

Presentation of National Draft National Energy Policy to BREA and BCCI

Presented

Thursday, February 23rd, 2017

Structure of Presentation

- What is the policy designed to do?
- Justification for Policy Development
- Methods of Analysis
- Broad National Perspective
- Core Values
- Mission Statement
- Visionary Goals and Overall Objectives
- Determination of Targets
- Feedback and Next Steps

What is a policy?

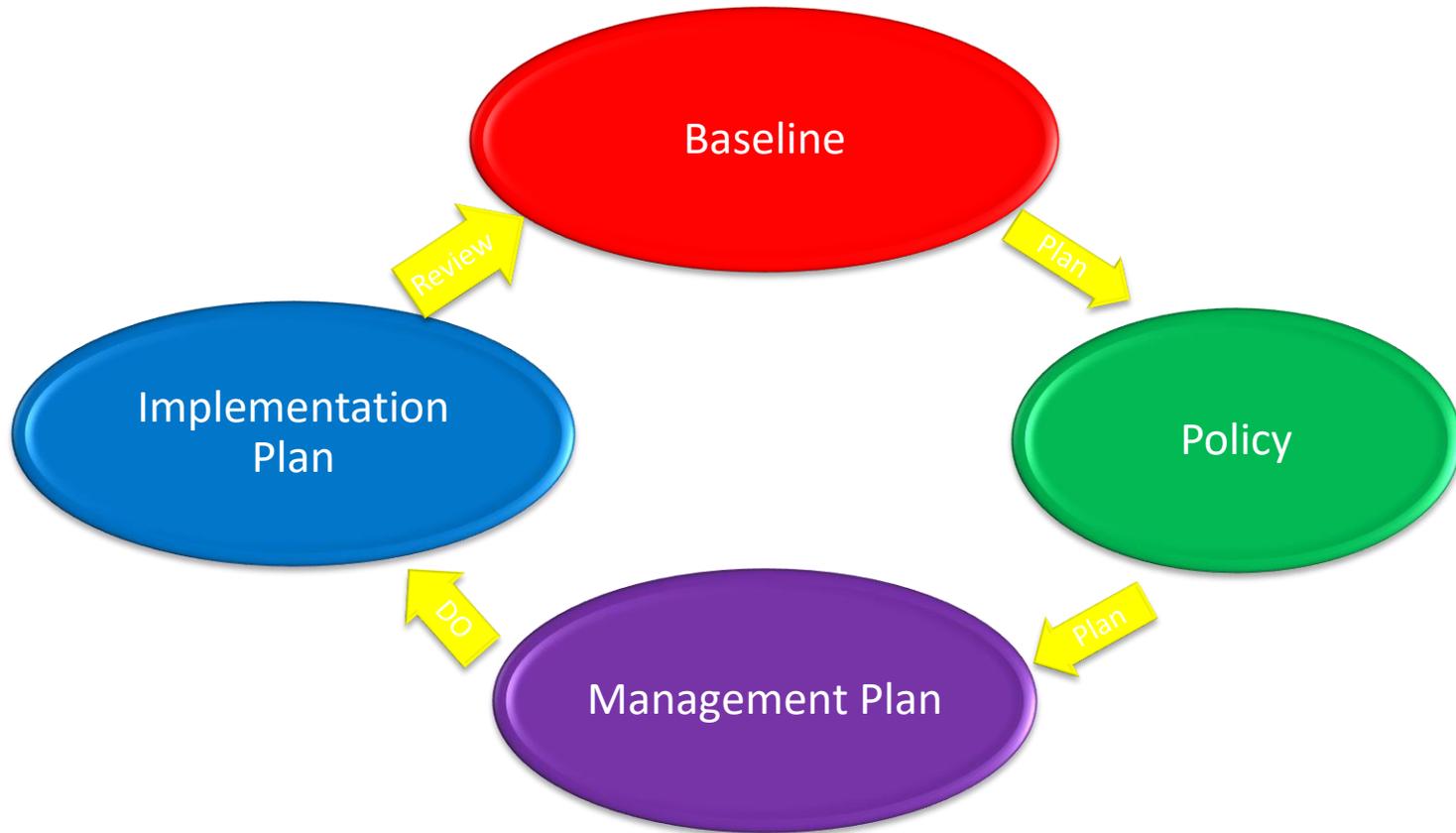
- **A set of ideas or a plan of what to do in particular situations that has been agreed to officially by a group of people, a business organisation , a government, or a political party.**
- **(Cambridge English Dictionary)**

Policy

- ▶ Foundation of the whole system
- ▶ Clear statement of intentions and principles
- ▶ Consolidates ideas and creates a statement
- ▶ Representative message



Project Management



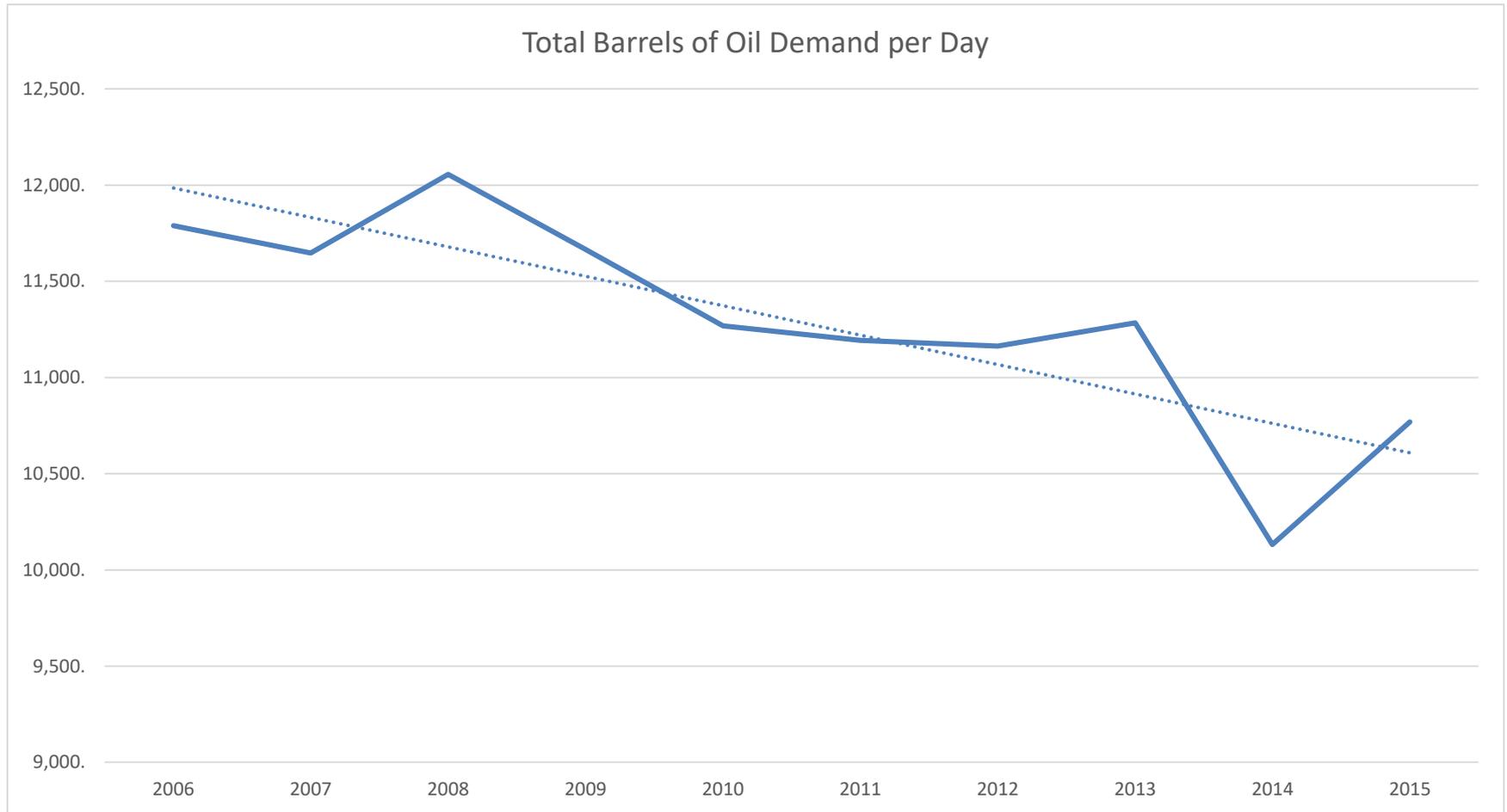
What is this 2017 policy document is designed to achieve

- This document is designed to prepare a general direction and framework for the sector.
- It is NOT expected to provide specific actions related to a subsector but rather give a guiding philosophy that will help identify potential actions that will fit with the overall vision.
- For example, In this policy the value of interdisciplinary solutions is central and it is expected that all actions throughout the sectors will be cognizant of this core value
- The policy starts by giving an overall vision, then states associated related visionary goals, which then lead to general objectives to specific objectives. At each level there is a greater level of specificity.
- It is expected that an Implementation/Action Plan will follow from the specific objectives identified here.
- The Policy provides suggested measures that can be used to achieve the objectives, goals and mission. These measures can be expanded on and developed further by stakeholders in the various subsectors.

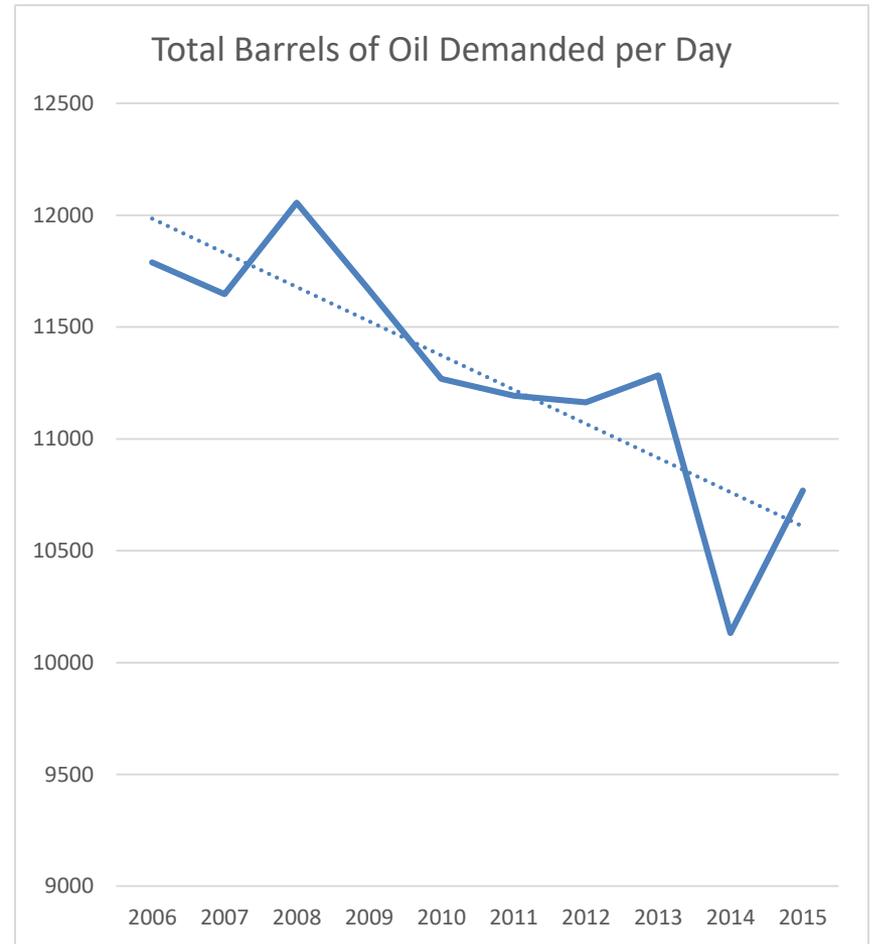
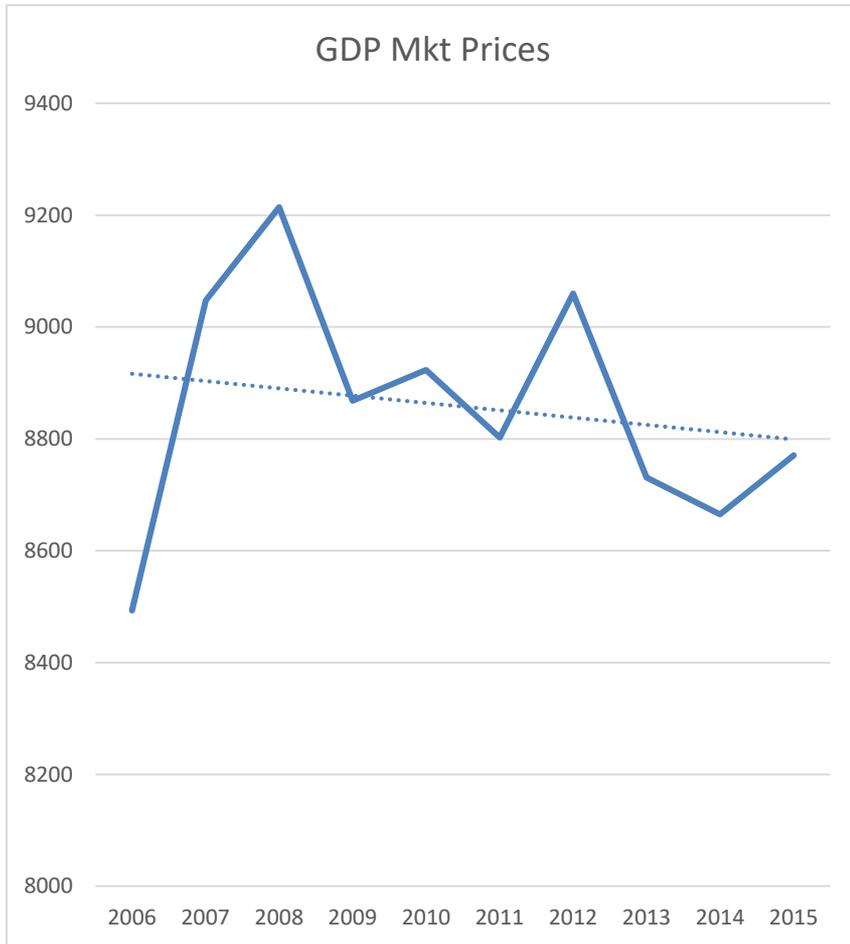
Justification for Policy Development

- Low Oil Prices
- National Sustainable Energy Policy (NSEP) Based only around electricity and renewables
- Draft Policy 2007 gave a broad framework.
- Fiscal Incentives and R.E.R (need for consolidation)
- Challenges of Barbados economy
- Paris Agreement Commitments (carbon)
- Need for reduction in energy production cost from \$1.2 billion to \$720 million (Financial target)

Barbados economic Challenges- Energy Demand Decline

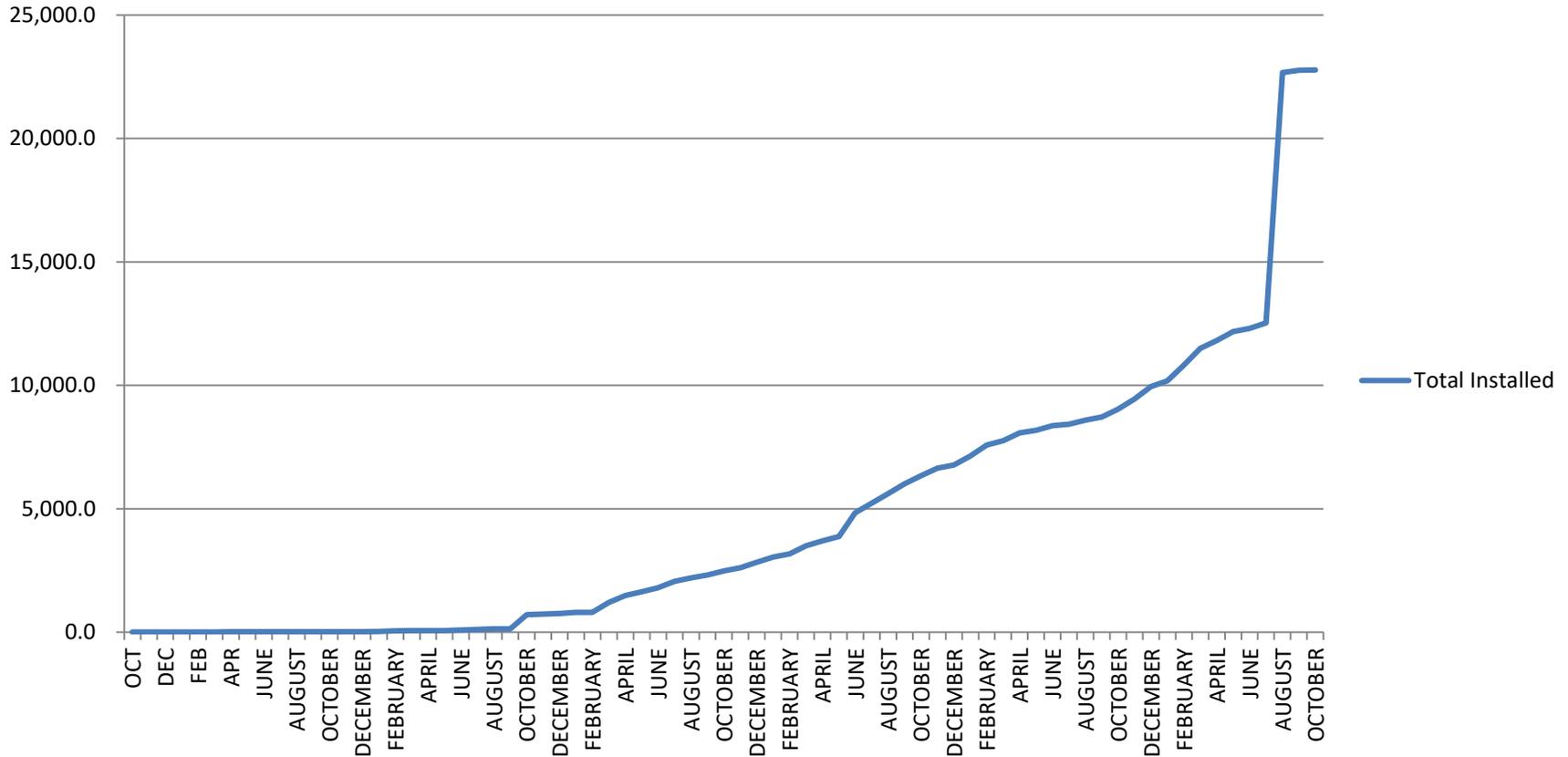


GDP relation to energy demand



Solar PV install capacity 2010-2016

Total Installed



Climate Change: Barbados National Determined Contribution

- Sustainable Development Policy
- *“ to ensure the optimisation of the quality of life for every person by ensuring that economic growth and development does not occur to the detriment of our ecological capital”*
- 44% reduction in emissions compared to business as usual by 2030
- 37% reduction compared to business as usual by 2025

Broad National Perspective

- “ A Fully Developed People-Centred society, through new development pathways.”

Medium Term Growth and Development Strategy 2013-2020.



Methods of Analysis

- Document and Policy Review
- Analysis of Socio economic circumstances
- Interviews with Stakeholders



Documents Reviewed

- Barbados Economic Report
- BL&P Integrated Resource Plan
- Barbados Medium Growth Development Strat
- Draft National Energy Policy 2007
- Wind and Solar Integration Study
- Caricom Energy Policy
- National Sustainable Energy Policy 2013
- Electric Light & Power Act 2013
- Fair Trading Commission Act 2002
- Offshore Petroleum Act 2007
- Utility Regulations Act 2002
- Sustainable Energy Framework for Barbados 2010
- Ince, Vredenburg & Liu, Energy Policy Journal, 2016



Stakeholder Meetings

- **Sol-** Mr. Ezra Prescod
- **Petroleum Dealers Association-** Mr. Ricky Branch
- **BREA-** Mr. Aidan Rogers
- **Rubis-** Mr. Stewart Gill
- **BNOC and NPC-** Mr. Winton Gibbs and Mr. James Browne
- **FTC-** Mrs. Sandra Sealy, Dr. Marsha Atherley- Ikechi
- **BL&P-** Mr. Johan Greaves, Mrs. Kim Griffith- Tang How
- **BMA/ Solar Dynamics-** Mr. James Husbands
- **Ministry of Agriculture (CIRP)-** Mr. Carl Simpson
- **Ministry of Transport-** Ms. Simone Rudder and staff
- **TVET**
- **Ministry of Education**



Analysis of Interviews

- Discussions recorded or detailed notes taken
- Exploration of themes
- Determination of critical issues
- How do the issues feed in to the overall policy goals. Is there consistency among the overarching and the specifics issues?

Core Values

- Stability
- Reliability
- Diversity
- Ownership of business
- Indigenous energy resources
- Entrepreneurship
- Collaboration
- cross cutting approach
- Gradual, systematic evolution to renewable energy
- Education, Awareness and Capacity Building
- Environmental Protection



Vision Statement

- ***“Energy security and affordability through diversity and collaboration: Establishing and maintaining a sustainable energy sector for Barbados.”***



Visionary Goals

- **Visionary Goal 1:** An energy sector that reflects a collaborative and participatory approach to development
- **Visionary Goal 2:** An energy sector that offers a diversity of sustainable energy options both renewable and non-renewable, with a trajectory towards an increasing percentage of renewable energy in the energy mix.
- **Visionary Goal 3:** An energy sector that offers energy products that are affordable to local citizens, and allows government to access an appropriate amount of revenue.
- **Visionary Goal 4:** An energy sector that offers continuous and reliable supply of energy in all associated sectors and subsectors.
- **Visionary Goal 5:** An energy sector that offers significant opportunities for local entrepreneurship and international investment.
- **Visionary Goal 6:** An energy sector that minimizes the environmental impacts and contribution to global climate change.
- **Visionary Goal 7:** An energy sector that offers opportunities for development of human capacity and increasing core skills in energy and energy related fields.
- **Visionary Goal 8:** An energy sector that promotes sound management of returns of economic rent from energy resources, and clear legal regulatory frameworks to buttress its development.

Overall Objectives

- **Overall Objective 1:** Achieving stability and predictability of energy product prices over the long term.
- **Overall Objective 2:** Establishing a consistent and comprehensive regulatory framework, (regulations and legislation) to govern activities in various energy sub-sectors.
- **Overall Objective 3:** Continuing to increase the amount of renewable energy sources used in the energy mix to the extent that it can be accommodated from a technical and socio-economic perspective.

Overall Objective

- **Overall Objective 4:** Increasing the diversity in types of energy sources utilized within both the renewable energy and fossil fuel energy sectors
- **Overall Objective 5:** Encouraging local investment in energy projects and programs within Barbados, with a view to increasing the number of shareholders and players in the various energy subsectors.
- **Overall Objective 6:** Increasing the extent of energy resources used in Barbados that are obtained from indigenous sources.

Overall Objective

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- **Overall Objective 7:** Promoting increased entrepreneurial activities locally in renewable energy and fossil fuel energy development throughout the energy subsectors.
- **Overall Objective 8:** Increasing collaboration within the energy subsectors and among the cross cutting sectors that have an impact on energy supply or consumption.
- **Overall Objective 9:** Improving the efficiency in the production and consumption of energy products within the various subsectors.

Overall Objective

- **Overall Objective 10:** Improving the awareness and understanding within all sections of the public of energy production and consumption, its impacts and the associated environmental and socio-economic consequences.
- **Overall Objective 11:** Increasing the number of persons locally with qualifications and skills relating to energy production and management of renewable and fossil fuel sources.
- **Objective 12:** Reducing the environmental impacts associated with the production and consumption of energy resources locally.

Overall Objectives

- **Overall Objective 13:** Ensuring reliability and continuity of energy supply in the various local energy subsectors.
- **Overall Objective 14:** Attaining the lowest possible price that can be sustained by the local economy for various energy sources consumed within Barbados
- **Overall Objective 15:** Establishing effective partnerships between national and international entities for local energy projects

Sector Specific Themes

- Oil and Gas
- Renewable Energy
- Electricity
- Energy Efficiency
- Environment and Climate Change
- Human Resources and institutions
- Cross Cutting Sectors
- Disaster Management
- Trade
- Governance and Regulatory Framework
- Investment and Finance



Setting Overall Fossil fuel reduction targets

- 100 %
- 75%
- 50%
- Assessment of business as usual



Fuel mix projections

- The ideal mix for targets chosen was based on getting to a 75% mix of fuel source outside of the conventional petroleum products.
- While this appears to be a mix that will be desirable from a multidisciplinary perspective. The policy will consider other compositions of fuel mix that can be illustrated to effectively fulfil the requirements for the interdisciplinary goals outlined.
- Basis of the determination can be discussed further.
- Stakeholders will be invited to submit possible multidisciplinary models for consideration.

Energy Mix Constraints

- Land availability
- Cost of resources
- Efficiency of conversion
- Environmental Costs
- Socio-economic cost/benefit



Targets (100%, 75%, 50%)

- Renewable energy + natural gas
- 20 year planning horizon (2036)
- Energy mix dependent on cost production kWh and ability to provide electricity baseload.
- Considers shifts in transportation (fossil fuel to electricity sector)
- 75% recommended- option based on energy sector constraints

Optimum fuel mix for 75% reduction (based on current multi criteria model)

- 15% Solar
- 20% Wind
- 30% Biomass
- 15% Biofuels
- 20% natural gas

Short term targets

- 19 % fossil fuel reduction 2021
- 39 % fossil fuel reduction 2026
- 56% fossil fuel reduction 2031
- 75% fossil fuel reduction 2036



Reduction in Fuel Expenditure

- Desired outcome of fossil fuel reduction
Targets is 40% - (From \$1.2 billion to \$720 million)
- Reduction of electricity cost by 24%
- Socio economic benefit \$2.2 billion
- Total energy Cost

Next Steps

- Receipt of comments
- Town Hall Meeting (February 27)
- Selection of relevant Indicators
- System of monitoring
- Development of Implementation/ Action Plan
- Strategies and specific stakeholder roles