4.1 Next steps and investment plans

There are four main issues of concern for the petroleum sector and strategies to minimise the challenges have also been identified. These issues are: (1) improve the security, safety and efficiency of fuel supply in Solomon Islands; (2) improve the affordability, availability and access of petroleum products and alternative liquid fuels; (3) fuel price regulation; and (4) coordination of alternative fuel projects.

In addition, there is a need to increase awareness and uptake of energy efficiency practices both on the supply side and at end use. This will reduce the amount of fuel imports needed and the fuel bills of the population and businesses. A variety of approaches are necessary to achieve these goals. Authorities need to be given the legal mandate for effective enforcement, capability needs to be increased, public awareness raised, and investments considered where current infrastructure is lacking or insufficient.

Most importantly, leadership and governance need to be strengthened with stringent legal frameworks to enable more effective management of the sector. Although improving energy services is known to be vital in developing Solomon Islands' economy, until now there has been no national energy committee or other mechanism to coordinate energy sector issues.

The Energy Advisory Committee (EAC) now being proposed will provide leadership and drive the strategy, coordinate between ministries and agencies, and assist in the implementation of the energy programme and projects across the energy sector. However, a legal framework under the proposed energy sector management act will provide a legal mandate for the EAC to effectively coordinate the planning of the energy sector, in particular the alternative fuel projects. In the petroleum sector in particular, fuel pricing and monitoring should be coordinated through the EAC and therefore effective collaboration is essential between the PCA Committee and the Energy Division, which is responsible for energy sector planning coordination, leadership and partnership, as well as *Petroleum Act* administration. In addition, proper regulation of petroleum storage and cartage of petroleum products to the provinces is important. Even though these issues are administered through different legislation, the activities complement each other. For instance, a province that has access to reliable petroleum products and conforms to proper enforcement for safety, health and environmental standards will ultimately require proper price monitoring and regulation to ensure that consumers receive fair and equitable prices. Figure 1 shows the links between the petroleum sector policy framework, including goals and key strategic areas, the *Price Control Act*, the *Petroleum Act* and the proposed energy sector management act.



Build collaboration with provincial councils on petroleum storage and handling and monitoring of prices

Figure 1: Petroleum sector policy and regulatory frameworks

Figure 1 illustrates a sector-wide approach needed to ensure that high-level, comprehensive enabling reforms are put in place, leadership is taken, partnerships developed, stakeholders consulted, and progress monitored. It will also enable better co-ordination of private sector and donor projects and financing to increase investment effectiveness. A clear institutional planning framework is required to transform the petroleum sector into an enabler for socio-economic development by supporting:

- i. strong leadership from a well-resourced ED with support from all stakeholders;
- ii. a well-resourced and competent regulator;
- iii. a firm legal framework, providing the authority for the division to perform its role;
- iv. a human resource capacity development plan;
- v. the promotion of partnerships with international, regional, national and local communities; and

vi. the promotion of energy efficiency and conservation strategies, including the use of petroleum in all subsectors.

To ensure that strategic goals are achieved, there should be a clear monitoring and evaluation (M&E) plan, identifying the outcomes and indicators of success, so that progress can be tracked and results evaluated. M&E of the petroleum sector action plan is being strengthened in the ED through the development of the energy sector planning strategic plan, which should also include M&E of all the energy sub-sectors, including petroleum.

4.2 Summary of investments required

With a new institutional framework in place, and resources strengthened, the ED will be better placed to perform more of its regulatory and oversight functions, begin programmes and investments to improve energy security and safety, and reduce demand for fuel imports. The recommendations presented in these investment plans were developed in consultation with stakeholders to identify the immediate priority needs in the petroleum sub-sector. These are the steps that it is considered can viably be taken in the short to medium term to progress the PET-ALT SIP.

This review has enabled the ED to identify its priorities. The next stage will be actioning them and securing committed financing to do so. If it becomes clear that not all the proposed actions are feasible due to lack of time or because of resource or financial constraints, then it will be necessary to prioritise. Projects to be taken forward should be subject to cost-benefit analysis to ensure they offer value for money – and that their impact has been fully considered.

The investment plans for the initiatives recommended for the petroleum sector are presented in Tables 6 to 8, which also illustrate the funding requirements. Committed funding is identified. The identified proposals will require the involvement not just of MMERE, but also the Environment Department, the Ministry of Finance, the Ministry of Education, the Ministry of Commerce, SIEA, oil and gas companies, and commercial businesses. Coordinating this will require strong leadership from the EAC. By working together to implement these plans, all involved in the sector can contribute to a change in delivery of energy services for all Solomon Islanders.

Table 5: Petroleum distribution in the provinces investment plan

Outcome 1	Supply and affordability of petroleum products to outer islands and remote rural locations are improved				
Sector	Petroleum				
Responsible agency	MMERE, Department of Environment, Provincial Act, Transport Act, petroleum companies				
Background/ rationale	The limited availability of fuel on outer islands and in remote rural areas hinders access to electricity in the outer islands. While there are challenges due to its geographical structure, the government has put in some measures, including the National Transport Fund that allows ship owners to service non-economical routes. A recommendation to have a direct shipment to Noro for more access is to be considered in this strategy.				
Objectives	To ensure that partnerships among the ED, petroleum companies, SPOC and provincial councils consider necessary action and make available affordable fuels in the outer islands and remote rural areas.				
Scope of work	Carry out a diagnostic study on the feasibility of setting up alternative bulk storage depots as back-up to existing depots (in CBD) in case of disaster. Carry out an assessment of fuel distribution, and of the development of new bulk storage depots in provinces that can be leased to oil companies, and of having dedicated ships/shipping companies for local distribution, ideally barges. Review the national fuel supply and distribution chain and consider the possibility of having Noro as a fuel storage depot for remote areas.				
Benefits	Powers given to MMERE to collect data from oil and gas companies, provincial councils and enter the data on an energy register Additional transport and storage capacity and infrastructure will be available in remote areas Regular shipping services to improve energy security in the rural and remote areas, in particular for land transport and fishing.				

Alignment with National Development Strategy	Will contribute to objective 6: Strengthen energy sector planning and policy implementation through an integrated approach supported by appropriate capacity and dissemination of energy-related information through school curricula, community training and wider consultations on policy issues, legislation and regulations. Develop physical infrastructure and utilities to ensure all Solomon Islanders have access to essential services and markets
Strategy estimate cost	Ensure a secure and reliable supply of petroleum products at landed costs to all people: SBD 228,000 Develop appropriate technical guidelines and standards for petroleum licensing SBD 1,020,000
Implementation period	2014–2016
Potential funding	Training to be sought through donor partnerships or capacity building funds held by oil companies.

Table 6: Petroleum standards (safety, health and environment) investment plan

Outcome 2	Petroleum storage and handling facilities conform to local and international safety, health and environmental standards				
Sector	Petroleum				
Responsible agency	MMERE, NDMO, Department of Environment, oil companies				
Background/ rationale	The petroleum industry standards are benchmarks across the globe. In most cases petroleum companies just affiliate/pay subscription fees to be able to access these standards for their operation. It is recommended that the <i>Petroleum Act</i> makes reference to the applicable standards. There is currently only a draft national oil spill contingency plan, which has been in draft for the past ten years. The Department of Environment is the lead agency to finalise this draft plan. ED will, however, be responsible for monitoring fuel standards distributed to the provinces as well as storage and handling.				
Objectives	 Ensure that petroleum storage and handling facilities conform to local and international safety and environmental standards. Put a contingency plan in place for oil spills and procure the necessary equipment. Carry out a stakeholder consultation to develop fuel standards, and in the process develop a standard for biofuels to promote their use. Minimise the negative impacts of energy production, transportation, utilisation and consumption on the environment. 				
Scope of work	 a) Review the Petroleum Act to include regulations on the activities below. › Develop national fuel standards and bio-fuel standards. › Update the petroleum storage criteria and licensing. › Provide training for ED and Customs staff to monitor the petroleum storage facilities and standards. 				
Benefits	 Safer storage and delivery of fuels, with a robust contingency plan for spillages Higher and more consistent quality of fuel to end-users Regulations of fuel standards to cleaner fuels and less environmental and health effects Regulation of storage standards leads to safer uses of petroleum 				

Alignment with National Development Strategy	Will contribute to objective 6: ➤ Strengthen energy sector planning and policy implementation through an integrated approach supported by appropriate capacity and dissemination of energy related information through school curricula, community training and wider consultations on policy issues, legislation and regulations. ➤ Develop physical infrastructure and utilities to ensure all Solomon Islanders have access to essential services and markets
Estimated cost	 Ensure that petroleum and handling facilities conform with international safety, health and environmental standards: SBD 401,183 Ensure that the draft contingency oil spill plan is finalised and implemented: SBD 979,000 Ensure there is regulation for disposal of petroleum-related waste: SBD 225,886
Implementation period	2014–2016
Potential funding	SIG, MMERE

Table 7: Fuel price monitoring investment plan

Outcome 3	Regulated petroleum prices in the nine provinces are effectively monitored
Sector	Petroleum
Responsible agency	MMERE, Price Control Unit, Ministry of Commerce, Industry and Immigration
Background/ rationale	There is presently no price monitoring framework for the provinces and consequently retailers can place a high mark-up on fuels. Additional storage capacity is required in rural areas. Distribution infrastructure to the provinces is also inadequate as there are no dedicated vessels for transporting fuel.
Objectives	Set up a monitoring framework for fuels in rural areas and standardise units in which fuels are sold so prices can be easily compared and monitored.
Scope of work	 d) Recruit and train provincial officers to monitor prices in rural provinces. e) Hire a consultant to review the <i>Price Control Act 1982</i>. f) Purchase a vehicle for price monitoring in and around Honiara.
Benefits	 Lower fuel prices in rural areas, making fuel more affordable Greater certainty about prices More reliable and efficient supply networks to the provinces
Alignment with National Development Strategy	Will contribute to objective 6: Develop physical infrastructure and utilities to ensure all Solomon Islanders have access to essential services and markets
Strategy estimated cost	 Ensure an appropriate and effective regulatory framework is in place: SBD 350,000 Ensure compliance to regulated oil and gas prices in urban and rural areas: SBD 350,000
Implementation period	2014–2018
Potential funding	Petroleum levy fund, SIG

Table 8: Coordination of alternative fuels projects

Outcome 4	Alternative fuel projects are coordinated					
Sector	Alternative fuel – biofuel, biogas					
Responsible agency	MMERE; Price Control Unit; Ministry of Commerce, Industry and Immigration					
Background/ rationale	Biofuel use for power generation and transport has not progressed. The ADB and SIEA biofuel plant of 36 kW was successful but the challenge faced by SIEA in maintaining the use of CNO is the shortage of supply of coconut oil. The transport trial in Honiara and Lata is still small scale.					
	The supply side needs to be strengthened through identification of farmers who can supply and meet the demand and also establish a network of support infrastructure for processing the coconut oil. As the situation presents, most suppliers are small scale and lack capacity to produce the required volumes of biofuel. There is also competition from well-established exporters to foreign markets with links to local farmers.					
	The potential for harnessing biomass through a gasification process of by-products and forest waste needs to be properly assessed in terms of harnessing this technology as an economically viable alternative for power generation.					
Objectives	To increase the use of biofuel for power generation and transport					
Scope of work	 Identify farmers: primary producers to supply raw materials. Identify existing infrastructure & invest in new plants. Financial support / investment with government taking the lead to support small holders. Identify and encourage markets/consumers through development of fiscal incentives . 					
Benefits	 Reduces reliance on imported petroleum products and reduces trade deficits Generates income and job opportunities in rural areas Improves energy security, the environment and health 					
Alignment with National Development Strategy	Will contribute to objectives 1 & 5 To alleviate poverty and provide greater benefits and opportunities to improve the lives of Solomon Islanders in a peaceful and stable society To increase the rate of economic growth and equitably distribute the benefits of employment and higher incomes amongst all provinces and people of Solomon Islands					
Strategies and cost	 Promote the use of biofuel for power generation and transportation – SBD 9,474,294 Enhance private sector participation in the production and supply of alternative fuels – SBD 150,000 Promote the use of cleaner fuels for cooking – SBD 162,000 					
Implementation period	2014–2018					
Potential funding	SIG, private investors, resource owners/farmers, consumers, donors, NGOs					

able 9: Summary of investment schedule for the petroleum	sector					
lanning stage						
nplementation stage						
Petroleum sector activities	Total Cost (SBD)	2014	2015	2016	2017	2018
olicy statement 1: A reliable supply of good quality p	etroleum products	at landed costs i	s provided to all peo	ple in Solomon Isla	nds	
trategy 1.1 Ensure a secure and reliable supply of pe	troleum products a	it landed costs to	all people in Solomo	on Islands		
Carry out diagnostic studies on investments in the listribution chain.	76,000					
Carry out a feasibility study on distribution of fuel hrough barges and setting up fuel storage depots in provinces for ease of distribution	76,000	76,000				
Determine the feasibility of setting up alternative bulk storage facilities as back-up in case of disaster	76,000		76,000			
trategy 1.2 Develop appropriate technical guidelines	and standards for	petroleum licens	ing			
Review the <i>Petroleum Act 1978</i>	300,000		120,000	180,000		
Conduct training needs assessment (TNA) for enforcement of the <i>Petroleum Act</i>	200,000					
Facilitate and seek funds for training of ED and Customs Department staff to monitor petroleum storage facilities based on TNA report	420,000					
acilitate the development of appropriate standards or oil storage permits in urban and rural areas	100,000					
Subtotal	, ,	76,000	196,000	180,000	_	
Policy Statement 2.1 :Petroleum storage and handling	facilities conform	with local and in	ternational safety, h	ealth and environn	nental standards	
Strategy 2.1.1 Ensure that petroleum storage and hand	lling facilities confo	rm to local and in	ternational health, sa	afety and environme	ental standards	

Subtotal 3	1,204,886.00	135,600.00	192,071.50	764,271.50	-	-
environment officers and oil companies' operations	112,343		30,472	30,472		
Conduct a national oil spill response training for	112,943		56,472	56,472		
training for environment officers/inspectors						
related waste in the <i>Environment Act</i> and carry out	,					
Integrate the need for waste disposal of petroleum-	112,943					
Strategy 2.2.2 Ensure there is regulation for disposal	of petroleum-rela	ted waste				
comply with proper storage standards						
Ensure that licensed oil companies and retailers	640,000			640,000		
contingency oil spill plan						
Review, finalise and implement the draft	339,000	135,600	135,600	67,800		
		u and implement	eu			
Strategy 2.2.1 Ensure that the draft contingency oil sp	<u> </u>	-		environmentally so	una manner	
Subtotal 2 Policy statement 2.2: Suppliers and users of petroleur		- of netroloum	elated waste in an	50,000	- und manner	-
monthly and yearly checks	50,000					
equipment that should cater for weekly/monthly/six-						
Develop a maintenance programme for all installed						
ion petroleum omeers (training matrix periormance)						
Develop a competency-based training programme for petroleum officers (training matrix performance)	50,000			50,000		
development plan	50.000			50,000		
environment and incorporate them into the staff						
Identify training programmes on health, safety,	225,887					
Facilitate the development and regulation of fuel, safety and environmental standards	75,296					

Review of <i>Price Control Act</i>	350,000		140,000	210,000		
Improve effective enforcement of the act in the urban and rural areas; consultations with and training of provincial officers to enforce monitoring						
Conduct an annual review of supply chain mechanisms with recommendations implemented						
Develop proper or legal mechanisms on the use of a 1 cent per litre levy to be used for effective monitoring of rural and outer island fuel prices						
Strategy 3.2 Ensure compliance with regulated oil and	gas prices in ur	ban and rural are	eas			
Conduct training and capacity development of provincial officers to monitor prices in rural provinces	350,000	70,000	70,000	70,000	70,000	70,000
Subtotal 4	700,000	70,000	210,000	280,000	70,000	70,000
Policy statement 4: The use of alternative liquid and ϵ	aseous fuel	·	·			
Strategy 4.1 Promote the use of biofuel for power ger	neration and tra	nsportation				
Replicate the ADB/SIEA biofuel plant in Auki in other provinces	9,035,464		4,517,732	4,517,732		
Establish and regulate the bio fuel standards, including training, testing equipment	338,830			169,415	169,415	
Assess and submit tax/financial incentives for biofuel use for power generation	50,000		50,000			
Assess and submit tax/financial incentives for LPG for cooking and transport	50,000		50,000			

Support the private sector in establishing professional alternative fuel producers	50,000						
Support primary producers that can supply raw materials	100,000						
Construct infrastructure as necessary to support new alternative fuel industry							
Strategy 4.3 Promote the use of cleaner fuels for cooking							
Research and hold demonstrations on appropriate design of biogas stoves	112,000			112,000			
Develop a <i>Cooking for Life</i> strategy to promote the use of LPG as a cleaner cooking fuel	50,000		50,000				
Subtotal 5	9,786,294.10	-	4,667,732.10	4,799,147.05	169,414.95	-	
TOTAL COST PETROLEUM	13,340,363.10	281,600.00	5,265,803.60	6,073,418.55	239,414.95	70,000.00	

Annex 1: Stakeholders consulted

Government

Solomon Islands Electricity Authority

Customs & Excise Division

Central Bank of Solomon Islands

Foreign Investment Division of the Ministry of Commerce, Industry and Immigration

Ministry of the Prime Minister's Office

Ministry of Education and Human Resources Development

Ministry of Environment, Conservation and Disaster Management

Ministry of Infrastructure and Development

Ministry of Development Planning and Aid Coordination

Ministry of Mines Energy and Rural Electrification

Ministry of Rural Development

Price Control Unit of Ministry of Commerce, Industry, Labour and Immigration

Development partners and CROP agencies

Asian Development Bank

Clinton Foundation

IUCN-Oceania Regional Office

Japanese International Cooperation Agency - Solomon Islands

New Zealand High Commission

Pacific Power Association

Secretariat of the Pacific Community

United National Development Partners - Solomon Islands Office

Private sector and civil societies

Development Services Exchange

Downstream Community

Geodynamics Limited

Humphrey Engineering Ltd

InterAction Corporation

Markwarth Oil Company

Rokotanikeni Women's Group

Solomon Island Maritime Transport Association

South Pacific Oil Company

Origin Gas



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