MINISTRY OF SCIENCE, ENERGY AND TECHNOLOGY

....fuelling growth

SECTORAL PRESENTATION

2019-2020

Science, Energy and Technology

...at Your Service !



Hon. Fayval Williams, MP.
Minister of Science, Energy & Technology

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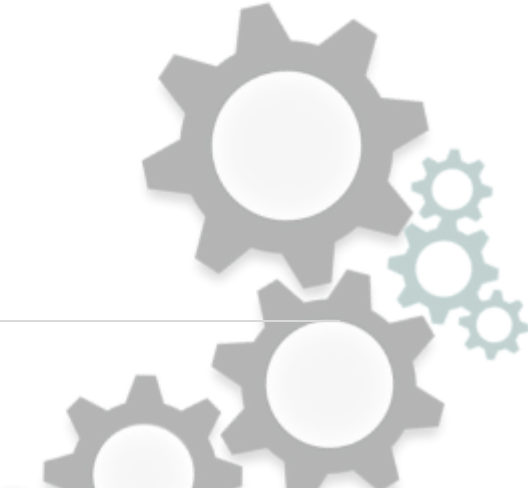
Science, Energy and Technology at Your Service

Sectoral Presentation 2019-2020

May 14, 2019

Hon. Fayval Williams MP.

Minister of Science, Energy & Technology



ACKNOWLEDGEMENT

Mr. Speaker, in the commencement of my first Sectoral address as Minister of Science, Energy and Technology I must take the time to recognise and thank:

- My constituents of St. Andrew Eastern, workers, councillor, management team, friends, well-wishers, and all those who have had encouraging words for me;
- Prime Minister, The Most Honourable Andrew Holness, for this opportunity, my Cabinet colleagues and Members of this Honourable House;
- My hard-working Permanent Secretary, and team at the Ministry;
- The Heads and staff of the Agencies and Departments of the Ministry, as well as the Chairpersons and Directors of the boards falling under the Ministry; and
- My family, who are also on this journey with me, my husband who is in the gallery, their collective efforts helped me to be here this afternoon I am grateful for your support.

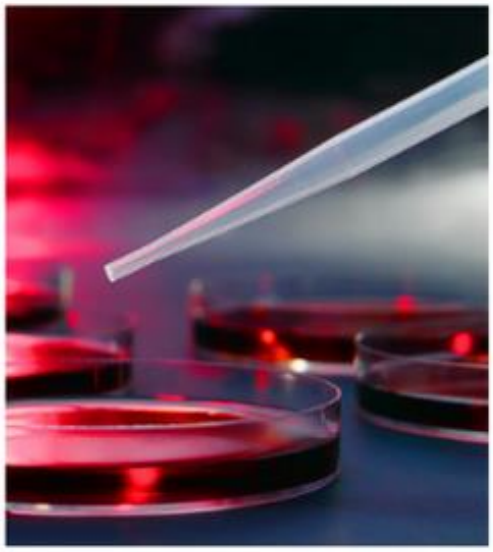
INTRODUCTION & OPENING REMARKS

Mr. Speaker, it is with great honour that I stand before you this afternoon as Minister of Science, Energy and Technology.

When I was first named to lead this Ministry by Prime Minister, the Most Honourable Andrew Holness, I was met with a mixture of congratulations and commiserations. However, as I have immersed myself in the work of this Ministry over the last thirteen weeks, I have grown more excited as it has been reinforced that science, energy and technology are the undeniable forces that will drive our nation's development and Fuel Growth.

Mr. Speaker, we are on a journey to transform our nation and improve the lives of our people through science, energy and technology. It is my intention, during this presentation, to demonstrate how the policies and programmes of this Ministry have been serving thus far and how they will transform our lives.


SCIENCE
...at Your Service!













SOLVE WITH SCIENCE

SCIENCE… AT YOUR SERVICE

I will begin my presentation by exploring how science has been serving the Jamaican people.

Mr. Speaker, science is the core foundation upon which all development and advancements in technology and energy are made. The application of science has fundamentally altered the way we interpret and experience the world; changing the way we live, connect, communicate and transact.

My vision for this great nation is…

To have all Jamaicans excited by and valuing science. A nation, where our people are confident in the use of science and a workforce having more of our men and women who are renowned scientists.

Mr. Speaker, it is my intention to have science be the vehicle through which we advance our Vision 2030 national development goals. The science portfolio has been serving Jamaicans in creating wealth, meeting our basic needs and addressing social issues. We need to push way beyond where we are now.

Supporting Business and Wealth Creation

In April 2018, the Scientific Research Council (SRC) established the Caribbean's first Science and Technology Business Incubator (the Science Resource and Climate Innovation Centre).

This Centre supports entrepreneurs who are engaged in science and technology-based businesses in areas such as energy efficiency, renewable energy, sustainable agri-business, water or waste management and resource use efficiency.

Mr. Speaker, with the ability to accommodate up to thirteen (13) entrepreneurs at any given time, we are nurturing the dreams of our innovators by providing:

- training in business development;
- access to a unique community of innovators; and
- mentorship and guidance in how they can move their concepts from an idea to a commercially viable product or service.

The Centre's efforts resulted in ten (10) start-ups entering the local and regional market last year. Some of the products produced by these start-ups include energy efficiency devices, recycled products made from plastic, water conservation products and ecotourism support services. For this fiscal year, the SRC has set a target of supporting twenty (20) climate-innovation businesses.

Entrepreneurship is globally identified as one of the three (3) main sources of wealth creation. Through this innovation incubator, our local and regional entrepreneurs have and will be bolstered in their economic pursuits.

This, Mr. Speaker, is science…at your service!

Feeding a Nation

Throughout history, scientific and technological advances have greatly impacted the agricultural industry.

Mr. Speaker, the 2018/19 financial year saw the establishment of a Biotechnology Division at the SRC, with a focus on cutting-edge research in agriculture and commercial production of high quality planting materials.

This Division of the SRC places heavy emphasis on ensuring there is adequate availability of high quality, clean, disease-free plants of economic importance. It:

- facilitates the development of robust disease-resistant local crops through the use of nuclear radiation;
- provides high quality DNA profiling of local crops; and
- offers diagnostic screening for local diseases affecting crops.

Some key outputs include the expansion of the SRC's plant production capacity through the installation of a new Temporary Immersion System. This system can produce more than five hundred thousand (500,000) irish potato microtubers annually. This**, Mr. Speaker**, is helping us to reduce our reliance on imported seed potatoes for planting.

Additionally, the SRC and the International Centre for Environmental and Nuclear Science (ICENS) working with stakeholders, have commenced research aimed at

improving the resistance profile of the Jamaican ginger, sweet yam and coffee, to diseases such as: Fusarium [few-zair-ium], anthracnose [anthrack-nose] and coffee leaf rust respectively.

Within two (2) years, we will have results indicating whether the crops are resistant to disease. Once it is confirmed, the SRC and the International Centre for Environmental and Nuclear Science will introduce the plants to the farmers. This will undoubtedly improve our nation's ability to feed itself and our global competitiveness.

I am not the Minister of Agriculture but I do know that by 2050 – a mere 31 years away, the world's demand for food will double. Jamaica is making itself ready to contribute to meeting that demand.

Let me pause here to thank the International Atomic Energy Agency for its continued support of our science and technology programmes. For the financial year 2018/2019 the support received from this agency was in the amount of €386,000.

Mr. Speaker, the Government, through the SRC, is developing plans to implement a clean seed production programme to address the shortage of coconut plants needed to support the local and regional industry. The clean seed production programme seeks to ensure we continue to have a coconut industry for years to come. Partnerships have been established with numerous Latin American and Caribbean bodies. Production will commence in this financial year.

As we continue to meet the food and horticulture needs of our society, the SRC produced and delivered more than ninety thousand (90,000) tissue cultured plantlets to clients in order to sustain production of ornamental plants, sweet potatoes and ginger.

This is science… at your service!

Science Policy

Mr. Speaker, this year, the Ministry along with its agencies, will continue to develop the science sector.

Consequently, we will seek to have the draft Science, Technology and Innovation (ST&I) Policy promulgated during this financial year.

The Policy, which is aligned to the National Development Plan: Vision 2030, will seek to, among other things:

- deepen the application of science and technology in priority sectors for effective delivery of social goods, environmental and economic prosperity; and
- address fragmentation in Jamaica's innovation ecosystem.

The ST&I Policy will guide the strategies for the advancement of Jamaica's national scientific capabilities to facilitate research and development in priority areas; address critical weaknesses in the country's scientific capabilities; and pursue the establishment of a science and technology research park to be used as a major vehicle for driving national development, through innovation.

With the ST&I Policy, new mechanisms will be facilitated to further contribute to Jamaica's social and economic development.

Science Addressing Social Issues

Our scientific initiatives will continue to serve the people of Jamaica by advancing research and its innovative applications.

The Quest to Suppress the Mosquito Population

Mr. Speaker, the quest to suppress the mosquito population in Jamaica has been much talked about. Well, the Minister of Health and Wellness and all Jamaicans will be happy to know that in this financial year the International Centre for Environmental and Nuclear Science, will be installing a multi-purpose gamma irradiator to investigate the use of the Sterile Insect Technique to suppress mosquito populations through the sterilisation of the male mosquito. This Sterile Insect Technique is a species-specific and environmentally non-polluting method of controlling insects and mosquito-transmitted diseases.

We are in the process of acquiring the gamma irradiator and in late 2020 the Ministry of Health and Wellness will begin breeding the mosquitoes, which the Centre will sterilise and release into a natural test environment.

Mr. Speaker, our nation is all too familiar with the impacts of diseases such as Dengue fever, Zika and Chikungunya - all spread through the Aedes aegypti mosquito. With this initiative, the Government's spend on treatment, can instead be applied to prevention.

Investigating Geochemical Linkages to Diseases and Ailments

Mr. Speaker, a healthy stable population is one of the objectives of Vision 2030. This Ministry is playing its part in ensuring that this is achieved. Consequently, in this fiscal year, the International Centre for Environmental Nuclear Science will continue its research to determine whether there exists any correlations between the chemicals in the soil (geochemical environment) and various maladies affecting the Jamaican population such as, cancer, diabetes, cardiovascular disease, hypertension and renal failure.

The International Centre for Environmental and Nuclear Science is also reviewing the Registrar General Department's data to determine spatial correlations of deaths from cancer and trace elements in the soil. The first draft of the findings is expected by March 2020 and will be shared with the Ministry of Health and Wellness and the scientific community.

This is science… at your service! This is the Ministry of Science, Energy & Technology at your service!

Popularisation of Science

A key component in getting our people excited by and valuing science is helping them understand how science connects and impacts their lives.

The SRC will continue to expand its science popularisation thrust with emphasis on community development and science education. In this regard:

- Three new community-based programmes will be implemented to support the development of products and taking these products to commercialisation;
- The National Young Inventors/Innovators Competition, which is entering its 15th year of existence, will target an ambitious ten thousand (10,000) participants; and

- A number of science, technology and innovation days, ideation sessions and camps will be executed across primary, secondary and tertiary schools.

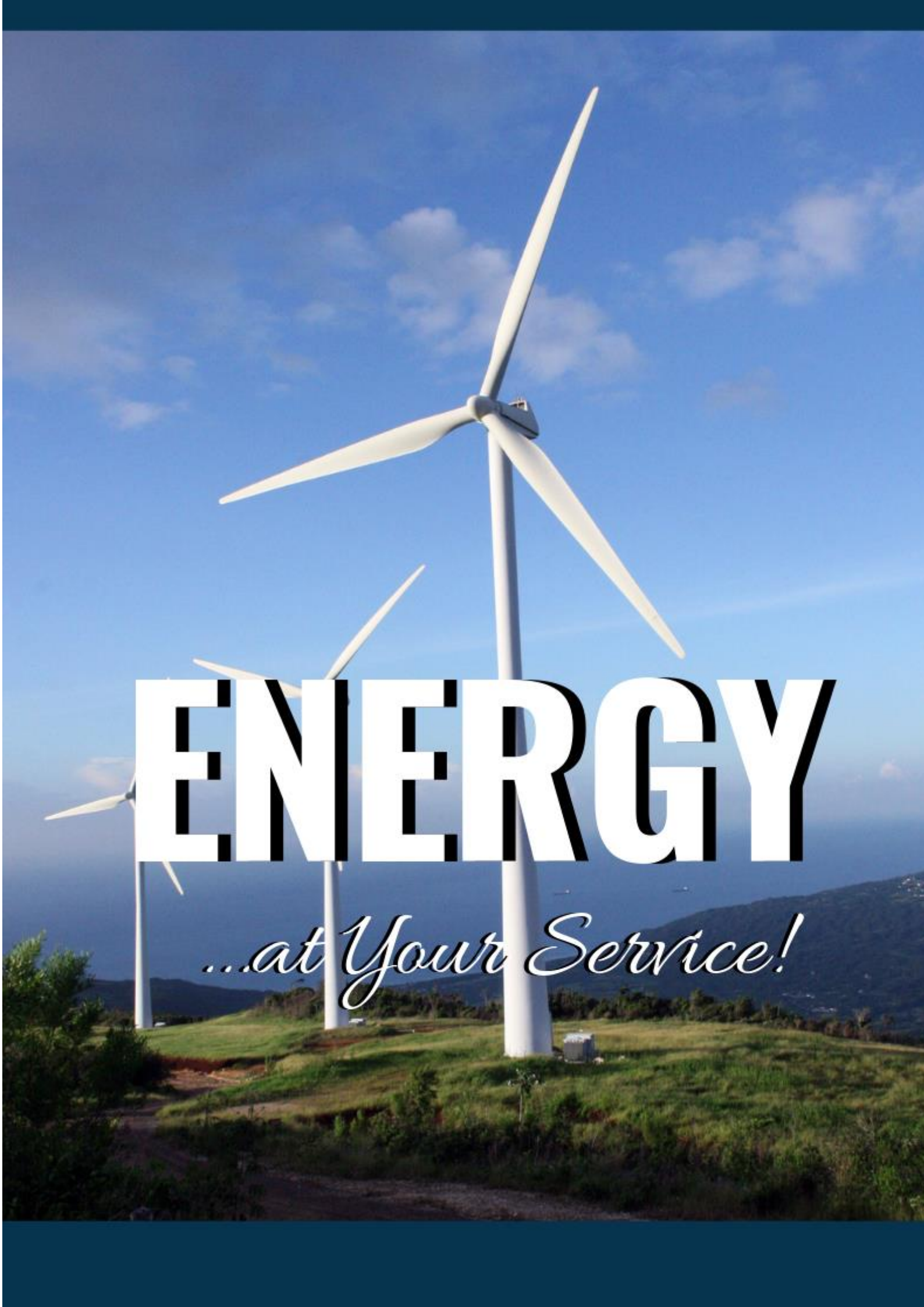
Mr. Speaker, the fact is, you do not have to be formally trained in science to write about or explore science. Within all of us is a natural curiosity - an inquisitive mind - that asks questions and seeks to understand.

This Administration is committed to nurturing a culture where our people:

- understand the value of science to their personal pursuits;
- have the ability to think critically;
- research and use data to support decisions; and
- are strategic in their quest for knowledge and understanding.

That is, **Mr. Speaker**, the true nature of a scientist.

This is science… at your service!


ENERGY
...at Your Service!













GROW WITH ENERGY

ENERGY… AT YOUR SERVICE

Mr. Speaker, it is often said that energy is the lifeblood of modern societies. Jamaica's National Energy Policy (2009 to 2030) envisions:

"A modern, efficient, diversified and environmentally sustainable energy sector providing affordable and accessible energy supplies with long-term energy security supported by informed public behaviour on energy issues and an appropriate policy, regulatory and institutional framework."

Mr. Speaker, this island nation has, for generations, been making a profound impact on the world. Brand Jamaica has helped shape cultures, music, food, sports, language, science and innovation. Our nation must position itself to be more energy independent and less susceptible to external shocks and movements in the global energy market. A modern, efficient and sustainable energy sector will provide greater control of our economy and national development. A sustainable energy sector, **Mr. Speaker**, will make this nation an indomitable force.

The Electricity Act of 2015, which repealed and replaced the 1890 Electric Lighting Act, established the general legal framework for a modern electricity sector that not only enables investment but also empowers Jamaicans to choose how they wish to source electricity. Having promulgated the Act and marshalled various initiatives that it permits, efforts are now focused on the development of specific regulations that will operationalise new initiatives in energy.

Jamaicans Can Now Choose How They Power Up

The Electricity Act has codified the concepts of net billing, electric power wheeling and auxiliary connections, which are initiatives that are providing Jamaicans with the opportunity to generate electricity for their own exclusive use.

Net Billing

Mr. Speaker, this House will recall that net billing is a facility that allows people to sell the excess power generated from renewable sources in accordance with a net billing licence and a contract with the Jamaica Public Service Company Limited (JPS). Since net billing was piloted in May 2012, to date, 757 licences have been

issued to Jamaicans. In this year alone, I have signed 26 net billing licences. These licences carry with it not just the opportunity to generate one's own electricity but also the means to lower electricity costs. The Electricity (Net Billing) Regulations, made pursuant to the Electricity Act, will be submitted for the consideration of Parliament during this financial year.

Electric Power Wheeling

The Electric Power Wheeling facility offers JPS customers the ability to provide electricity to JPS on terms where an equivalent amount of electricity may be used from the grid at one or more locations. JPS customers wishing to participate in this facility will be required to apply for an Electric Power Wheeling Licence and an Electric Power Wheeling Contract. The Electricity (Electric Power Wheeling) Regulations are being developed to provide further guidance to the sector. We are expecting to receive a consultative paper from the Office of Utilities Regulator (OUR) to start the process. It is expected that this will give us some sense of the pricing environment for power wheeling.

Auxiliary Connections

Auxiliary Connections facilitate persons who intend on connecting to the grid for stability purposes, that is, for back-up. Customers wishing to participate in this facility will be required to apply for an Auxiliary Connection Licence and an Auxiliary Connection Contract. The total number of Auxiliary Connection Licences issued since April 2016 to April 2019 is 16. These licences have been granted largely to Jamaican businesses that have availed themselves of the opportunity to have choice and autonomy in how they power up.

This, Mr. Speaker, is energy…at your service!

Jamaica's Energy Mix Incorporates More Renewable Energy

Mr. Speaker, considerable work continues to diversify our energy sources and incorporate more renewable energy. The aim is to secure Jamaica's energy future, making the country more resilient in the face of natural disasters and improving our energy security.

Solar Power Plant

In June 2019, Jamaicans can look forward to the commissioning of the largest solar farm in the region. This new renewable energy plant will be operated by Eight Rivers Energy Company and will generate up to 37 MW of solar power. This power plant will be Jamaica's second commercial solar powered generation plant, bringing the total amount of electricity generated from solar to 6% of the total installed capacity.

Mr. Speaker, with the addition of the Eight Rivers 37 MW in June 2019, Jamaica will be generating 17% of its electricity from renewable sources (wind, solar and hydro).

Jamaicans Winning with Wigton

Mr. Speaker, in April of this year, history was made in the renewable energy sector, when Jamaicans were given a most coveted opportunity to invest in the renewable energy sector by becoming owners of the largest wind energy facility in the English-speaking Caribbean – Wigton Wind Farm Limited.

Through this successful initial public offering, Jamaicans, with the smallest purchase of J$1,000, were given the opportunity to take a further step towards energy independence by owning a stake in Jamaica's energy future.

The lead broker, Mayberry Investments, has indicated 31,000 Jamaicans will own shares in Wigton, part of Jamaica's energy future. What is more noteworthy, **Mr. Speaker** is that these 31,000 Jamaican were willing to invest some $14 billion when $5.5 billion was on offer. On May 22nd, Wigton will be proudly listed on the Jamaica Stock Exchange's main market.

This initial public offer has clearly demonstrated the appetite of the Jamaican people to invest in the Jamaican energy sector.

Hydropower

Not many persons realise that Jamaica has been generating electricity from water for some time. In fact, **Mr. Speaker**, 29 MW of electricity is currently being generated from eight (8) hydro-electricity power stations. The benefits of hydro-power, apart

from the obvious one of it being a cleaner source of power, is that, this source of electricity generation is not plagued by intermittency. Rather, it is consistently available – as the rivers flow and thus classified as "baseload".

The Government of Jamaica has laid the groundwork for additional hydro power sites to be utilised to generate electricity by first conducting hydro feasibility studies. These studies have been done and have identified the generating potential of several rivers, including the Laughlands, Swift, Rio Grande and Martha Brae. The next step, **Mr. Speaker**, will be the issue of a Request for Proposal for the development of these hydro sites, thereby providing stable power to Jamaicans, and decreasing the country's dependence on fossil fuels.

The intention is to increase the percentage of renewable energy going forward, and the Integrated Resource Plan will dictate the optimal sources of renewable energy and the amount that can safely be incorporated into the grid.

Grid Stability

Mr. Speaker, the integration of all these renewables to the grid must be done in a way that ensures grid stability. The country should be aware that the JPS is installing a storage facility that combines Lithium Ion Battery and Flywheel technology. The facility will be the largest in the region and will offer 24.5MW of storage capability to mitigate the intermittency that some renewable sources introduce to the grid and alleviate the need to operate expensive fossil fuel plants.

Anticipating the addition of new renewable energy plants and the need for storage facilities, this Ministry submitted a request to the 48th Meeting of CARICOM's Council for Trade and Economic Development (COTED) for the suspension of the Common External Tariff (CET) on Lithium Ion Batteries.

Mr. Speaker, the COTED on April 30, 2019, after considering the matter, agreed to grant Jamaica a two (2) year suspension of duties on the importation of up to 100,000 units. This concession in duties will assist the Government in furthering its renewable energy development plans and meeting the electricity sector planning objectives.

I would like to pause to thank the Ministry of Finance and the Public Service, the Ministry of Industry, Commerce, Agriculture and Fisheries and the Ministry of Foreign Affairs and Foreign Trade for supporting our submission to CARICOM.

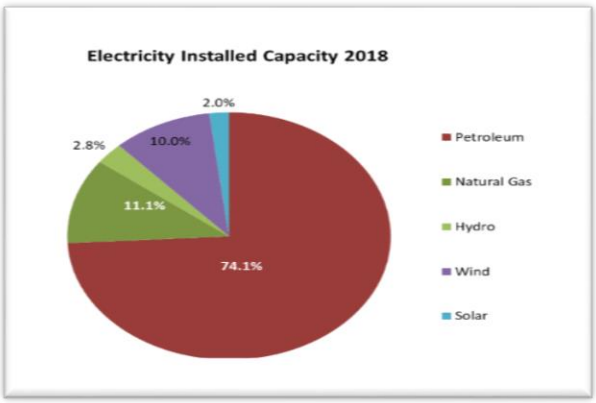
The Integrated Resource Plan – The Electricity Plan for the Future

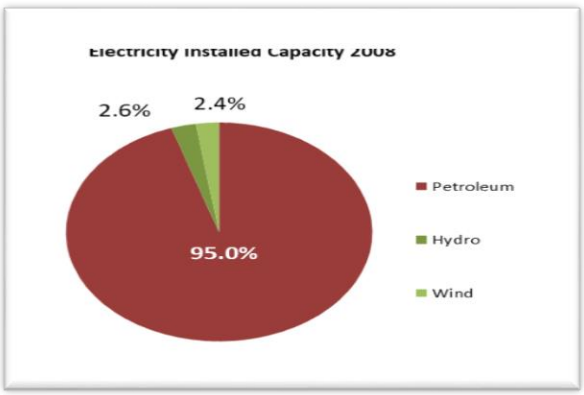
This Ministry, together with key stakeholders, has undertaken the development of a comprehensive decision support tool for meeting Jamaica's electricity needs over the next 20 years. This is referred to as the Integrated Resource Plan (IRP).

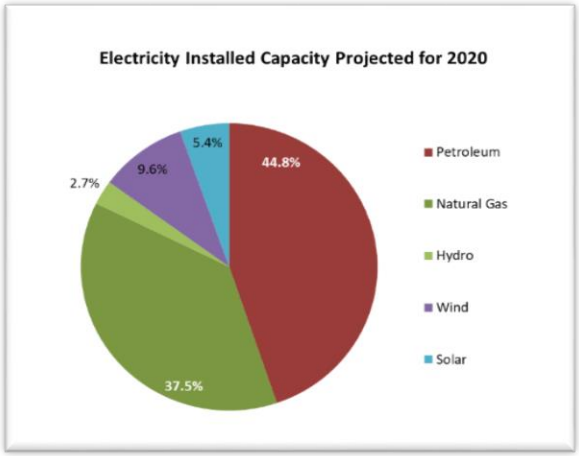
The IRP addresses the planning needs of the electricity sector, considers the amount of electricity that will be required, the placement (siting) of the generation plants, the cost to Jamaicans, among other things. This will provide the framework for informed decisions to be made so that Jamaicans will only pay for the electricity that they need. The data to be derived from the IRP will also inform the revision of the National Energy Policy, which will be undertaken in this financial year.

The IRP is in an advanced stage of development and is expected to be completed in June 2019.

These charts reflect the changing fuel mix for electricity generation.







Conventional Power Generation Plants

The Commissioning of More Efficient Power Plants

Mr. Speaker, strides are not only being made in renewable energy, as this year will also be significant in conventional power generation. In July 2019, 190 MW will be commissioned at Old Harbour, which replaces old and inefficient power plants that were used by JPS. This improves the electricity generation landscape and provides more stability and reliability for the electricity grid.

Mr. Speaker, 94 MW will also be commissioned in 2020, which again will improve the fleet of plants that are available to supply the Jamaican people with electricity. This is a testament to the legislation (Electricity Act) creating the framework for investments, as well as confidence being shown in Jamaica by investors, which together inure to the benefit of the Jamaican people.

This, Mr. Speaker, is energy…at your service!

Demonstrating the Benefits of Energy Efficiency and Conservation

Energy Management & Efficiency Programme

In May 2018, a J$5.5 billion (US$40 million) Energy Management & Efficiency Programme (EMEP) commenced, which aims to finance 80 energy interventions at public sector facilities. The primary objectives of the programme are to:

- reduce Jamaica's carbon footprint;

- lower electricity and fuel consumption by improving energy efficiency in the public sector through retrofits; and
- improve urban traffic management in order to shorten travel times.

The EMEP will also strengthen the technical capabilities of this Ministry to enhance energy planning. This programme, which is a combination of grant and loan funds, is being funded by the Inter-American Development Bank, the Japan International Cooperation Agency and the European Union Caribbean Investment Facility.

The Billion Dollar Retrofit Project

For the 2019/20 fiscal year, the drive to reduce the GOJ's electricity spend will be accelerated with the execution of major public sector energy efficiency projects valued at more than J$1 billion.

Through the Energy Management & Efficiency Programme, deep energy retrofit projects are slated for 19 GOJ health, education and other public agencies. Initial work should begin for lighting upgrade projects at 50 public sector facilities. As a means of safeguarding the extensive investment being made under the programme, some 330 employees will be involved in the operation, management and maintenance of the equipment to be installed at the benefitting facilities. Employees at these facilities will also receive training, beginning in the first quarter of 2019/20.

In this financial year, six (6) public hospitals are slated to benefit from major energy efficiency and renewable energy initiatives. Just last Thursday, Minister Tufton and I handed over the energy efficient air conditioning unit at the May Pen Hospital in Clarendon and we will continue to serve our medical facilities at:

- the National Chest Hospital and the Sir John Golding Rehabilitation Centre in St. Andrew;
- the Bellevue Hospital in Kingston;
- the Savanna-la-Mar Hospital in Westmoreland; and
- the Black River Hospital in St. Elizabeth.

Among other things, the interventions at these institutions will involve the installation of energy efficient lighting, solar photovoltaic technology and solar water-heating systems. These upgrades are expected to reduce collective electricity demand by 1,305,000 kWh annually, which at current rates translates to more than J$41 million in savings.

The Urban Traffic Management System

Mr. Speaker, in service to our road users, and in partnership with the Ministry of Transport and Mining, the Urban Traffic Management System (UTMS) is poised to revolutionise the way Jamaicans commute in the Kingston Metropolitan Area (KMA).

The upcoming fiscal year will see the implementation of the Urban Traffic Management System, a component of the EMEP programme. Under this component, US$3.5 million financing has be provided for the purchase and installation of equipment to manage traffic in the KMA. The system will include a centrally controlled Intelligent Transportation System, integration platform for traffic monitoring, operation, planning and modelling, as well as traffic controllers, detectors and other equipment to provide real-time traffic counts and patterns. In addition, training will be provided for the National Works Agency (NWA) employees who will be involved in the operation and maintenance of the system. Jamaicans can therefore look forward to shorter travel times in the KMA. This programme is being implemented in collaboration with the Petroleum Corporation of Jamaica, the NWA and the Ministry of Transport and Mining.

This is energy…at your service!

Energy Efficiency and Conservation Programme

In another programme, the Energy, Efficiency and Conservation Programme, to date, the Petroleum Corporation of Jamaica, through the Energy Efficiency and Conservation Programme (EECP), has finalised 27 public sector energy efficiency projects, financed by the Government and valued at approximately J$500 million. **Mr. Speaker**, this is the Government, leading by example and demonstrating that there are significant gains to be had in implementing measures geared towards energy efficiency and conservation.
Between 2013 and 2018, the EECP completed the installation of:

- over 80,000 sq. ft. of heat reducing film at 37 public sector facilities;
- over 200,000 sq. ft. of cool roof solutions at 11 public facilities; and
- energy efficient air-conditioning solutions at 25 facilities.

These interventions, **Mr. Speaker**, have saved the Jamaican Government US$2.2 million, lowered carbon dioxide emissions by more than 5,800 tonnes, and reduced oil consumption by 3,500 barrels. Jamaica has committed to reducing its carbon dioxide emission by 13 million tonnes equivalent by 2030. These efforts in the energy sector contribute to getting us there. However, we need to make giant steps to meet our goals.

This, Mr. Speaker, is energy…at your service!

Smart Streetlight Programme

Mr. Speaker, Jamaicans would have witnessed the installation of new LED bulbs in several streetlights. Through the Electricity Act of 2015 the JPS was mandated to retrofit 105,000 streetlights. This initiative will see all streetlights in Jamaica being retrofitted to LED by December 2020. This retrofitting will not only make the provision of public lighting more cost effective and functional for Jamaicans, but it is a mere first step in the Smart Streetlight Programme. This programme envisions the streetlights having the capability to dim when necessary, accommodate video surveillance and be metered so that the taxpayers are not paying for streetlights that are not working.

The Intelligent Network – Smart City

The JPS Licence states that the JPS "*shall implement intelligent network technology as part of its System, as may be defined by the Minister from time to time*". I am pleased to say that the JPS has advised that it has started piloting the Smart City concept in New Kingston. This work contemplates the idea of a "self-healing network", which means that when there is an outage in one area of New Kingston, the intelligent network will automatically correct the issue so that the shortage is short-lived. Distribution automation switches, smart meters, public internet connectivity, smart parking and air quality monitoring are also being contemplated in the pilot. Discussions will be held with stakeholders to determine how the programme will be implemented in other areas, going forward.

Electricity Theft

Mr. Speaker, even as we speak about the great and wonderful happenings in the energy sector, the theft of electricity looms large. At some point someone in government has to stand up and say, enough-is-enough!!!

Mr. Speaker, electricity theft costs all of us US$140 million each year. This represents 17% of electricity generated and is a significant contributor to high electricity costs. All of us who pay for electricity, pay approximately 8.5% more on our bills, to cover the amount that is stolen. In addition, **Mr. Speaker**, not many persons realise the hazard that is created by stealing electricity, such as the loss of life, limb and property.

JPS reported that last year, it removed approximately 170,000 throw-ups. Despite, the many community meetings, the ready boards and pre-paid meters, theft of electricity continues unabated and it is not just certain communities, many billed customers are reported to be getting around the meters. It matters not that this has been going on for a long time and so a "suh it go". What matters is that, this Minister of Energy is standing here today to say, "this is not the kind of behaviour we want in this society that we wake up every day creating." If you are rich and you take electricity without paying for it, it is stealing. If you are poor and you take electricity without paying for it, it is stealing just the same. STOP!!!

Mr. Speaker, the OUR has indicated that this year it will be piloting a programme to see how well the high rate of electricity theft can be curbed. We support this initiative and look forward to the results. JPS has some ideas as well which they have been discussing with the Ministry.

Electricity for Rural Jamaica

Mr. Speaker, approximately 97% of Jamaica has electricity coverage. We are not satisfied. The Electricity Act contemplates that the mechanism to electrify the remaining 3% would be by way of the establishment of micro-grids using renewable energy. Once JPS indicates the rural areas for which it will waive its right to electrify, the Government's work can begin. **Mr. Speaker**, we envision that once the areas are identified, Requests for Proposals will be issued to the market for investors to compete to supply these areas.

This is energy…at your service!

Tackling the Misuse of Entrusted Public Trust

Mr. Speaker, this section of my speech is captioned "Tackling the Misuse of Entrusted Public Trust".

Mr. Speaker, we have accelerated updating some 50 policies at Petrojam because for good order we must. However, **Mr. Speaker**, it's not policies that are lacking or even the updating of them, it has been a lack of respect for policies, procurement and human resource in particular, and a total disregard for the sacred trust of the Jamaican

people. This has happened across administrations as told by the many audit reports that I have read.

Mr. Speaker, I will be the first to declare that I wholeheartedly believe that many honest persons work at Petrojam who are now painted with the one "Corruption" paint brush. I have heard from many employees that they no longer wear the company's shirts with the Petrojam logo as they fear verbal abuse. I understand. Strangers have come up to me and asked for some of the money from Petrojam. The Permanent Secretary at the Ministry has experiences of her own, as well.

Mr. Speaker, since the compulsory acquisition of the 49% shareholding in Petrojam, we are moving to reconstitute the Board. There is closer monitoring of the activities, resulting in Petrojam seeking clearance from the Ministry on many matters.

Regarding the forensic audit of the oil loss, we have packaged all the feedback we received and sent to the Auditor General who will oversee the procurement of the forensic auditor for the job. Four (4) institutions responded with feedback. These are the Integrity Commission, the Jamaica Association of Petroleum Marketers, Major Organised Crime Agency (MOCA) and the Jamaica Gasoline Retailers Association.

Beyond all of this, as you are aware **Mr. Speaker** the PAC continues its weekly interrogations. Additionally, we await the results of MOCA and the Integrity Commission.

Mr. Speaker, the market for heavy fuel oil that Petrojam refines has changed significantly in Jamaica. In the electricity generation sector, the use of heavy fuel oil to generate electricity will decline from 95% to about 44.8% by the end of 2020.

Additionally, **Mr. Speaker**, the market for bunkering, which is the refuelling of ships, will see major changes starting January 1, 2020. These changes will result in ships using lower sulphur fuels, requiring further changes to Petrojam's business model. **Mr. Speaker**, these are dramatic changes for Petrojam. Dramatic changes for any company.

An upcoming milestone is the delivery of a Report prepared by the Strategic Review Committee that will lay out ALL the options for the Government to consider and

decide. The Report will also include analysis of Petrojam Ethanol Limited and Jamaica Aircraft Refuelling Services, subsidiaries of PCJ and Petrojam, respectively.

Oil and Gas Exploration

Mr. Speaker, this House may recall that in November 2014, Tullow Oil plc signed a Production Sharing Agreement with the Petroleum Corporation of Jamaica to acquire 10 blocks offshore Jamaica to explore for hydrocarbons. Between 2014 and 2018, Tullow has spent a total of US$33 million to acquire state of the art geological and environmental data that is being used to generate high quality images of the subsurface and potentially influence a drill decision.

In May 2018, Tullow Oil plc achieved a major milestone by completing Jamaica's first ever three dimensional (3D) seismic survey which utilised the most current exploration technology to image the subsurface of Jamaica's oil acreage.

The 3D seismic survey data was analysed over the period June 2018 to April 2019. **Mr. Speaker**, the project is currently in the geological interpretation phase, where leads and prospects will be identified to inform a drill or drop decision in the third quarter 2019.

Petroleum (Downstream Activities) Act

Mr. Speaker, Jamaica has made many attempts over the years to have Liquefied Natural Gas (LNG) introduced to its shores to reduce the country's dependence on Heavy Fuel Oil (HFO). At this juncture, **Mr. Speaker**, the country is well on its way to lessen its dependence on HFO, having attracted significant LNG investment.

Other entities have applied and been granted licences to import and distribute LNG. In fact, **Mr. Speaker**, this Ministry has licensed six (6) importers and bulk distributors of LNG. This is expected to provide competition in this sector so that Jamaicans can benefit from lower LNG prices.

To treat with the emerging LNG market, this Ministry is developing the new Petroleum (Downstream Activities) Act which will address the activities related to the supply of natural gas including the receipt, unloading, storage, processing, regasification, compression, transportation, distribution by networks, and retail sales

of natural gas. The legislation will also treat with the licensing, construction, operation of natural gas terminals, transportation systems and distribution systems. The objectives of this new legislation will be to:

i. Encourage private investment in the long-term financing and timely development of natural gas for Jamaica;
ii. Diversify fuel choices in Jamaica;
iii. Promote competition in the downstream natural gas sector;
iv. Prescribe the required standards for the natural gas sector;
v. Ensure the protection and safety of consumers and the public; and
vi. Ensure that regulation of the sector is transparent, rational and predictable.

Government Electrical Regulator to be Operationalised

This year, **Mr. Speaker**, the Government Electrical Regulator (GER) will be operationalised. This will dramatically change the process of getting buildings wired, inspected and passed. This new regime will open up the job of wiring inspection so that persons who are certified electricians can apply to be certified inspectors. The only stipulation is that if you are both an electrician and an inspector, you cannot inspect your own jobs.

We have already contracted the Canadian company that built the AMANDA system to customise a module for the Ministry so that we have a database to track registered electricians and inspectors and details of jobs they have done as an electrician or inspector. Additionally, the customers will be able to track their job through the system from wiring to electrification as once the electrician gets an order from a customer for wiring, they will be required to put the details about the job on the AMANDA system. The Ministry will keep an updated database of all the certified electricians and inspectors. This information will be available to the public from which they will be able to choose an electrician or an inspector and enter into their own financial arrangement for the job.

The added benefit of this database is that this will allow JPS to see the number of applications for wiring and how far along they are, thus giving JPS information to facilitate better planning for final electrification. We have already had several joint meetings with NEPA and Local Government who utilize the same AMANDA system.

Mr. Speaker, how do we ensure honesty in the system? Staff from the new Government Electrical Regulator will be doing random audits of the wiring jobs that the inspectors have passed. Let me say to all registered electricians and the expected expanded pool of inspectors, there will be zero tolerance for cutting corners on a job. The penalty will be the swift revocation or suspension of licences and we will post this information on the website for the public to see. Of course, you can always use the appeals process if you feel aggrieved but we have to insist on 100% safety of our building wiring jobs.

Mr. Speaker, to demonstrate the seismic shift of this proposed new regime, currently in the entire island, we have 13 inspectors for some 35,000 inspection jobs annually on average. Contrast that to the approximately 800 certified electricians that could potentially become 800 inspectors and you will see the opportunity we have to improve our standing in the "Getting Electricity" ranking. Currently, Jamaica stands at 115 of 190 economies because it takes us 95 days to get electricity. The countries tied for #1 are the Republic of South Korea, the United Arab Emirates and our own sister nation, St. Kitts and Nevis. It takes their citizens 18 days on average, to get electricity. We are going to beat that while opening up job opportunities for certified electricians to become inspectors. Going forward under the new regime, new electricians seeking to be certified by the Government, will be required to have at least HEART certification in addition to on-the-job training.

The New National Energy Solutions (NESol)

The Ministry has embarked on the transition of NESol to become a division of the Ministry with a Division Head. Last Friday, both the Permanent Secretary and I visited NESol. While the cleaning up is going on, we must look ahead. Approximately 30,000 families, primarily in the rural areas do not have electricity because the infrastructure does not extend to them. The new NESol has much work ahead of it, way more than its budget of J$110 million can do when you consider that to plant poles and extend the electric line for 1 kilometre (approximately 2/3 of a mile) cost about J$5 million for material and labour. With this budget, NESol will only be able to do roughly 22 kilometres or approximately 14 miles. Many Members of Parliament (MPs) have approached me about the darkness in some part of their constituencies. What I can say is, next budget year, I will do my endeavour best to get to the head of the budget line and advocate for a much larger allocation. We must bring electricity to those 30,000 families primarily in our rural areas who are in darkness.

Additionally, **Mr. Speaker**, in many of our inner-city communities, there are many persons who want to pay for electricity. However, they cannot legally connect to the electric utility company because their homes lack proper wiring. It is expensive. I have helped some poor families to wire their homes and I am sure other MPs have helped as well. However, this is just scratching the surface.

NESol's budget this year is J$48 million for house wiring. A typical job is roughly J$80,000 for labour and material and that gets you two (2) lights, two (2) plugs, meter socket, breakers and panel. With this budget, approximately 600 families can be helped. That's about 9 per MP. I was advised that there are about 200,000 households across our many inner cities that do not have properly wired homes.

I definitely have to get to the head of the budget line next budget year as well. Our goal should be at least 10,000 poor households per year for proper house wiring.

We have to lift our people up.

Jamaica Energy Council

In this sector, **Mr. Speaker**, it is important to benefit from the views of our stakeholders. It has been demonstrated that better results are derived through cooperation, collaboration and inclusion. With this in mind, we have taken steps to re-establish the Jamaica Energy Council, which will be a body that is comprised of energy stakeholders that will discuss issues as well as developments in the energy sector. A submission will be made to Cabinet in short order once we have received the names of nominees from our stakeholders. This is the mechanism to hear from our stakeholders…this is the mechanism to serve Jamaicans better!

Electric Vehicles – Preparing for the Future!

Electric Vehicles are a part of our future **Mr. Speaker**. The tides have changed and many countries in the world have made policy statements on the intention to embrace electric vehicles and move away from internal combustion engine cars. This strong push internationally is primarily driven by environmental concerns and carbon emissions. Indeed, some car manufactures have indicated that soon, they will no longer produce internal combustion engine vehicles.

Mr. Speaker, Jamaica cannot be left behind. Nor can it become the dumping ground for unsaleable internal combustion engine vehicles. Therefore, brisk and bold steps must be taken and in this financial year, this Ministry's aim is to complete an Electric Vehicle Policy, as well as promulgate regulations under the Electricity Act to treat with this matter. **Mr. Speaker**, batteries are becoming cheaper and have more capacity. Range anxiety (which is the anxiety about how far the vehicle can go before it needs charging) is quickly fading away.

It is important that Jamaicans receive the signal that the time to think differently on issues such as this has come and in that vein, the JPS will be installing charging stations in this coming year as part of the necessary infrastructure. The establishment of charging stations will also be available as a new business opportunity for Jamaican entrepreneurs.

Mr. Speaker, this is energy…at your service!


TECHNOLOGY
...at Your Service!













INNOVATE WITH TECHNOLOGY

TECHNOLOGY… AT YOUR SERVICE

Mr. Speaker, I now turn to the Technology portfolio.

Jamaica is on a transformational journey with information and communications technology (ICT) at the heart of the change.

Our National Development Plan - Vision 2030, positions ICT as an enabler - a tool to attain developed country status by the year 2030. It will create linkages between all sectors – in particular education and governance. It will improve communication and service delivery and it will contribute to the attainment of the United Nations Sustainable Development Goals.

There are many different perspectives on how technology can be used to drive development. Businesses see it as a tool for profitability while Governments employ technology to increase its efficiency and ability to serve its people.

Mr. Speaker, we are entering a brave new world where technology is at the heart of everything we do.

As Minister of the Technology portfolio…

I am passionate about unlocking the innovator in all Jamaicans. Technology has and will continue to make a real difference and Jamaicans must play a role in shaping their future.

The aim of this Administration is to develop a knowledge-based and digital society that sees our people well educated and using their knowledge to drive innovation, entrepreneurship and enhance the quality of life.

Digital Inclusion

Mr. Speaker, in developing a knowledge-based and digital society, we must ensure that all individuals and communities have equitable access to technology. This includes our Jamaicans with disabilities.

Mr. Speaker, there are so many things that able-bodied persons take for granted. We use technological services and products to pay our bills, conduct research, be entertained, communicate with our loved ones and exercise our civic duties. These innovations and services are not always accessible to persons with disabilities, our most vulnerable.

Disabled Community Assistance Projects

Mr. Speaker, this Ministry will continue to support the vulnerable community through the Universal Service Fund (USF). To this end, J$50 million has been earmarked to finance projects aimed at using technology to improve the quality of life of persons with disabilities.

This is technology… at your service!

Expanding Connectivity

Mr. Speaker, the 2017 ICT Development Index reports our island's Internet penetration at 45%. This is unacceptable! This Government's vision is to have 100% Internet connectivity by 2030.

I must commend the work of our telecommunication companies to get more Jamaicans connected. However, despite their best efforts, there are gaps that we will continue to systematically address.

During the financial year 2018/19, the USF continued its effort USF to provide critical infrastructure for Jamaicans in unserved and underserved communities to have easy and reliable access to the information super highway, the internet. In this regard, there was continued deployment and management of an island wide broadband network which provides connectivity and Internet access to several critical government institutions including police stations, schools and health facilities.

Community Access Points

During the financial year 2018/2019, 25 Community Access Points (CAPs) were completed in underserved communities to provide Internet service facilities. This was completed at a total cost of approximately J$167 million. Additionally, 21 CAP sites

were retrofitted with solar energy systems which were installed at the cost of approximately J$80 million.

However, these 309 CAP sites that we have had since 2007, are not having the impact we envisioned.

Mr. Speaker, the 2016 ICT Adoption and Usage Survey told us that our CAP sites need more oversight and a deliberateness of purpose. Just putting in the computers and solar equipment (at some sites) to help with the electricity cost is necessary, but not sufficient. As MPs, you know the sites are not bursting at the seams with young people as we had hoped. This is where I will be encouraging USF, MPs, Councillors and community stakeholders to collaborate more deeply with the HOPE program and HEART to ensure the programs in the CAP sites are relevant to the young people. We want when next we do another ICT adoption and usage survey we will see the reverse of what this chart is showing.

Mr. Speaker, the Survey also said that "beyond a space for gaining access to the Internet, CAPs can also be restructured to provide occupationally targeted entry level IT training programmes for varied age ranges, especially in rural areas". The Survey also pointed to using the CAP sites to improve the ICT literacy of persons over 50 years of age. Interestingly, these persons indicate they would more likely use the CAP site on Saturday afternoons between 1:00 to 5:00 p.m. Let us be guided.

On Internet usage, rural areas lag behind the Kingston Metropolitan Area (KMA) and other urban centres. The charge to us from the ICT Adoption Study and Usage Survey

is that as policy-makers, we should consider better enforcement of existing regulatory or licence requirements relating to island wide internet coverage.

Public Wi-Fi

Mr. Speaker, access to the Internet was also enabled through the USF's "Connect JA Initiative" which is aimed at establishing free public Wi-Fi Hotspots in strategic locations across the country. This House will recall that seven (7) public Wi-Fi Hotspots have been established by the USF, the most recent being the one in Emancipation Park.

More Public Wi-Fi

In our quest to ensure a knowledge-based and digital society through increased connectivity, four (4) new public Wi-Fi hot spots will be commissioned in Montego Bay, May Pen, Santa Cruz, and Linstead during this financial year. This will benefit, among others, students, tourists and those who need additional support to get and stay connected.

Spectrum Management

Mr. Speaker all the objects in our everyday life, from cars and refrigerators to medical devices, are being connected to the Internet. These data-hungry technologies will increase the demand for spectrum.

The installation of additional monitoring sites and acquisition of attendant equipment will assist the Spectrum Management Authority to enable more efficient management of the spectrum. This will encourage investments in wireless technology and development that will support the Government's creation of a knowledge-based and digital society.

Mr. Speaker, this is technology… at your service!

ICT Empowering our Youth

Mr. Speaker, in creating a knowledge-based and digital society, our youth must be empowered to use technology.

Technology Advancement Programme

Mr. Speaker, you may recall that last year, the USF under Minister Wheatley, launched the Technology Advancement Programme (TAP) to provide 1,000 unattached youth between the ages 18–35 years old with training, certification and employment experience, to become functional in the technological arena.

I am happy to report that the programme was a resounding success. Eight-hundred and ninety (890) young people commenced the training programme of which 665 completed all the modules. Six-hundred and twenty seven (627) of these 665 were placed in jobs in the public and private sector. **Mr. Speaker**, most employers expressed satisfaction with the performance of the participants, even more impressively, some employers have retained several of the TAP participants beyond the completion of the programme.

The TAP provided individuals with a second chance at self-actualisation and with a once in a lifetime opportunity to prepare themselves to participate meaningfully in the global digital economy. The programme also positioned our young men and women to become technology innovators and create a path to their own self-empowerment.

The Future of the Technology Advancement Programme

Mr. Speaker, for this financial year 2019/2020, the TAP will be synced with the Housing Opportunity Production and Employment (HOPE) programme. The programme will continue with the engagement of 1,000 participants with focus being placed on Business Process Outsourcing training at all levels. The new batch of participants are expected to be engaged by July 2019.

Mr. Speaker, this is technology… at your service!

Tablets in Schools (TIS) Project

Mr. Speaker, members of this Honourable House may recall the Government's announcement of its approval of J$7.9 billion in funding to provide shared tablets, computers and audio-visual equipment, forming 20% of class time, to 1,100 infant and primary schools.

To this end, e-Learning Jamaica Company (e-Learning) has trained over 700 teachers in basic ICT skills, Technology Integration and Mindset Change ICT leadership and contracted a vendor for the provision of the first 18,000 devices.

Mr. Speaker, the original 11 year timeline considered is too long a period for this important deployment. Therefore, e-Learning will be revamping the TIS Project into the Technology Integration in Infant & Primary Schools (TIIPS) project with a view to significantly reducing the timeframe to four (4) years and ensuring that every child in a publicly funded infant and primary school will use their own connected device.

During this financial year, the programme will be rolled out to 120 schools impacting more than 40,000 students and 1,800 teachers.

Strengthening ICT Infrastructure in Educational Institutions

Mr. Speaker, this Administration's vision of establishing a knowledge-based and digital society continued with its support to our tertiary institutions. The ICT infrastructure of several key institutions was strengthened during the last financial year, to enable fast and reliable connections within the organizations and externally via Wi-Fi. These institutions include the Caribbean Maritime University, University of the West Indies, University of Technology, Jamaica, G.C. Foster College, Edna Manley College of Visual and Performing Arts and Mico University College.

Mr. Speaker, this is technology…at your service!

Support for Young ICT Entrepreneurs

Mr. Speaker, in this financial year, the USF will go a step further in empowering our young people by providing funding for young entrepreneurs who seek to solve real life problems through technology. J$200 million has been earmarked for the financing of ICT projects.

The initiative will be executed in collaboration with ICT experts in the private and public sectors, as well as, civil society and other stakeholders. Together, they will ensure that the solutions provided are realistic and can be executed with the resources readily available.

ICT Enabling the Delivery of Government Services

This Ministry will continue to harness the power of technology to enable the delivery of government services and increase the ease of doing business for our people and investors.

The Tax Administration Jamaica App

Mr. Speaker, in the last financial year, eGov Jamaica Limited developed a working prototype of a mobile app for Tax Administration Jamaica (TAJ), which in the first iteration will allow persons to pay motor vehicle registration and fitness fees online. It will also allow persons to be notified about expiration dates and utilise courier service to deliver their documents. The app which was demonstrated to the TAJ was well received, and will be developed during this financial year.

eParticipation and Citizen Engagement

Additionally, eGovJa has been leading the charge in developing innovative eGovernment solutions and has prototyped an eParticipation platform and mobile application called **"myGovJm"** to be rolled out in this financial year. This platform seeks to empower our citizens to be active partners in:

- policy and decision making;
- driving creativity and innovation; and
- sharing of information to drive efficient and effective solutions.

The app will connect citizens with Government and provide a voice for the people which will be heard and acted upon by this Government. It will provide information on all major government and community initiatives. It will allow our citizens to report issues affecting their communities and track the progress of resolution of those issues.

Mr. Speaker, you will be able to use the app to take a picture of a pothole on your street, broken street lights, uncollected garbage and have it automatically routed to the relevant authority for resolution. This mobile app will become the "Twitter for Government".

This is what Digital Government, Citizen Participation and Citizen engagement is all about. This is true Innovation.

GovNET

GovNET is a GOJ secured, high-speed, reliable and resilient wide area network. As part of the Public Sector Transformation Programme, we continue to design and implement GovNet. This network will connect government Ministries, Departments and Agencies (MDAs) to facilitate shared services, including data centre computing services (GovCloud), consolidated voice communication system (GovTalk), and consolidated email system (GovMail).

Regarding the email system, **Mr. Speaker**, currently, the Government has a fragmented email system. Most MDAs have email systems of their own, some in-house, but many hosted on external premises, including overseas. The notion of having a single email system for GOJ has been talked about for a decade but never implemented. The ICT Blueprint Report of 2016 says this should be given the highest priority. And it shall be done!

Postal Services Sector

Mr. Speaker, the rationalisation of Post Offices is another vexed issue. I have already said that Post Offices and Postal Agencies should not be closed without us providing an alternative, and not 10 miles away or even 5 miles away. Having said that, the Government is intent on making the postal sector services in Jamaica a modern and efficient one. The Post and Telecommunications Department's network of 241 Post Offices and 275 Postal Agencies is second to none and provides a significant platform for eCommerce for Jamaicans. Additionally, the Postmaster General has been asked to provide information on the fees paid to those persons who have Postal Agencies on their premises. Our suspicion is that these fees probably have not been increased since the days of pounds, shillings and pence.

In this regard, the Ministry will be embarking on two (2) studies. The first, will be a postal services sector market study to analyse and define Jamaica's postal market and assist in the development of a Postal Sector Services Policy.

The second, will assess and make recommendations as to how to make the Post and Telecommunications Department (PTD) a more modern and efficient service provider by, among other things:

- Re-engineering the operations to include greater utilisation of technology; and
- Diversifying the services.

This study may also speak to rationalisation but let us be guided.

Mr. Speaker, in the interim the PTD has implemented a number of initiatives aimed at improving its services. These include:

a. the development of an e-commerce/online portal to facilitate online payment; and
b. the introduction, in September 2018, of its Klick 'N' Ship Express service. This facility provides a hassle free experience for customers to shop online using the PTD's US/Miami mailing address to which online shoppers may have their goods delivered for shipment to Jamaica.

Information and Communications Technology Authority Bill

Members of this Honourable House will recall that the Information and Communications Technology (ICT) Authority Bill was tabled in March 2019. It is my intention to commence the debate on same this month.

The establishment of the ICT Authority represents one of the key goals of this Ministry, as the Authority is a critical pillar in positioning Jamaica as a knowledge-based and digital society. This knowledge-based and digital society will require a fundamental transformation of the way in which ICT is organized, planned, managed and delivered in Government.

Mr. Speaker, this initiative will not be eGovJa warmed over into the ICT Authority. The Authority will streamline ICT spend, drive efficiency, reduce unnecessary bureaucracy and improve service delivery across and within MDAs of Government. It will change the game in how citizens interact with the Government, how basic services are provided and the level of efficiency in the delivery of those services through the seamless integration of digital capabilities.

Mr. Speaker, PricewaterhouseCoopers, the consultant engaged to design and support the implementation of the ICT Authority, have, to date, completed:

- a high level and detailed design of the organisational structure;

- a Communications and Change Management Plan; and
- a Business Process Framework.

This is technology… at your service!

Protecting Rights and Ensuring Safety

Mr. Speaker, as we seek to develop a knowledge-based and digital society that is globally competitive and productive it is essential that the rights of our people are not only protected, but that we build trust and confidence in the use of technology. In this regard, this Ministry will continue its thrust to implement legislation that protects sensitive and/or personal information and promotes cyber safety.

Data Protection Bill

As you may recall **Mr. Speaker**, the Data Protection Bill was tabled in this Honourable House and is being considered by a Joint Select Committee. The Bill recognizes that data is an individual's identity and therefore must be protected. It seeks to put an end to the fragmented approach to secrecy, confidentiality and privacy and to establish a uniform, robust and clear mandate to protect people's personal data.

This is the Government's attempt to build a modern legal framework to meet the needs, and earn the trust of all stakeholders as it relates to the security of their data. It is my intention to ensure that the Joint Select Committee is reconvened no later than June and the Bill passed during this financial year.

Mr. Speaker, we know that the passage of the Bill will usher in a new paradigm for our people and so a targeted public education and awareness programme will be executed to sensitize persons once the legislation is approved by Parliament.

Cyber Security

Mr. Speaker, as the Government implements programmes to increase the connectivity of Jamaicans, we are also improving the public's ability to be safe in cyber space and mitigate the growing threats that are present. Cyber threats are real! Global figures state that:

- Every 40 seconds a business falls victim to a ransomware attack. It is predicted that in 2019, this year, these attacks will increase to every 14 seconds; and
- Approximately 90% of hackings begin with a phishing or spear phishing email

The Ministry is cognizant of the prevalence and impact of these threats and has been working assiduously on three (3) of the four (4) pillars of the Cyber Security Strategy, namely:

- Technical Measures;
- Human Resource and Capacity Building; and
- Public Education and Awareness.

Presently, the Organization of American States through its Inter-American Committee Against Terrorism has been working with the Jamaica Cyber Incident Response Team (JaCIRT) to implement an early warning system which will assist in protecting Jamaica's cyber infrastructure, by installing a Security Information and Event Management network. This will enable the JaCIRT to provide alerts as soon as there is a cyber-threat on the horizon that presents an immediate threat to Information Technology systems in Jamaica. This system will help to fortify Jamaica's cyber infrastructure by being proactive in dealing with cyber related threats.

Additionally, the JaCIRT website is now live! This will now facilitate the easy reporting of cyber incidents.

Mr. Speaker, while absolute cyber security is elusive, the JaCIRT continues to build its capacity and explore new and dynamic ways to engage Jamaicans about how to be safe online. Targeted messages have and continue to be developed to speak to our most vulnerable groups – youth, businesses, senior citizens and organisations. This year, JaCIRT will seek to reach 20,000 persons through targeted partnerships, education and awareness activities.

Mr. Speaker, this is technology… at your service

CLOSING

In closing **Mr. Speaker**, the future is in science, energy and technology through which we will continue to serve our people.

It will be characterized by scientific research unearthing ground-breaking discoveries, innovative creations, application and explorations with technology and all fuelled by a sustainable and secure energy mix that capitalizes on clean and renewable sources.

Jamaica has made major strides in building a solid foundation upon which we will propel into the fourth industrial revolution.

Mr. Speaker, my message for the 100,000 or so persons in the labour force that are unemployed and an even larger number (some 200,000+) that are outside the workforce, my message is, "Having digital skills makes it easier to get a job."

- To copy or move a file or folder requires digital skills.
- Sending emails with attached files requires digital skills.
- Using copy and paste tools requires digital skills.
- Transferring files between a computer and other devices requires digital skills.
- Finding, downloading, installing and configuring software require digital skills.
- Using basic arithmetic formulas in a spreadsheet requires digital skills.
- Creating electronic presentations requires digital skills.

If you hear nothing else, hear this, "The tools that are used for work are changing and these changes are (ICT) skill-based."

To those Jamaicans who are retired or are at that age where you believe you can't do "dem deh computer something", you still need to be ICT literate because more and more of the services that Government is providing will require you to use online services.

Why am I stressing ICT literacy? Because this Government does not want to leave anyone behind. We want all of our citizens to benefit from all that our expanding digital world has to offer. We want Jamaicans, regardless of their strata in life, to be ready to adapt to whatever digital future is ahead.

To those in our tertiary institutions, software engineering skills are in short supply right here in Jamaica. The Government is looking for these skills and so is the private sector. One large business told me that they practically hired the entire graduating class of software engineers. As we accelerate the pace towards a knowledge-based and digital society, we are going to need more software engineers.

I call on our people and industries to join us and **Solve with Science**, **Grow with Energy** and **Innovate with Technology** and make Jamaica the place of choice to live, work, raise families and do business.

Thank you **Mr. Speaker**, God bless Jamaica land we love.