JAMAICA'S ENERGY SECTOR

FREQUENTLY ASKED QUESTIONS

Jamaica's Energy Sector currently provides good opportunities for interested investors. Select opportunities exist in renewable fuels, electricity generation from renewable sources, electricity generation from conventional fuels, electricity grid management, including energy storage and also energy efficiency and conservation programmes.
The following are frequently asked questions concerning Jamaica's energy sector.

Energy Sector Profile

The energy sector is made up of a variety of stakeholders and a mix of energy sources. This section provides a general overview of the electricity (power) and fuel subsectors in Jamaica.

1 How is the electricity sector structured?

The sector consists of entities that govern and provide policy, regulate service levels and rates, approve new generation, and generate and distribute electricity. The key agencies and companies that make up the sector are:

- Cabinet - Highest decision making body for Policy and Administration
- Ministry with responsibility for Energy – Policy, Planning and Safety Regulation of the Electricity Sector
- Office of Utilities Regulation (OUR) – Regulator of Service and Rates
- Generation Procurement Entity (GPE) within the Ministry responsible for Energy – Procurement of new generation capacity
- Jamaica Public Service Company (JPSCO) – The Single Buyer, Grid Operator (Transmission & Distribution) and Supply Retailer
- Power Generators – The JPSCO and Independent Power Producers (IPP)
- Government Electrical Regulator (GER)– Electric safety regulation

2 Who has responsibility for planning and regulating the electricity sector in Jamaica?

The planning of additional generating capacity to the grid is the responsibility of the Ministry with Responsibility for Energy. The electric utility is regulated by the Office of Utilities Regulation (OUR).

3 Who are the suppliers of Electricity to the national grid?

The JPSCO is the largest supplier of electricity to the grid. The company is 80% privatized (20% owned by the Government of Jamaica). The other suppliers are:

- Independent Power Producers (IPPs) – Accounting for 30% of baseload generation capacity and 38%, inclusive of renewables
  - Jamaica Private Power Company (JPPC)
  - Jamaica Energy Partners (JEP) and West Kingston Power Partners:
    - Doctor Bird Power Barge I
    - Doctor Bird Power Barge II
    - West Kingston Power Partners
- Other Independent Power Producers (renewables):
  - Wigton Wind Farm – Wind
  - BMR Jamaica Wind Limited – Wind
  - WRB Enterprises (Content Solar) – Solar
- Other producers (cogeneration):
  - Bauxite/Alumina companies
  - Sugar (Industry) companies

4 How much generation capacity exists and what does the Jamaican economy consume?

- Total installed capacity - 1025 MW
- Normal (base) Load - 425 MW
- Peak demand - 667 MW

5 How much power is the government seeking to add to the grid from renewable energy?

According to the National Energy Policy, 20% of the energy supplied to the energy mix by the year 2030 should be generated from renewable energy (RE) sources. As at the year 2017, Jamaica's renewable energy capacity stood at 14.7% with net contribution to the national grid accounting for 11.2%. Based on the signals from the market and technical studies conducted, the new target is that 30% of electricity generation will come from renewables. Further studies are underway to revise the target upwards.

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The following are draft sub-policies of the National Energy Policy:

- National Renewable Energy Policy
- National Energy-from- Waste Policy
- National Carbon Emissions and Trading Policy
- National Energy Conservation and Efficiency Policy
- National Bio-Fuels Policy
- National Electricity (Power Subsector) Policy

https://www.mset.gov.jm/energy-sub-policies

6 What policies and legislation govern/guide energy investments generally in the country?

The National Energy Policy 2009-2030, the Electricity Act 2015, the Petroleum (Quality Control) Act 1990 and the Jamaica Public Service Company Limited - Electricity Licence 2016 provide guidance to investors on the electricity sector. You may obtain further information on these documents at following link: www.mset.gov.jm

7 Is coal an option for electricity generation in Jamaica?

Yes, coal, a relatively cheap form of energy is included in the National Energy Policy as an option for electricity generation in Jamaica. Cognizant of the additional cost with associated externalities, strict environmental guidelines will accompany coal fired generation projects, if approvals were to be given.

8 Does Jamaica have an Energy Services Company (ESCO) industry?

Yes. Currently Jamaica has a limited ESCO industry that serves mainly the private sector.

9 Are there energy auditors in Jamaica?

There are several certified energy auditors operating in Jamaica. Please see below a link to the Development Bank of Jamaica (DBJ) website for further details. www.dbankjm.com
https://www.google.com.jm/webhp?sourceid=-chrome-instant&ion=1&espv=2&ie=UTF-8#q=energy+auditor+%2B+Jamaica

10 How does JAMPRO assist and support project implementation

As the Government's trade and investment agency, JAMPRO can provide to prospective investors insight into the local business climate, along with guidance on processes and procedures that must be followed. Through our Investment Promotions and Facilitation teams, we assist businesses in, among other things:

- Securing critical inputs for their due diligence/site selection exercises
- Identifying suitable office space
- Establishing important contacts and linkages, and
- Navigating the processes to secure work permits and the incentives available.

Your JAMPRO contact is an important resource when considering establishing JAMAICA as your next business location.

11 What are the new electricity generation projects being implemented in Jamaica?

Jamaica is currently implementing new generating capacity using both conventional and renewable energy sources: These projects are:

- South Jamaica Power Company (Old Harbour Plant) - 190 MW base load plant using Liquefied Natural Gas (LNG)
- JAMALCO/NFE - 94 MW cogeneration plant using LNG
- Eight Rivers Energy Company – 37 MW solar plant

12 What sources of energy is currently being used to provide the current generation capacity?

Electricity is generated from a mix of energy sources; conventional (Heavy Fuel Oil (HFO) and Automotive Diesel Oil (ADO)), alternative (Natural Gas) and renewable (hydro, solar & wind) being the prevalent sources. The proportions are as follows:

- Petroleum: HFO & ADO - 760 MW
- LNG - 114 MW
- Renewables (wind, hydro & solar)
  - Wind Installed Capacity - 102 MW
  - Hydro Installed Capacity - 29 MW
  - Solar - 20 MW

13 Can I source my own fuel for generation purposes?

Under the National Energy Policy the importation and processing of fuels are liberalized and the appropriate licensing regime will apply. This allows investors to source their own fuel for electricity generation.

14 How is the fuel sector structured?

The fuel sector is a liberalized and a deregulated market. Enterprises are able to import, produce, blend and distribute their own fuels once they have the requisite licenses. However, the sector is governed by several pieces of legislation (mainly as it relates to safety, quality, health and environment).

The local petroleum network is generally structured as follows:

- The Petrojam Limited, is the only oil refinery in Jamaica and it is jointly owned by the Petroleum Corporation of Jamaica (PCJ), a state owned entity and PDVCaribe, a subsidiary of Petróleos de Venezuela, (PDVSA). Petrojam imports crude oil, which it refines and blends into finished products. It also imports finished products to meet local demand. It should be noted that Petrojam supplies approximately 70% of the country's petroleum market requirements to marketing companies and large commercial users (IPPs, JPS, bauxite companies, inter alia); the remainder is supplied through imports by marketing companies.
- There are twenty-eight (28) petroleum marketing companies in the island, three (3) of which are multinationals.
- There are over 320 Retail Service Stations,
- There are eight (8) Loading Terminals, including one (1) for Liquefied Natural Gas (LNG), and
- There are 28 Liquefied Petroleum Gas (LPG) Filling Stations that are operating in the petroleum industry, and
- One (1) Aircraft Refueling company, operating from Montego Bay.

Natural Gas

The National Energy Policy 2009-2030 identified natural gas as the preferred fuel to commence fuel diversification strategy of the government. LNG was introduced into Jamaica in 2016 to initially fuel 114MW of electricity generation that was previously fuelled by Automotive Diesel Oil (ADO).

New Fortress Energy is one of several licensed entities to import natural gas into the country and, while using a regasification and ISO container storage facility is currently constructing a Floating, Storage and Regasification Unit at Port Esquivel to also power a 190MW generation plant currently being constructed by South Jamaica Power Company (SJPC), which is a subsidiary of JPS as well as a 94MW generation plant currently being constructed by NFE South Power Holdings.

Coal

The Caribbean Cement Company Ltd. Imports coal as a fuel for its manufacturing operations.

Biomass

- The use of Biofuels is increasing in the country's energy supply mix. Ethanol is used as an octane enhancer for gasoline and biodiesel is considered a good option for the country's fuel diversification strategy.
- Waste to Energy is a priority of the government as a renewable energy source. Several assessments have been done and others are currently underway to harness this potential.

Together these fuels support the fuel diversification strategy and contribute to the country's ability to meet its climate and environmental commitments under various international protocols.

15 Who provides bunkering (ship refuelling) services in Jamaica?

Bunkering is provided by the following companies:

- Petrojam
- West Indies Petroleum (WIP)
- Aegean Marine Petroleum Network
- Petrotech Marine Petroleum Limited

Opportunities

Jamaica's energy sector is dominated by relatively old and inefficient infrastructure that are now being prioritized for modernization and or replacement. Aged electricity generating plants and hydro skimming refinery technology are scheduled to be replaced and or upgraded respectively.

As a result, several investment opportunities have arisen in the energy sector. These opportunities could be divided into the following three (3) asset classes, namely:

a) Electricity power Generation
b) Trading in Fuels
c) Energy Efficiency and Conservation

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The Electricity Sector

16 What are the immediate investment opportunities in power generation in renewables?

Opportunities exist in generating electricity from renewable resources such as, solar, wind, hydro, biomass, and waste for the national grid. Most of the opportunities are highly dependent on the completion of an Integrated Resource Plan which is being done by the Ministry with responsibility for Energy. Other opportunities under investigation include geothermal and ocean thermal energy conversion (OTEC).

17 As a self-generator of electricity (I generate electricity for my own use), how can I connect to the national grid?

Self-generators can connect to the national grid through one of three (3) mechanisms, namely; Net Billing, Power Wheeling and Auxiliary Connection.

Net Billing

Customers of the electric utility may obtain a Net Billing Licence through the Energy Licence Administration Office (ELAO) at the Ministry, which allows them to sell their excess renewable electricity to the grid at a price equivalent to the short-term avoided cost plus 15 percent premium. The short-term avoided cost is published monthly by the OUR (www.our.org.jm).

Under Jamaica's net billing policy, residential and commercial customers with a generation capacity of up to 10kW and 100kW respectively can sell excess electricity to the national grid. Currently, net billing is predominantly utilized by persons who use solar photovoltaic (PV) panels.

Electric Power Wheeling

Electric Power Wheeling allows a customer of the electric utility to generate power for its own use in one location and utilize it at other location(s).

Auxiliary Connection

Some customers of the electric utility may wish to connect to the grid for purposes other than electric net billing and power wheeling, which include connecting for stability purposes.

18 If I want to sell power to the national grid as an Independent Power Producer (IPP), how do I obtain a power purchase agreement (PPA)?

The right to sell power to the national grid as an IPP is awarded through a request for proposal (RFP) issued by the Generation Procurement Entity (GPE). The successful bidder will be granted a License by the Ministry with responsibility for Energy and shall enter into negotiations with the electric utility to agree the terms and conditions of the PPA.

19 Are there any opportunities for cogeneration?

The Ministry with responsibility for Energy, having regard to the Integrated Resource Plan, the size and efficiency of a cogeneration plant and the national interest, may grant approval for the plant to supply power to the grid. Each application will be given consideration on its own merit.

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JAMAICA'S ENERGY SECTOR

FREQUENTLY ASKED QUESTIONS

The Fuels Sector

Jamaica's fuel sector is currently liberalized, which means that licensed marketing companies can import and or refine any type of fuel and can sell this fuel in Jamaica without economic regulations. This is also applicable to companies involved in terminalling, haulage, storage and retailing.

20 What are the immediate opportunities in fuels?

a) Processing of end-of-life motor (waste) oil
b) Local production of ethanol
c) Local production of biodiesel

21 Does Jamaica have a mandate for ethanol?

Jamaica currently has a policy which allows up to 10% ethanol (E10) to be mixed with gasoline.

22 Does Jamaica have a mandate for biodiesel?

No. However, the Draft National Biofuels policy encourages the production of biodiesel as a clean energy source. The current standard allows for 100% biodiesel as a fuel source and a 5% mix of biodiesel to conventional diesel.

Energy Efficiency and Conservation

Energy efficiency and conservation is an important policy thrust of the government and as such several initiatives are underway in both the public and private sectors. The government has undertaken major retrofits of public sector facilities (buildings) in order to reduce its electricity bill. Several private sector entities have started and in some cases completed retrofits for energy efficiency and conservation toward improving their productivity.

Energy Services Companies (ESCO's) are distinguished from other energy efficiency (EE) or renewable energy (RE) providers as they offer performance contracting to their clients, such as, guaranteed savings, shared savings, pay-from-savings and asset ownership.

23 What are the immediate opportunities in energy efficiency and conservation?

The immediate opportunities for energy efficiency and conservation include lighting, and air conditioning retrofits and application of retrofits for building envelopes (cool roof and solar films solutions).

24 What other special opportunities are available in energy efficiency and conservation?

The Jamaica Public Service Company (JPSCO) is currently replacing existing high electricity consuming street lights with the more energy efficient Light Emitting Diodes (LEDs). With this programme, independent contractors will be able to bid to provide this service to the JPSCO.

25 What opportunities exist for ESCOs in Government?

Current legislation does not allow ministries, departments and agencies (MDA's) to enter into ESCO type contracts.

Incentives

The Omnibus Incentive Legislation provides benefits to both regulated and non-regulated energy companies to further invest in their business.

26 What incentives are offered for energy investments?

As a company within the Energy sector, the following fiscal incentives apply under the Omnibus Incentives Regime:

- Fiscal Incentives Act
  - No import duty or additional stamp duty on Capital Equipment & Machinery
  - GCT Deferment on importation of capital equipment and machinery
  - Capital Allowance on Industrial Buildings and

- Equipment
- Loss Carry Forward

Please see below a link to JAMPRO's website with information on The Omnibus Incentive: http://www.jamaicatradeandinvest.org/investment/incentives

27 Is duty applicable on the importation of equipment for energy projects?

Along with the Ministry of Finance and Planning (MOFP) the Ministry with responsibility for Energy developed a list of GCT exempted renewable energy and energy efficiency based items and technologies. Tax exempt items include: surge protection devices for RE systems, Controllers for RE inverters, compact fluorescent lamps (CFL), air conditioning chillers, solar electric refrigerators along with wind turbines and accessories (please see link to list of GCT and duty exemptions on energy saving devices (www.mset.gov.jm).

CONTACT US

HEAD OFFICE
18 Trafalgar Road
Kingston 10, Jamaica W.I.
Phone: +1 876 978 7755; 978-3337
Toll Free: +1 888 INVESTJA (468 4352)
Fax: +1 876 946 0090
Email: info@jamprocorp.com

WESTERN REGIONAL OFFICE
Montego Bay Convention Centre
Rose Hall, Montego Bay
St. James, Jamaica W.I.
Email: jampromobay@jamprocorp.com

NORTH AMERICAN REGIONAL OFFICE
303 Eglinton Avenue East, 2nd Floor
Toronto, Ontario, M4P 1L3, Canada
Tel: 416 932 2200 (main) 416-598-3008
Fax: 416 932 2207
Toll-Free: 1 877 744 2208
Email: jamprocanada@jamprocorp.com

AND

767 3rd Avenue, Second Floor
New York, NY 10017, USA
Tel: 646 213 0101
Email: jampronewyork@jamprocorp.com

EUROPEAN REGIONAL OFFICE
JAMPRO / Jamaica Trade Commission
1 Prince Consort Road,
London SW7 2BZ, England
Phone: + 44 20 7 584 8894
Fax: + 44 20 7 823 9886
Email: jamprouk@jamprocorp.com