THE BARBADOS ECONOMIC REPORT
ENERGY CHAPTER 2010

OIL AND GAS EXPLORATION

ONSHORE

During 2010 no new wells were drilled by the Barbados National Oil Company Limited. The total amount of product available for 2011 consists of 1.9 million barrels (bbls) of crude oil and 3,990,843 million cubic feet (mcf) of gas. These figures represent the reserves at December 31st, 2010. The products extracted during the year came from existing wells including those drilled in 2005 and commissioned in 2006. The wells drilled in 2009 have now been placed online and has helped with production.

PRODUCTION

During the year, production of crude oil increased by approximately eleven percent (11%). Production stood at 277,123 barrels (bbls) for the same period during 2009 while output increased to 306,513 barrels in 2010. This increase was due to in part the new wells drilled in 2009 came online to complement the existing ones.

In 2010 natural gas production by BNOCL decreased by one (1%) percent to 690,567 mcf as compared with 698,480 mcf in 2009. There was no Liquefied Petroleum Gas (LPG) production during 2010 since the LPG plant was taken out of commission in September 2003. In 2004 the decision was made not to extract condensate from the gas in order to boost gas sales.

OIL AND GAS SALES AND CONSUMPTION

Due to wells drilled in 2009 brought online in 2010, oil sales for the year increased by ten (10%) percent, from 280,332 bbls in 2009 to 308,720 bbls in 2010, while gas sales decreased by six (6%) percent to 460,074 mcf in 2010 as compared to 2009. Total sales by volume in the National Petroleum Corporation (NPC) inventory decreased by eight (8%) percent, from 12,074,613 cubic metres in 2009 to 11,064,941 cubic metres in 2010.

Because of lower volumes of gas available for sale, NPC was unable to sell natural gas to BL&P. This was, in turn, contributed to the decrease in the value of sales by three (3%) percent to $13,809,484 in 2010 compared with the said period in 2009. A slight decrease was seen in all the sectors for the year.

The expansion programme of the NPC continued in 2010 by increasing its distribution network by 4.84 miles and has gained at least five hundred and seventy-one (571) new customers for the year under review.

ELECTRICITY

Electricity sales for the year 2010 were 958.1 million kWh. This represented a 0.7% increase when compared to 2009. The largest category of users continues to be the domestic sector, accounting for 32 per cent of total sales or 306 million kWh. The Barbados Light & Power Company Limited (BL&P) expanded its services by investing at least $152.7 million to upgrade its capital infrastructure to accommodate forecasted demand for the year.

FUEL IMPORT BILL

For 2010, the fuel import bill was estimated at $784,400,000 which represents an increase of 68% when compared with that for 2009 which was $467,024,000. The estimated increase in the import bill can be attributed in large measure to increases in petroleum prices in general.

With respect to the major fuels, gasoline, diesel and fuel oil, imported during 2009, there was an overall increase. The volume of gasoline imported during 2010 stood at 798,591 barrels, representing a decrease in imported volume of three (3%) percent when compared with gasoline imports for the 2009 which was 823,693 barrels. On the other hand, the imports of diesel for 2010 recorded 817,919 barrels registering an increase of eight (8%) percent as compared with diesel imported during 2009 which stood at 755,928 barrels. However, the imports of fuel oil indicated a decrease of twelve (12%) percent with imported volumes of the commodity registered at 1,369,218 barrels for 2010, compared with 1,560,006 for 2009. Kerosene sales for 2010 were 211,681 bbls as compared to 3,561 bbls in 2009.

LOCAL RETAIL PRICES

The policy of monthly price adjustment for the major fuels, gasoline, diesel, kerosene and LPG was continued during 2010. This meant that the retail prices of the products were more reflective of their import prices. In the case of gasoline, the average retail price for 2010 was $2.46 per litre or 15.5% above the average retail price for 2009, which was $2.13 per litre. With respect to diesel prices, the average retail price for 2010 was $2.34 per litre or 26.5% higher than for the average retail price during 2009 which stood at $1.85. The average retail price for kerosene

during 2010 was $1.38 per litre or 25.5% above the average retail price for 2009 which was recorded at $1.10 per litre.

In the case of LPG, retail prices increased in similar fashion as prices for the commodities noted above. During 2010 the average retail price of the 100lb cylinder was recorded at $146.57 which was 14% above the average retail price for the year 2009 which stood at $128.27. With regard to the 25lb cylinder, it was noted that the average retail price for this volume of LPG was registered at $39.24 during 2010, and represented an increase of 13% when compared with 2009, which was $34.66. The average retail price for the 20lb cylinder during 2010 was $31.38 and was 13% higher than the average retail price for 2009 which was recorded at $27.72.

At December 31st, 2010 the retail price of gasoline was $2.76 per litre, $2.39 per litre for diesel and $1.51 per litre for kerosene, while liquefied petroleum gas was $148.72 per 100 lbs cylinder, $39.82 per 25 lbs cylinder and $31.86 per 20 lbs cylinder.

RENEWABLE ENERGY AND ENERGY EFFICIENCY

GLOBAL ENVIRONMENT FACILITY INITIATIVES

This is a US$2 million grant facility funded by The Global Environment Facility (GEF) Initiatives which the Energy Division is responsible includes the following two pilot in RE and EE projects.

- The first project will see provision of 15,000 compact fluorescent lights and 3,000 power monitors in a representative sample of 3,000 low and middle income households in Barbados; and

- The second project relates to the provision of photovoltaic energy systems for householders by way of a tax rebate for the cost of installing a solar electric system.

These projects fall under components II and III of the SEFB as projects commissioned in coordination with other donors, namely the GEF.

SUSTAINABLE ENERGY FRAMEWORK ***(SEF)***

The Sustainable Energy Framework for Barbados Project commonly referred to as the SEFB Project, aims to reduce Barbados' dependency on imported fossil fuels; enhance its security and stability in energy supply

and improve its environmental sustainability by promoting Renewable Energy (RE) and Energy Efficiency (EE) programmes.
The specific components of the SEFB include:

- Component I: Preparation of the Sustainable Energy Framework for Barbados and Capacity Building by way of:

    - Preparation of the SEFB documents which reviewed the existing energy framework, analyze energy related regulatory and policy issues, identify barriers to the promotion of sustainable energy and provide recommendations to overcome these barriers; and

    - Capacity Building through technical assistance to support the preparation of legislation on Energy Efficiency and Renewable Energy and provide institutional strengthening, capacity building and training to the energy government units for Renewable Energy, Energy Efficiency and Bio-Energy .

- Component II: Policy Support for Energy Efficiency:

    - Providing technical assistance in the preparation of standardized guidelines for energy efficiency audits.

- Component III: Analysis and Policy Support for Renewable Energy options:

    - Assessing the potential for renewable energy especially solar, wind, and others for electricity generation;

    - Providing technical assistance to support the preparation of a power purchase scheme to facilitate the purchase or sale of electricity to the grid.;

    - Complementing any existing financial instruments to promote renewable energy;

    - Designing pilot programs for renewable energy; and

    - Assessing the potential for waste to energy programmes.

- Component IV: Dissemination of findings

    - Financing workshops to validate and disseminate findings.

The SEFB will promote the development of sustainable energy options and provide a practical way forward in relation to targets, technologies, regulatory support, guidelines, human resources, budgets and training. To this end, the IDB has provided the Government of Barbados with a US$45 million policy based loan which was fully disbursed in 2010. The loan is in support of various policies and programmes which the government is expected to implement over the execution period of the loan.

It is anticipated that there will be an application for a second policy based loan in the near future.

THE ENERGY SMART FUND

The purpose of the US$10 million Smart Energy Fund will be established and financed through an investment loan from the Inter-American Development Bank. It aims to provide the impetus through which greater investment in Renewable energy and energy efficiency can be jump-started and fully unlocked in the Barbados Context. This first tranche if successful can be replicated over the years. As at the December 31, 2010, the Energy Division was finalizing the arrangements to give effect to the Smart-Fund. This fund has five facilities which relate to Renewable Energy and Energy Efficiency in Barbados. These include:

- Grant Facility (BDS$1 million) – Which provides grants to business for funding pre-investment studies for Renewable Energy and Energy Efficiency projects, to assess their technical and financial viability and support their implementation;

- Energy Efficiency Retrofit and Renewable Energy Finance Facility (BDS$ 12 million) - provides subsidized loans to businesses to finance the implementation of renewable energy and energy efficiency projects;

- Pilot Consumer Finance Facility (BDS$ 1 million) – providing subsidized loans to selected retailers that have experience in the 'hire-purchase' consumer finance scheme, and that in turn offer better hire-purchase terms to their customers for purchasing renewable energy and energy efficiency equipment at their stores;

- CFL Distribution Facility (BDS$1 million) – this grant facility provides free compact fluorescent lamps to a limited number of

residential customers of BL&P, through the issuance of vouchers; and

- A/C Rebate Trade-in Facility (BDS$3 million) – This grant facility provides a 50% instant rebate for BL&P customers (households and businesses) to purchase energy efficient air-conditioners (provided they dispose of an old air-conditioner, presenting an A/C disposal certificate also through the issuance of vouchers distributed at selected retailers.

BDS$2 million for discretionary purposes.

NATURAL RESOURCES

There were no major projects undertaken in natural resources for the period under review.

The Government continued discussions with BHP Billiton with a view to agreeing the terms and conditions for the award of a licence for oil exploration in offshore Barbados.

OUTLOOK/FORECAST FOR THE YEAR 2011

International Perspective

International petroleum prices continued during 2010 to be influenced by demand in emerging markets such as China, India and Brazil to fuel their economic growth. In the short-run, severe climate conditions in the form of snow storms in Europe and the USA have placed upward pressure on petroleum prices internationally. OPEC's view for 2011 indicated a likely increase in oil consumption of 1.2 million (mn) barrels per day (b/d) or 1.4%. The Organisation for Economic and Economic Development (OECD) forecasted demand for 2011 to rise by 180 000 b/d while non-OECD demand is expected to average 41.2 mn b/d. On the supply side the Energy Information Administration of the US Department expects world production to increase to 87.73 mn b/d during 2011 above the 86.40 mn b/d level for 2010.

Given the above conditions and assumptions it is anticipated that West Texas Intermediate (WTI) crude oil prices for 2011 will have monthly average prices that could range between US $84.15 and US $95.18 per barrel. Indeed, there is a strong possibility that daily oil prices could reach US $100 per barrel but it is not likely to be sustained. The long-run average equilibrium price of the WTI crude oil price has been

estimated at US $80.79 per barrel. It is likely that during 2011, oil will trade above this equilibrium level. This view would tend to suggest that the days of oil prices falling below US $80.00 per barrel will be "few and far between". It is also expected that oil prices will be less volatile. Additionally, the World Economy will be heavily challenged if oil prices are sustained above Barbados' US $90.00 per barrel.

Local Perspective

The anticipated upward movement in international and import prices are expected to continue to place upward pressure on the local prices of petroleum products. In addition, it is expected that the Fuel Clause for electricity will face increase pressure, as a result of the anticipated increases in fuel import prices.

During 2011, it is projected that the Barbadian consumers of gasoline, given the current price structure, will pay retail prices between BDS $2.65 and BDS $ 3.22 per litre. In the case of diesel it is projected that consumers will pay retail prices of between BDS $2.29 and BDS $2.62. It is further projected that kerosene consumers will pay retail prices ranging between BDS $1.46 and BDS $1.56 per litre. It is also projected that LPG wholesale and retail prices will increase with ranges of BDS $150.00 to BDS $155.00 for the 100lb, BDS $40.00 to BDS $41.00 for the 25lb and BDS $32.00 to BDS $33.00 for the 20lb.

The Fuel Clause for electricity is projected to continue to be at a high with a range of 26.00 cents/BDS and 43.00 cents/BDS per Kwh. The long-run equilibrium value for the fuel clause for electricity in Barbados is estimated to be 27 cents/BDS per Kwh.

With the general rise in hydrocarbon prices it is anticipated that renewable energy and energy efficiency will continue to gain prominence and economic viability. It is noted, for instance, that some car dealers have introduced the electric car. This trend is expected to continue into 2011.

In light of economic challenges which Barbados is expected to continue to experience during 2011, it is anticipated that the fuel demand will not be significantly higher than 2010.

The Government of Barbados will continue its work to afford the issuance of licenses to facilitate exploration for oil and gas offshore Barbados. Additionally, Government will implement the SEF to assist the demand for renewable energy and energy efficiency products and technologies.

Given the fact that renewable energy and energy conservation have resurged strongly over the last two (2) years, it is anticipated that the use of alternative fuels will become more widespread in the short to medium term.