

# OUR ENVIRONMENT OUR HERITAGE

## Renewable Energy Division Strategy Plan 2007-2017

### INTRODUCTION:

The Ministry of Natural Resources and Environment introduces the Renewable Energy Division and its Strategy Plan for the next ten years (2007-2017). Renewable Energy Division was set up on January 2007 responsible for renewable energy resources and energy efficiency programs and projects at the national and international level. The strategy plan is developed as a main component of Renewable Energy Division (RED) which is designed to focus on Climate Change Mitigation, Bio-fuel and Renewable Energy Resources Programs and Projects contributing to the achievement of national and international obligations for the Energy and Environmental development programs.

The main objective is "to reduce greenhouse gas emission and air pollution by increase the use of renewable energy resources and improve energy efficiency technologies to all sector of economy in Samoa." The strategy plan goal is "to achieve an environmentally sound and economically viable system of transportation and energy production."

To achieve this goal, policies are supported by a detailed strategic plan for implementation. Each policy intended to set the rules by which specific strategies, and outcomes, outputs and activities will be designed to achieve the overall goal and objective. They are long-term, but may be reviewed and changed every 3-5 years if necessary.

Activities under each outcome in the plan are the specific means by which strategies are implemented. They should be monitored continually and modified annually if needed. Each outcome has an identified lead stakeholder which is responsible for initiation and coordination. It is recognized that government ministries and corporations are stakeholders in all activities.

### RENEWABLE ENERGY DIVISION MILESTONE:

" On 21 December 2006 the Public Service Commission (PSC) approved the establishment of a Renewable Energy Division within the Ministry of Natural Resource and Environment (MNRE).

" On 20 March 2007 the Cabinet approved the Renewable Energy Division continued operated under the MNRE.

### The Strategy Plan is organised as follows:

#### 2 - OVERVIEW

2.1 The State of Energy Supply & Demand in Samoa  
2.2 The Impacts of Unsustainable Petroleum-based Energy

2.3 The Need to Reduce the Economic & Environmental Adverse Impacts of Petroleum-based Energy

2.4 GHG and Pollution Reduction Through Energy Efficiency & Renewable Energy Strategy

2.5 National Relevance & Drivenness

#### 3 - THE STRATEGY OUTLINE

3.1 Vision

3.2 Goal

3.3 Objective

3.4 Outcomes, Outputs and Activities

#### 4 - IMPLEMENTATION PLAN

### 2 - OVERVIEW

#### 2.1 State of Energy Supply and Demand in Samoa:

The patterns of energy production and consumption in Samoa was transformed from being dominated by the traditional use of indigenous biomass - wood fuel and coconut residues - to being dominated by the

use of commercial energy supply based largely on imported petroleum products and lesser degree of hydro-generated electricity. The situation was driven by the following key factors: (i) the completion of a rural electrification programme which supplied electricity to all of the population; (ii) the establishment of commercial gas supply networks in the country; (iii) the availability of a variety of electrical and commercial gas appliances and equipments at affordable prices; (iv) the increase in opportunities for acquiring second hand vehicles and equipments from neighboring countries such as New Zealand, Australia and the US (Hawaii & American Samoa); and (v) people's preference for commercial energy that are conveniently acquired compared to indigenous biomass sources.

#### 2.2 The Impacts of Unsustainable Petroleum based Energy:

The expansion of the country's driving economic activities such as tourism and infrastructure developments in the immediate future means that Samoa will heavily depend on petroleum products for meeting its energy needs. Even though also that indigenous renewable energy has great potentials for replacing fossil fuels, only hydro-generated electricity is currently the most economic and practical option compared to solar, wind, bio-fuel and others. With hydro however, current projections shows that even with the total use of existing hydro-schemes and other practical potentials, it would only meet 1/3 of the EPC's projected 2015 electricity demand.

The green house gas (GHG) emission level in Samoa was at average annual growth of 7% from 1994 to 2003. It is estimated that at existing level of annual population growth of less than 1% and economic growth of 3-4% per annum, fuel use and GHG are likely to increase to about 6.3% per year. There has been no recording of air pollution from transportation and industries in the country, however, recent studies on the status of persistent organic pollutants in Samoa shows that most of its direct unintentional releases into the air of dioxins and furans are from waste burning in incinerators and incomplete combustions from vehicles.

#### 2.3 The Need to Reduce the Economic & Environmental Adverse Impacts of Petroleum based Energy:

In view of this situation with petroleum-based energy, and its obligations to its people and international agreements it has signed into, it is imperative therefore for the Government of Samoa to implement effective strategies that will enable it to reduce the costs of its energy needs at both its supply and demand aspects, and to reduce the consequent environmental and health impacts of its existing energy base - green house gas emissions and air pollutions from the use of fossil and biomass fuels and the continuing expansion to unsustainable levels of transportation infrastructures in the country's limited and fragile terrestrial environments.

Moreover, the adverse impacts of this situation will escalates if climate change will increase severe weather conditions in the country such as an increase frequency of droughts, heavy rainfalls and strong cyclones, which located mostly on low-lying coastal areas, the country's economic processes and infrastructures are highly vulnerable.

#### 2.4 GHG and Pollution Reduction through Energy Efficiency & Renewable Energy Strategy:

In view of the above discussion the most appropriate energy strategy therefore for Samoa is to promote

the use of renewable energy resources and improve the efficiency of all technologies currently used by all sector of the economy. For example in electricity sector we needs to promote the replacement of diesel generators to renewable energy resources; promote the replacement of high power equipments and lighting fitting to low power and high efficiency technologies; and improve the maintenance of generation, transmission and distribution line in order to reduce supply losses. In transport sector encourage the use of non-motorized transport; encourage public to use more public transport; identify areas on the National Road Network where vehicles can easily damage and provide solution to improve these areas; and to promote the use of bio-fuel as an option for fossil fuel. These strategic ways forward requires effective and continuing awareness raising, education and consultations with the public and private sector, and the development and enforcement of appropriate national regulatory and monitoring measures.

Energy efficiency in many ways can through proper awareness and education be carried out at affordable costs and practical practices without cost.

The most significant renewable energy development in Samoa is the small pilot solar powered electricity generation panel opened this year in Apolima Island which has now supplied the current energy needs of the island's nine (9) households. Although a small geothermal resource has been located, it is too remote from population centers to be utilized.

#### 2.5 National Relevance & Drivenness:

This strategy plan supports the relevant strategic provisions on energy efficiency and renewable energy of Samoa's National Energy Policy (SNP). It will also contribute to meeting Samoa's obligations under the UNFCCC and the Basel & Stockholm Conventions on waste and pollution.

The strategy will be the responsible of everyone in Samoa. However the strategy coordination at the national level will be provided at the overall strategy implementation level by the Ministry of Natural Resources and Environment and at the outcome implementation level by the most relevant government and non-governmental organizations. Section 4 Implementation Plan provides a conceptual allocation of organizations to the different outcomes of the strategy based on their mandates and existing resources.

#### REFERENCES:

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4. Hay, John and Suaesi, Tapa, ADB REG TA-: Country Environment Analysis for Samoa, ADB, Manila Philippines, 2005
5. Promotion of Renewable Energy, Energy Efficiency and Greenhouse Gas Abatement (PREGA), 2004
6. EPC Data, 2005 Mataia Uaine L Silailai - Renewable Energy Division.

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# OUR ENVIRONMENT OUR HERITAGE



## Children's Corner



Children aged 9-15 are invited to answer the following corner. The name of 3 students with top scores at the end of every month will be posted under the "Children's Corner" for special prizes. "Children's Environment Awareness 2007 Awards will be given to 10 students with top total scores at the end of the year.

### PLURAL FORM

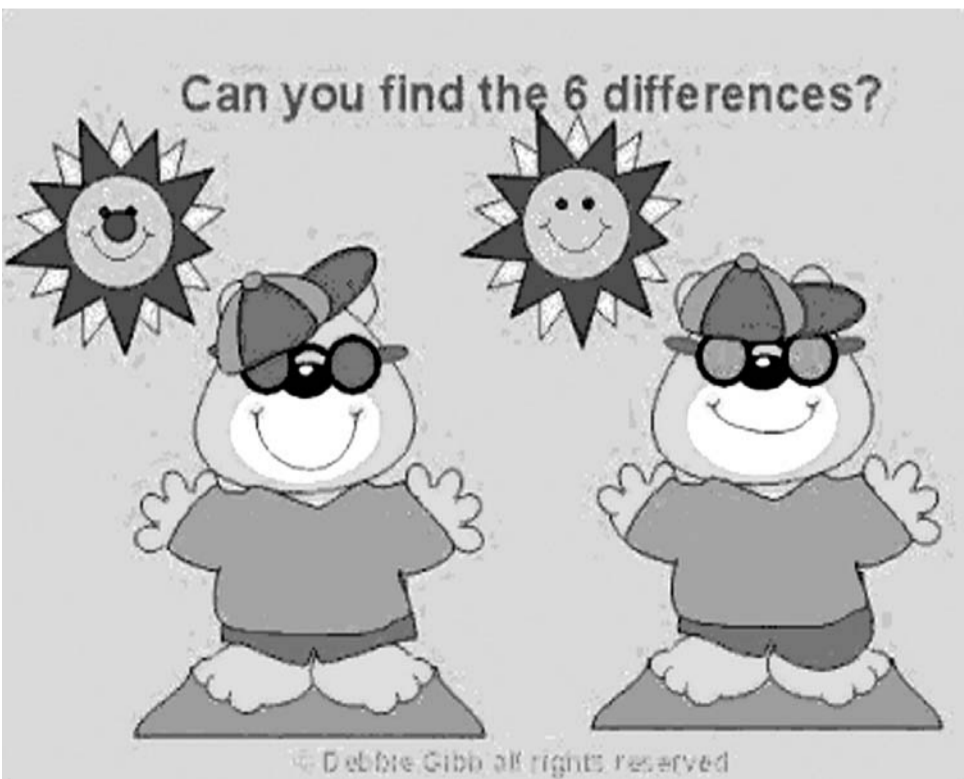
Write the plural form of the words below

- quality \_\_\_\_\_
- room \_\_\_\_\_
- division \_\_\_\_\_
- strategy \_\_\_\_\_
- policy \_\_\_\_\_
- activity \_\_\_\_\_
- resource \_\_\_\_\_
- cyclone \_\_\_\_\_
- country \_\_\_\_\_
- ink \_\_\_\_\_

### DID YOU KNOW?

**Fossil fuels started to form way before dinosaur times!!!**

### CAN YOU?



### SOURCES OF ENERGY

**Non-renewable - oil, natural gas, coal, uranium**  
**Renewable - solar, wind, geothermal, biomass**

### Mr. Renewable Energy Says....

Energy is more than numbers on a utility bill; it is the foundation of everything we do. All of us use energy every day-for transportation, cooking, heating and cooling rooms, manufacturing, lighting, and entertainment. We rely on energy to make our lives comfortable, productive and enjoyable. To maintain our quality of life, we must use our energy resources wisely.

The choices we make about how we use energy-turning machines off when we're not using them or choosing to buy energy efficient appliances-impact our environment and our lives. There are many things we can do to use less energy and use it more wisely. These things involve energy conservation and energy efficiency. Many people think these terms mean the same thing, but they are different.

**Energy Conservation** is any behavior that results in the use of less energy.  
**Energy Efficiency** is the use of technology that requires less energy to perform the same function.



### DEFINITIONS

Simply define the terms below:

- renew \_\_\_\_\_
- energy \_\_\_\_\_
- conserve \_\_\_\_\_

### DID YOU KNOW?

**Ink and Crayons are made from fossil fuels!!!**

## ACKNOWLEDGEMENTS

*We wish to acknowledge and thank the following companies for sponsoring our children's corner*

- ▶ Samoa Biscuits
- ▶ Business System Ltd
- ▶ West End Company Ltd
- ▶ McDonald's Family Restaurant
- ▶

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Government of Samoa