National Energy Policy

CAYMAN ISLANDS

Vision

- The vision of the Cayman Islands' energy sector to 2032 is to be an efficient, diversified energy sector, supported by informed public behaviour within the Cayman Islands, which provides secure, reliable and affordable energy in an environmentally sustainable manner.

Goals

- Secure, reliable and affordable energy supplies.
- Reduce the country's carbon footprint.
- Diversify energy supplies and develop renewable resources.
- Develop comprehensive regulatory frameworks.
- Encourage and promote energy conservation and efficiency throughout public and private sectors.

Opportunities and Benefits

- Advocate Energy Conservation and Efficiency and Stimulate the Growth of Renewable Energy.
- Reduce the Cayman Islands' dependence on imported fossil fuels.
- Keep money in the local economy.
- Smooth out the volatility caused by the international price of oil (long-term fixed energy prices).
- Create a vibrant new sector in the economy.
- Reduce the Cayman Islands carbon footprint.

Opportunities and Benefits

- Renewable energy sector is labour intensive and is expected to create jobs and additional income at a rate that potentially outweighs losses in existing fossil fuel energy facilities.
- Operations and Maintenance of Renewable Energy Plants creates Green Jobs as well as a demand for Products, Services and Jobs in other Sectors.

Terms of Reference

- Cabinet approved the following Terms of Reference for the National Energy Policy Committee.
- Draft a National Energy Policy for the Cayman Islands covering the 20 year period from 2012 to 2032.
- In the drafting process, consider a comprehensive approach to policy drafting. Such an approach will embrace components of policy formulation, development, implementation, evaluation and change.

Policy Subjects

The NEPC will review the following subjects during the process of drafting the National Energy Policy:

- Electricity (including energy conservation, energy efficiency, and renewable energy);
- Water, Wastewater;
- Fuel products (transportation);
- Propane gas;
- Construction and Buildings;
- The Environment;
- Land use and related strategies that result in energy conservation;
- Any other subject(s) deemed relevant.

Cayman's Energy Situation

- Cayman islands population 55,000
- Combined electricity companies sold 572.5 Gigawatt hours (GWh) last year
- On Grand Cayman 553.8 GWh and a maximum peak load of 102.1 MW
- On Cayman Brac 18.7 GWh and peak loads of approximately 3.2 MW and 0.8MW on Cayman Brac and Little Cayman
- Approximately 12.5 kWh of electricity is required to produce 1,000 US gallons of potable water (desalination)
- In 2010, approx. 3.9% of the Cayman Islands' combined electricity demand was utilized for desalination

Cayman's Energy Situation

- Cayman Islands are 99.99% dependent on imported diesel fuel for electricity
- In 2010, 33.29M Imperial Gallons of Diesel Fuel was imported into the Cayman Islands
- In 2010, CUC consumed 32 million imperial gallons (IG) of imported diesel fuel (approximately 95%)
- In 2010, Cayman Brac Power and Light consumed 1.3 million IG of imported diesel
- 90% of public favour renewables (CFP)

Cayman's Energy Situation

- In 2010, 9.22M Imperial Gallons of Gasoline were imported into the Cayman Islands (ESO)
- Cayman Islands' CO2 emissions per capita were 10.0086 metric tonnes
- CO2 emissions for Germany (a net exporter) were 9.5626 metric tonnes and has reduced this figure by 2.5 metric tonnes/ capita since 1990
- 390 building permits were issued for houses and 114 for apartment projects in 2010

Economic Burden

- Volatility in International Price of Oil adversely affects Cost of Living in Cayman (net importer).
- Historically, Electricity has been most costly utility.
- Burden creates strain on businesses and home owners/renters and the economy in general.
- Affects Cayman's competitiveness in the global market space.
- Energy Costs have been cause of public outcry for Government intervention.

Alternative Energy

- Diversifying the energy mix using indigenous renewable resources is a key to promoting a sustainable economy.
- Examples of commercially viable renewable energy technologies include non firm (solar, wind) or firm (waste-to-energy, ocean thermal energy conversion (OTEC)).
- Non firm (intermittent) renewable generation could contribute in the order of 15% of peak load.
- Firm (24/7) renewable generation could contribute in the order 35% of peak load.

Need for Balance

- NEPC is advocating a balanced approach that includes many different initiatives among them:
- Renewable Energy.
- Energy Efficient Devices, Equipment.
- Alternative Fuels, Transportation Efficiency…
- Energy Efficient Construction Materials, Codes, Land Use…
- Raising Public Awareness of Energy Efficiency and Energy Conservation.

Government Incentives

- Current Incentives:
  - Waiver of import duties for renewable energy equipment.
  - Negotiation and agreement with Grand Cayman's sole electricity provider to pay renewable energy producers for contributing to grid using feed-in tariffs.
- Future Incentives:
  - Subcommittees are currently exploring other incentives and mechanisms (policy recommendations).
  - Main committee will review and debate proposed policy recommendations.

Subcommittees

- The NEPC has been divided into four subcommittees to undertake the policy development process.
  - Construction, Buildings and Land Use
  - Electricity, Renewable Energy, Water and Wastewater
  - Petroleum Products and Transportation
  - Public Education

Construction, Buildings and Land Use

- Focusing on areas such as energy conservation and efficiency in respect of construction, buildings and land use.
- Reviewing existing legislation, policies and practices in construction, buildings, and land use, including energy efficiency.
- Looking at national infrastructure, zoning, transportation relationship to land use, construction process, and buildings.
- Particular focus has also been paid to energy-related policies for mixed use development, home based business, development density, affordable housing, pedestrianism, sensitivity to climate and landscaping (among other issues).

Construction Buildings and Land Use

- National Infrastructure
  - RENEWABLE ENERGY: Renewable energy types should be investigated for existing and new national infrastructure facilities and uses (e.g. seaport, airport, etc.) with a view for implementation where feasible.
- Zoning
  - ZONING DIVERSITY: Diversity of zoning types within districts in addition to George Town should be considered to stimulate energy efficiency within districts and minimize excess energy usage between districts.
- Transportation relationship to land use
  - PUBLIC TRANSPORTATION: The establishment of guidelines for creating land development and patterns that support public transportation.
  - CONNECTIVITY BETWEEN LAND USES: Subdivision design should factor in energy conservation and efficiency benefits of connectivity.

Construction Buildings and Land Use

- Buildings
  - ADOPT A CODE COVERING ENERGY EFFICIENCY OF BUILDINGS: Including materials, insulation, lighting, fenestration, ventilation, air conditioning, etc. (e.g. International Energy Conservation Code).
- Mixed-use Development
  - Provide for, or increase mixed use development in all districts of the Cayman Islands.
- Home Based Businesses
  - Due to the energy conservation benefits inherent to home-based business, opportunities for such use should be maximized.
- Pedestrianism
  - Opportunities should be pursued to create or enhance pedestrianism in the interest of energy conservation and efficiency.

Electricity, Renewable Energy, Water and Wastewater

- Responsible for analysing energy use, energy efficiency and conservation, existing and alternative means of electricity generation, as well as water & wastewater technologies, from both an energy efficiency and environmental standpoint.
- Also examining existing legislation, policies and practices in its areas of remit.

Electricity, Renewable Energy, Water and Wastewater

- The Subcommittee has Terms of Reference (TOR) outlining its goals and objectives for producing deliverables. Specific objectives being explored by the Subcommittee include the following:
  - Energy efficient technologies at point of usage.
  - Alternative power generation from renewable resources.
  - Energy efficient water technologies and practices.
  - Energy efficient wastewater treatment methods.
  - More efficient ways to utilize existing power generation.

Electricity, Renewable Energy, Water and Wastewater

- The Subcommittee is cognizant of inherent challenges in meeting the National Energy Policy's vision. Accordingly, the Subcommittee is considering local solutions that meet the following criteria:

1. Provide secure, reliable and affordable energy to local consumers.
2. In accomplishing (1), avoid economic harm to the local private sector.
3. In accomplishing (1) and (2), without adversely affecting Government revenues.
4. In accomplishing (1), (2) and (3), provide environmentally sustainable solutions.

Electricity, Renewable Energy, Water and Wastewater

- The Subcommittee has completed strengths, weaknesses, opportunities and threats analyses on the five specific objectives listed in the TOR.
- The Subcommittee is now progressing in policy and regulatory reform recommendations. Recommended policy statements and amendments to current legislation to incentivize the implementation of energy efficient technologies and alternative energy into the local economy are underway.
- The Subcommittee will also recommend benchmarks and performance standards to measure the overall effectiveness of implemented policies and regulatory reform.

Petroleum Products and Transportation

- Charged with analysing different kinds of fuel (including five types of petroleum products) and exploring how to reduce the Cayman Islands' dependence on foreign oil and hence its carbon footprint.
- Key areas of focus include the environmental impacts of fuel, as well as the reliability of supply, and the economic impact of price fluctuations on the World Market.
- From a transportation standpoint the group is also assessing the existing road network, as well as public transport/transit mode, bicycling or pedestrianism. It will also review the present system of economic incentives presently in place.

Petroleum Products and Transportation

- The committee's Terms of Reference detail the following objectives:
  - Analyse and explore existing and alternative transportation systems, fuels, treatment and disposal of waste oils relating to transportation and all consumers of fuel.
  - Explore alternative levies that could be directly or indirectly applied to Transport & Fuel (T&F) inputs and/or outputs.
  - Recommend appropriate regulatory/policy reform with respect to T&F inputs and outputs as a catalyst for energy efficiency and conservation for all stakeholders in the T&F supply chain.
  - The Subcommittee also reviewed a proposed refinery and possibilities for local production of Petroleum Products.

Petroleum Products and Transportation

- The Subcommittee found that existing fuel supply, storage and distribution systems were safe, reliable and through advanced technology, fuels in use already minimize emissions.
- Existing Propane supplies offer opportunities for further reducing emissions.
- Options for alternative fuels such as Liquefied Natural Gas will offer lower emissions in the Electricity Generation sector.
- Modern technology now offers more fuel efficient vehicles which also reduce emissions.
- Renewable fuels such as Ethanol were also explored.

Petroleum Products and Transportation

- Several Transportation options were examined.
- Electric and Hybrid Vehicles offer considerable savings on fossil fuels but have high initial costs.
- Electrical Vehicles need an infrastructure for convenient recharging of batteries.

Public Education

- Responsible for awareness-raising, stakeholder engagement, partnerships, and public information, including communicating best practices.
- Advocate and Educate the Public on Energy Conservation and Energy Efficiency.
- Encourage and Stimulate the Growth of Renewable Energy in the Cayman Islands.

Public Education

- Utilize education system to promote development of alternative energy.
- Student ambassadors.
- Curriculum integration.
- Science/Technology fair and promotion.
- Slogan competition

Public Education

- Website planned that would introduce latest technologies and practices.
- Routine appearances at large-scale public exhibitions and community events, e.g. Batabano, Island Living, Pirates Week/Heritage Week.
- Presentations to community groups during public feedback phase.

Public Education

- Develop partnerships that will complement and contribute to the direction of the NEP.
- Engage stakeholders in decision making process.
- Regular stakeholder communications i.e. Blog, Newsletter
- Inform general public of amendments in laws that support reduction of carbon footprint.

Formation of the Committee

- Committee had its first meeting in August 2010.
- Local stakeholders from both the private and public sectors have been engaged to find local solutions.
- Subcommittees began formation in November 2010.
- Subcommittee deliberations began in January 2011.

Timeline

- Policy Genesis (three months)
- Policy development (1st draft subcommittee reports expected November 2011)
- Review of subcommittee reports by main committee and independent peer review by external energy consultants (submission of collated document to cabinet by Q1 2012)
- Public Consultation
- Policy implementation (Starting in 2012)
- Policy evaluation (every 4 years, 1st review after year 2)
- Policy change (as necessary)

Special Thanks

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- On Behalf of the Ministry of District Administration, Works, Lands and Agriculture, and the entire NEPC Team, MANY THANKS!

Questions and Enquiries

National Energy Policy
CAYMAN ISLANDS

NEP@caymanera.ky