

# BUILDING A MODERN **Jamaica** THROUGH SCIENCE, ENERGY

**& TECHNOLOGICAL INNOVATION**



Sectoral Presentation 2017-2018  
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# **Building a Modern Jamaica** **.....through Science, Energy and Technological Innovation**

## **Sectoral Presentation 2017-2018**

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Minister of Science, Energy & Technology



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## Acknowledgements

Mr. Speaker, on rising I must give thanks to God for sparing us as a nation, and as a Parliament, that we can all gather here once again to discuss the people's business and recommit ourselves as instruments of his will.

Mr. Speaker, I must take this opportunity to specially recognize:

- My Family
- My Constituents – the industrious and resilient men and women of South Central St. Catherine. They are my extended family. They have stuck with me over the years and I continue to dutifully represent them in this honourable house
- MHPM, my Cabinet colleagues and Members of this honourable house
- Officers, Delegates and Members of the Jamaica Labour Party (JLP)
- My Three (3) Councillors – Councillor Owen Palmer, Jennifer Hull and Hawthorne Thompson.
- My Constituency Executive and Constituency Office Staff
- Other members of my Personal and Support Staff
- My Advisors
- My hardworking Permanent Secretary, and team at the Ministry, who continue to give me their unwavering support

I wish to also thank the various Heads of Agencies and Divisions within the Ministry, as well the Chairpersons and Directors of the state boards falling under the Ministry

## Introduction & Opening Remarks

Mr. Speaker, in my last presentation to this honourable house I stated that The Ministry of Science, Energy and Technology would adopt a “**can do**” culture in which all plans and projections are actualized and the initiatives and projects entered into are successfully completed. I also spoke to the fact that I would not be a part of the business as usual culture, or practice premature and excessive announcements.

In keeping with that and the limited time allotted to cover my vast portfolio Mr. Speaker, let me now give the house an update on what we have accomplished over the past year and what we intend to pursue in the coming year.



# Energy



# Energy

Mr. Speaker I will start with the energy portfolio.

Last year I made a number commitments to the country embodied in my vision of a fit for purpose energy architecture that would begin to deliver on the administrations broader goal of economic growth and inclusive development. This took the form of ten (10) Energy priorities.

## 10 Point Energy Priorities

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- 1) Create a Competitive Energy Environment
- 2) Modernize the nation's power generation
- 3) Diversify energy sources with a strong emphasis on Renewables
- 4) Overhaul all regulations to create a true 21st century framework combined with newer and relevant institutions which together provide the state infrastructure capable of delivering sustainability and innovation
- 5) Transform the energy efficiency of the Jamaican economy to include amongst other things, world class conservation techniques
- 6) Ensure that the National Energy Policy as part of the economic growth model addresses socio-economic issues to create inclusiveness in our development
- 7) Manage our carbon footprint to preserve Jamaica's natural environment and fulfill our international agreements and obligations
- 8) Set targets for the reduction of national demand for energy over a five-year period
- 9) Usher in a Greener Energy Economy with:
  - a) Market and BSJ standards for an adequate supply of energy efficient appliances
  - b) Enforce energy efficiency standards and codes for appliances and buildings with the aim of:
    - i) Reducing energy consumption in new buildings by 50% in 2020
    - ii) Ensuring that all new buildings use zero net energy i.e., Net zero by 2025
- 10) Revise the Refinery Reference Pricing system and JPS fuel pass through to ensure that Jamaican consumers enjoy the best prices for energy products be it petroleum products or electricity

Now Mr. Speaker let me tell you what we have been doing in furtherance of all of what I have just mentioned.

## Legislative and Regulatory Framework

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Mr. Speaker, the overhauling of the existing regulation and legislation thereby creating a 21<sup>st</sup> century regulatory framework for the energy industry is necessary for Jamaica to meet its energy targets. A critical component of realizing these targets is the new Electricity Act of 2015. The Act, provides for:

- a modern electricity system
- promotes energy efficiency and the use of renewable energy sources
- speaks to the development of an Integrated Resource Plan (IRP)
- and as of November 2016, makes provisions for net billing, power wheeling and auxiliary connections

### The Modern Electricity System

The Act in speaking to a modern electricity system has created the structure that will require the development of a smart grid by the utility company (JPS). This is a vital component to our current Smart City initiative as smart cities rely heavily on a smart grid to:

- optimize infrastructure and improve grid management
- facilitate more Renewable Energy integration
- improve distributed generation
- enhance the integration of ICT capabilities (e.g., communication and security)

### Transforming the GEI into the GER

Mr. Speaker, we have taken steps to create a new regulatory body that will be responsible for helping to secure Jamaica's business competitiveness.

Mr. Speaker, up until the promulgation of the new Electricity Act, the Government Electrical Inspectorate (GEI) was responsible for the safety inspection of electrical installations as well as the inspection and certification of petroleum facilities. Only installations for which certification has been issued by the GEI were allowed to connect to the national electricity grid. GEI on average processed thirty-five thousand (35,000) applications per year. This core process remains highly manual, time consuming, and prone to errors and delays.

Mr. Speaker, our intention is to make this process more efficient by ensuring that the entire application, inspection and licensing processes for electrical installations is revamped. As such a

new regulatory agency called the Government Electrical Regulator (“GER”) is being established to ensure electrical safety, whether at the individual, corporate and / or national level.

Mr. Speaker, the GER will be guided by the Electricity Act and the related regulations that are currently being finalized, which will provide for the outsourcing of inspections and certification of premises to be electrified to suitably qualified persons from the private sector. This is another example of how the Government and the Private Sector will partner to ensure business competitiveness and national development.

The GER will be responsible for:

- the regulation of the electrical inspection processes
- the licensing of electricians and electrical inspectors
- the monitoring of work done by the electrical inspectors and
- the recommendation for renewal and revocation of licenses of both electricians and electrical inspectors

### The Integrated Resource Plan

Mr. Speaker, my Ministry, having assumed the planning function for the electricity sector, is working to complete an Integrated Resource Plan (IRP), **which will take account of the current and future electricity demand projections as the economy expands and will also take account of all the existing generation plants, determine the optimal generation capacity requirements for the future and suggest the optimal mix of generating sources for Jamaica.**

Mr. Speaker, this IRP will inform the procurement of new generating capacity going forward, as well as the investment requirements for the transmission and distribution system over the medium to long term, so that for the first time, the energy sector will be developed in a structured way, consistent with the National Energy Policy.

### Generation Procurement Entity (GPE)

Mr. Speaker, I also want to officially advise the parliament that the Electricity Sector Enterprise Team (ESET) has now transitioned into the Generation Procurement Entity (GPE) as required under the Act. The new Board has been appointed by Cabinet and its immediate focus will be the IRP requirements which has consideration for:

- an additional 100 MW of renewables
- 45 MW Waste to Energy (WTE)
- 30 MW Hydro Power
- 200 MW for a Special Economic Zone (SEZ)
- PCJ Gas Marketing

## LNG Regulations

Mr. Speaker, the advent of LNG now calls for additional regulations for health, safety, security and environmental protection in the sector as well as an effective playing field for business, commerce and strategic national priorities. These regulations are being developed with stakeholders and our international partners. The PCJ will play a lead role in making natural gas products available to the productive sector:

- By Procuring natural gas products including compressed natural gas both locally and internationally, and
- By developing and operating relevant facilities to distribute such products locally

## **Renewable Energy Diversification on Track**

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Mr. Speaker, 2016 saw the diversification of the country's energy sources in a significant way. Last year we ushered in an additional 80 MW of **generating capacity** from renewable sources, specifically:

- 24 MW was commissioned in June 2016 with the implementation of Wigton III by Wigton Wind Farm (WWF) Ltd.
- 36.6 MW wind power was commissioned in August 2016 by Blue Mountain Renewables (BMR) Ltd.
- Content Solar completed construction and began supply of 20 MW of electricity to the grid

Mr. Speaker, **the country is on course to achieve its 30 in 30 target** (30% renewables by 2030) as up to the end of 2016, 10.5% of net electricity generated was obtained from renewable energy sources.

## Eight Rivers Energy License Award

Mr. Speaker, last year March, a licence was awarded to Eight Rivers Energy Company to supply up to 37 MW of electricity from a solar photovoltaic plant located in Westmoreland. The total investment for this project approximately US\$50M. This is slated to be at a record low wholesale price of US\$8.54 cents/kWh to be commissioned in December of 2018.

## Wigton Phase 3 and Upgraded Resource Centre

Mr. Speaker, I am very happy to announce that the Wigton Wind Farm is not just a wind farm anymore. In addition to the commissioning of Wigton Phase 3 which brought an additional 24

megawatts to the grid, Wigton Windfarm Limited commissioned into service last November, its upgraded Resource Centre with a modern renewable energy training lab, outfitted with working models from the Renewables Academy in Germany. The goal is for this lab to serve as one of the regions premier renewable energy training facilities.

You will also recall, Mr. Speaker, that divestment of Wigton was announced. It was the considered opinion of the Ministry that a simple sale of a profitable and well run asset would not pay due regard to its achievements. **We have recommended and it was accepted, that a portion of the shares of WIGTON would be placed on the local stock market, to give JAMAICANS a chance to invest in, earn and own a part of our renewable energy industry.**

### 120 MW Bogue Power Plant Commissioned in Montego Bay

Mr. Speaker, the JPS Bogue Power Plant in Montego Bay has now been fully converted to a dual-fuel efficient plant **using LNG and Automotive Diesel Oil**. This plant has a generating capacity of **120MW**. This plant will be supplied LNG from a terminal in Montego Bay, which was commissioned and opened in November 2016. **Over US\$200M was invested in the construction of the LNG Terminal** by New Fortress Energy North Holdings Limited.

### 190 MW Power Plant in Old Harbour

And if that was not enough Mr. Speaker, just about 2 weeks ago, ground was broken for the construction of a new JPS plant in Old Harbour, St. Catherine valued at **USD\$330-million** which will replace the current 40-year old, oil based plant at the same location. This LNG powered plant, Mr. Speaker, which **will generate 192.6 MW of electricity represents the largest local investment ever in the local energy sector totally financed by a local consortium.**

### Hydro Power coming onstream soon..

Mr. Speaker, Hydropower currently contributes a total capacity of **30.7MW to the grid** and with funding from the GOJ and the World Bank, hydro-feasibility studies have been completed on twelve (12) rivers which shows a potential of adding **26MW** of generating capacity to the grid. I will speak a little more on this later if time permits

### Energy Efficiency and Conservation

Mr. Speaker, not only must we find efficient ways of generating, we must also look at how to be more efficient in consuming.

Mr. Speaker, the last year saw the continuation of the Energy Efficiency and Conservation Programme (EECP), as well as the Energy Security and Efficiency and Enhancement Project (ESEEP).

## EECP

The EECP was designed to reduce energy consumption in the public sector by retrofitting forty (40) Government facilities with energy efficient technology solutions and equipment (cool roof, solar control film and air-conditioning).

Mr. Speaker, The Energy Efficiency and Conservation Programme (EECP) installed and assisted with various energy efficiency projects at the following facilities:

- Ministry of Finance – Finance Investigation Department
- Kingston Public Hospital (KPH)
- Tax Administration Jamaica (TAJ), Donald Sangster Building, Montego Bay Revenue Service Centre and May Pen Revenue Service Centre
- Ministry of Education Head Office
- Spanish Town Hospital
- Savanna-la-mar Hospital
- Kingston Public Hospital
- Ministry of Health Blood Bank

Mr. Speaker, the EECP continues to pursue several energy efficiency audits and retrofits to GOJ buildings. The main achievements:

- Training seminars and workshops in energy conservation and efficiency conducted for some 800 government employees
- Building retrofits in government buildings to improve energy efficiency, including the installation of energy efficient air conditioning units; and
- The annual savings realized from these retrofits range from **3,421 kWh to 787,558 kWh and has so far resulted in a combined saving of 3,625,509 kWh and cumulative monetary saving of approximately J\$131,544,491.52**

Mr. Speaker, The PCJ also facilitated the installation of grid-tied solar PV systems at three (3) schools and two (2) public sector agencies.

## ESEEP

Mr. Speaker, of the three (3) major components of the Energy Security and Efficiency Enhancement Project (ESEEP), comprising 42 sub-components, the vast majority of the contracts have been completed and eight (8) are in progress. The project is now scheduled to be completed by November 30, 2017 with the remaining focus being on the following:

- Hydro Pre-feasibility & Feasibility Studies (Phase II) facilitated by PCJ
- BSJ Energy Efficiency Testing, Labeling and Awareness Programmes

- Supply of New Test Chambers for the Energy Efficiency Assessment of Fridges, Freezers and Air Conditioning Units
- Development & Installation of Software for Test Chambers
- Refurbishment and Upgrading of Existing Test Chambers
- Purchasing of Testing Equipment

## Managing Our Carbon Footprint

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Mr. Speaker, through modernized power generation, diverse energy sources, new legislation and energy efficiency strategies, Jamaica has been successful in reducing our carbon dioxide (CO<sub>2</sub>) emissions.

The potential 26MW hydropower capacity expected from twelve rivers will lead to the **reduction of 72,000 metric tonnes (t) of CO<sub>2</sub> and so far, the 8 hydropower plants in operation provide over 32MW of capacity and offset 101,200 metric tonnes of CO<sub>2</sub> emissions annually.**

The additional Renewable Energy capacity of 152.6MW when fully commissioned will lead to a **reduction of 457,800 metric tonnes of CO<sub>2</sub> per year.**

The expanding LNG market will also play its part in carbon emissions reduction being a cleaner form of energy than the liquid petroleum it is replacing.

## Synopsis - Jamaica is now a Regional Energy Leader

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So, what does all of this ultimately mean for Jamaica Mr. Speaker?

Our last year at the helm has seen Jamaica hailed as a regional leader in Energy with the country being ranked **#1** in the Caribbean and **#92** worldwide as a global case study for energy diversification by the World Economic Forum (WEF). We also saw our National Energy Policy being awarded the **Best Government Energy Infrastructure Strategy in the Caribbean.**

## The Plan Going Forward

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Mr. Speaker in moving forward, our **Growth Beyond Plan** which focuses on affordable and competitive energy prices is still ongoing through Research and Development (R&D), Oil and Gas explorations, as well as the development of production clusters.

### “Going Solar”

Embracing renewable energy power sources must become a reality for the common man and woman in Jamaica. This will be achieved through updated grid-codes permitting wide scale adoption of renewable energy power sources. The “small man” in Jamaica in “going solar”, will be freed from the over 90 years’ monopoly by the same utility. **We are democratizing energy!**

Through net billing we will now incentivize the everyday Jamaican citizen to invest in his/her solar power system; creating immediate relief to at least 60% of all JPSCO’s clients using 180kWh or less each month

MSET and the Ministry of Housing will review regulations to permit the National Housing Trust (NHT) compliant applicants to borrow for a solar PV system (probably 2-5Kw) and allow them to repay the loan over 5-20 years of their mortgage.

### Energy Storage

Mr. Speaker as renewables continue to revolutionize the energy mix, we are aware that these natural resources still do not provide stable and sustained generation capacities. This is an operation challenge for the utility as well as a point of frustration to consumers who would like to have an easy and reliable alternative to the more expensive conventional electricity. Hence the case for storage capabilities for those times when the wind is not there or there is cloud cover or night time. There is even the scenario where water-flow may be curtailed in hydro-electrics on a seasonal basis with the summer and droughts. MSET’s policy will address this challenge through:

- new technologies that the utility may use to smoothen fluctuations on the grid
- bigger storage solutions from innovative technologies to be employed by the generator and the utility
- synergistic arrangements with large users like the NWC who could conduct certain activities during the periods of renewable electricity availability that could convert the energy to another form; for example, water that could be delivered by gravity feeding instead of electric pumping
- collaboration with The Ministry of Finance and the Public Service (MoFPS) to create a policy that incentivizes the importation and production of battery and other storage techniques for homeowners and businesses.

### SILC

Mr. Speaker, Project SILC aimed at improving Street lighting, Installations, Loss Reduction and Community Development is ongoing and will expand the number of community interventions as well as add a solar component in the current financial year.

### PCJ Resource Centre

Mr. Speaker in taking the lead to usher in the New Kingston Smart City **Enernet**, PCJ will renovate and refurbish its facilities to include:

- Net Zero energy consumption
- Reduced emissions and carbon credits
- a smart building with relevant connectivity and energy and communications management systems
- Modern market standards for the corporate district

### Refinery Upgrade Programme, (RUP)

Mr. Speaker, Government of Jamaica in its recent signing of the agreement with Venezuela for the US\$1.2bn Refinery Upgrade Programme (RUP), continues to pursue improved cost and productivity for the Jamaican market. The upgrade will:

- Increase capacity from 35,000 barrels per day to 50,000 barrels per day and,
- yield higher quality and better performing products, including Ultra-Low Sulphur diesel fuel to meet international standards

### Transport Fuels

Mr. Speaker, the need for diversification and improved costs drills down to the market level. In this regard transport fuels in Jamaica are very significant for the knock-on effect they have throughout the economy. To address this problem, PCJ will lead and innovate in the motor fuels market by:

- creating new CNG, LNG, NG and LPG delivery products and channels
- Conducting pilot studies and test projects between MSET/ PCJ and their partners for NET ZERO facilities offering new consumer choices for electric, natural gas, LPG and other clean fuel products and services to retail and commercial segments.

### Wigton Windfarm

Mr. Speaker, in playing its role to ensure the renewables 30 in 30 and, to continually reinvent itself as an effective and efficient enterprise, Wigton Windfarm (WWF) will participate in upcoming RFPs for a phase 4 and will also have a partial listing on local stock market

## Oil & Gas Exploration

Mr. Speaker in the continued search for indigenous resources, The PCJs oil and gas exploration programme is:

- In an advanced stage of 2D seismic survey and analysis, with special emphasis around the Pedro Bank
- Preparing for a 3D seismic phase to follow
- In advanced negotiations to sign a second contractor
- Carrying out additional market development work to attract more exploration investors



# Technology



# Technology

Mr. Speaker, I now turn to the area of Information and Communication Technology (ICT).

Mr. Speaker, the house will recall last year I presented my 10 ICT plan which outlined what would be my goals for the ICT sector during my tenure as portfolio Minister. I was quite aggressive in prioritizing seven (7) out of ten 10 items in this plan for delivery during the previous and current financial year. These priorities included:

1. Establishing true universal access by providing free Internet access to essential Government and educational services for every citizen.
2. Make Jamaica the Caribbean's leading producer of technology, not just consumers of technology
3. Work closely with the Ministry of Education to ensure holistic, efficient and effective use of technology to support teaching and learning.
4. Collaborate closely with the new Ministry of Economic Growth and Job Creation to broaden support for BPO beyond just call-centre services so employment opportunities for university graduates and professionals are expanded.
5. Drive better ICT governance practices throughout Government to make it more efficient and make information more accessible, including use of the corps of young people trained through the National Service Programme and National Apprenticeship Programme.
6. Repeal the 16-year-old Telecommunications Act and replace it with a new ICT Act. Harmonise all relevant ICT legislation to ensure cohesion across the regulatory elements of ICT to create a more modern fit for purpose framework, including creation of a single ICT regulator.
7. Promulgate and pass into law: legislation that deals with data protection

Mr. Speaker, I am pleased to report that in keeping with the “can-do” mantra adopted by MSET we have completed or are on track for completion of ALL stated priorities for the last fiscal year and this current year.

## True Universal Access

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Mr. Speaker, in the face of a considerable amount of doubt, I proud to announce to this honourable house that in keeping with this administrations goals of creating a knowledge based society **some 250+ government websites and services provided by the Ministry of Education, Youth and Information, have been zero rated and can now be accessed by all citizens absolutely FREE.** This is a crowning achievement for the country and indeed for myself in my first year as Minister. It represents a game changing shift in the removal of barriers to citizen government

engagement. I want to thank Digicel and Flow for their continued commitment to the growth and development of the country.

## Universal Service Fund

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In addition to this game changing initiative Mr. Speaker, you may have noticed by now that the Universal Service Fund has adopted an aggressive stance in the delivery of its mandate to ensure that all citizens are provided with the means to connect to the internet. I am extremely happy with the progress the agency has made in this aspect and I want to personally acknowledge the leadership and staff of that agency for the truly awesome job they have done in such a short period of time.

The total project activities for the 2016/2017 fiscal year were grouped into four broad areas:

- Community Access Points (CAPs)
- USFConnectJA (Public WIFI)
- Broadband Connections
- Special Projects

### Community Access Points

Mr. Speaker, CAPs enable members of Jamaican communities to use the internet at minimal or no cost to them to facilitate research, bill payments, education, communication, business, marketing, and social networking. In keeping with this administrations goals of creating a truly knowledge based society, we believe that the continued rollout of CAP's is very important.

During the 2016/2017 period Mr. Speaker, **a total of (15) community access points were completed at a total cost of JA\$52,188,232.87. This brings the total number of CAPs site completed as at March 31,2017 to 255**

Mr. Speaker, I want to make highlight a number of issues pertaining to the CAP rollouts of the past compared to what we will embark on in future. On assuming office Mr. Speaker we sought to do an analysis of the CAP program, and our findings revealed a number of deficiencies and areas where many improvements could be made. Some of the main areas of concern for us were:

- High cost of running CAP sites (i.e. electricity, connectivity, maintenance etc.)
- Sustainability of the CAP sites after deployment (*out of the 250+ CAP sites over 70 were deemed "not functioning" for a variety of reasons*)
- Usage of the CAPS to their full potential (*many CAPS were being underutilized or otherwise being use for idle time work*)
- Awareness of the existence of CAP sites (CAPS were deployed in communities but people did not know where they were)

So, Mr. Speaker in an effort to address these gaps and to ensure sustainability of the CAPS and value for money I instructed the USF to:

- Begin deploying Solar systems on all newly deployed CAP sites and to begin a program of retrofitting old CAP sites with Solar Systems
- Develop programs to engage members of the community to train and teach them about the value of the CAP's and to show the kinds of opportunities that can be derived from the use of the CAP
- Develop community awareness programs to ensure that the immediate community and surrounding areas know where that CAP sites are
- Explore new ways of lowering the cost of keeping CAP sites running.

### Public WiFi – USFConnectJa

Mr. Speaker, late last year we launched an ambitious signature project at the USF dubbed USFConnectJa. The USF Connect JA project is a free public WIFI service that is being implemented by the Universal Service Fund in an effort to provide greater and easier access to broadband internet service for all Jamaican Citizens across the island. This initiative is expected to fuel the government's plans of creating a knowledge based society by removing any barrier that currently exists for citizens who may be unable to afford connectivity.

During the period of review, Public Wi-Fi networks were installed at two locations in the corporate area, **Devon House and Mandela Park (HWT)** at cost of over **JA\$4,000,000.00**.

In keeping with our continued aggressive effort to bring public WiFi to the entire country today Mr. Speaker, is a very special day. At this time, Mr. Speaker I will bring the work of the USF into Parliament with the launch of not one, not two, not three but four new Public WiFi Locations. Today I will initiate the provision of Public WiFi service at:

1. St William Grant Park (Parade)
2. Olympic Way (Kingston)
3. Junction (St. Elizabeth)
4. Mandeville (Manchester)

I ask my colleague members to direct your attention to the screens where we will show you the proceedings at each of these locations and initiate the availability of Public WiFi.

Mr. Speaker in the coming months we will continue rollout of Public WiFi both in the urban and rural areas. We are also exploring new more cost effective and more sustainable rollout methods which will enable us to cover more public spaces in a shorter period of time.

## Broadband Connections

**Mr. Speaker, during the last financial year, a total of forty-seven (47) broadband connections were completed (JCF – 44, Educational Institutions – 3) at a cost of JA\$52,188,232.87.**

This brings the total number of completed broadband Connections as at March 31, 2017 to 430. The distribution is as follows:

<b>Total Sites commissioned:</b>	
<b>Educational Institutions</b>	<b>212</b>
<b>Library sites</b>	<b>41</b>
<b>Post Office</b>	<b>68</b>
<b>Ministry of Health sites</b>	<b>60</b>
<b>JCF sites</b>	<b>49</b>
<b>TOTAL</b>	<b>430</b>

## Special Projects

There were twelve (12) special projects completed for the fiscal 2016/2017. We provided fund support to the following service entities to upgrade and improve their ICT infrastructure:

- Caribbean Maritime Institute (CMI)
- College of Agriculture Science and Education (CASE)
- MICO University
- University of Technology Ja. (UTECH) and
- Jamaica Cultural Development Commission (JCDC)
- Jamaica Constabulary Force (JCF)
- The Disabled Community

### ***Caribbean Maritime Institute (CMI):***

The Caribbean Maritime Institute is a dynamic ISO 9001:2008 certified institution that offers tertiary education, training, applied research, and consultancy in maritime, logistics, customs processes, freight forwarding, immigration and engineering.

One of the most significant benefits from the funding received from the USF enables the CMI to maintain its International Maritime Organization (IMO) White listed status; this enabled the CMI to continue the training of seafarers for the global Merchant Marine Corp.

**With fund support of JA\$310,000,000.00 the CMI is now able to implement the necessary physical and technological changes to achieve University Status.** This has resulted in the CMI

being the only institution of its kind in the English-speaking Caribbean to offer international maritime certification. The CMI will now be able to attract individuals from the Caribbean and the rest of the world.

**This intervention by the USF now enables the CMI to transform Port Royal into a university community, positively impacting persons within the community of Port Royal and Eastern Kingston in general.**

### ***College of Agriculture Science and Education (CASE):***

The USF has approved a total of JA\$87,000,000.00 to provide funding support for the upgrade and expansion of the ICT infrastructure across the entire campus. The project plan is already in place and work is scheduled to begin at the start of the financial year 2017/2018.

### ***The Mico University***

This University is now well advance in its plans to become *the main hub for ICT teacher training in the Caribbean*; made possible by funding received from the USF of US\$358,150.98. This funding is being used to establish Twelve (12) smart class rooms throughout the campus and for the installation of Campus wide Wi-Fi networks.

### ***University of Technology (UTECH):***

The USF contributed JA\$20,000,000.00 for the upgrading of the Wi-Fi network infrastructure throughout the campus. This initiative has allowed all students, faculty, administrators, and visitors to have access to the internet throughout the precincts of the campus. This will facilitate ease of study and research from anywhere on campus.

### ***Jamaica Cultural Development Commission (JCDC)***

The USF granted US\$176,900.00 to the JCDC to improve its ICT infrastructure and to purchase the necessary hardware and software to digitize its archival collection. This funding will assist in promoting Jamaican culture and make it readily available online and to showcase live events to remote audiences.

### ***Jamaica Constabulary Force (JCF)***

The USF has assisted in the upgrading of the Police National Computer Centre, which includes

- Purchasing of 1000 Tablets and related network systems.
- Purchasing of automated systems for palm and finger printing activities

### ***The Disabled Community***

In keeping with the National Disability Act of 2004 and the Telecommunication Act of 2012 (amended), the USF has made special provision to empower persons with disabilities through the appropriate use of ICT. In this regard, the USF has provided grant funding of over JA\$19Million to the **Centre for Disability Studies** at the University of the West Indies (Mona).

This funding was used to purchase the relevant hardware as well as specialized software (**JAWS and Dragon Naturally Speaking**) that will enable tertiary and vocational students to do the necessary research and studies at their own pace.

## eLearning and the Tablets in Schools Programme

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Mr. Speaker, e-Learning Jamaica Company Ltd. continued to use ICT solutions to facilitate learning in schools. The major achievements over the period included the provision of technical management and support services to the Ministry of Education, Youth and Information. In this regard:

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- the Central Repository for Education Materials (CREM), hosted by e-GovJa, was upgraded to a Virtual Learning Environment (VLE) with significant upgrades carried out to simplify the interface and reorganise content for easier access and manipulation;
- a comprehensive public education campaign and school visits was embarked upon to promote the use of the VLE among students taking CSEC; and
- 274 teachers were trained in technology integration using Microsoft products and on-site professional development.

### Tablets in Schools Programme

Mr. Speaker, after a detailed and exhaustive reassessment by the team at the eLearning Jamaica Ltd. We expect that the much-awaited Tablets in School (TIS) program will commence full rollout this year. Please note Mr. Speaker that a partial rollout has already begun which primarily targeted the schools which participated in the pilot project. However, a comprehensive project plan has been completed and a cabinet submission is on its way to cabinet for approval. This will pave the way for the RFP and subsequent rollout of this project.

Of note Mr. Speaker, are some fundamental changes to the structure of this programme. The new structure will see the distribution of over 17,000 tablets to over 1000 infant and primary schools. However, schools will adopt a “class set” and bring your own device approach to use of the tablets. This approach will also allow us to implement greater security measures to curb access to unfavourable sites.

## The Spectrum Management Authority (SMA)

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Mr. Speaker, the SMA celebrated its 15 year in operation and continued to facilitate the growth of wireless in Jamaica, **by issuing 247 new licences and renewing 296 licences to the tune of over \$500 million.** These licences are in various categories and facilitate maritime, aeronautical, amateur and mobile services.

Mr. Speaker, I a continuing effort to enhanced SMA's ability to manage the spectrum more effectively upgrades and expansion was carried out on the Radio Monitoring and Direction Finding System. As a result of this project three (3) new sensor sites were commissioned and other facilities upgraded.

## New ICT and Data Protection Legislation and Regulation

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Mr. Speaker, I routinely speak about the rapidly changing Information and Communications Technology (ICT) landscape and the need to ensure that the laws which govern the sector are modern, relevant, fit-for purpose, balanced and supportive of the growth and development we wish to pursue.

**I am happy to report that we are well on our way to achieving this objective. As such, in this legislative year, I will be tabling two (2) important pieces of legislation, the Data Protection Act and the new ICT Act.**

### New ICT Legislation and the Single ICT Regulator

Mr. Speaker, Work on the new ICT legislation continued in earnest last year, with assistance from the International Telecommunications Union. Consultations on the proposed provisions were held with stakeholders in all spheres - telecommunications, broadcasting, and subscriber cable and a draft ICT Act produced. I wish to assure the house that **this year that draft will become a bill which will be tabled in this honourable house.** Additionally, we will commence work on the creation of the Single ICT Regulator.

Mr. Speaker, as you are aware, the ICT Sector is governed by several Regulators. This variegated approach to regulation is no longer fit to respond to the converged ICT space or provide the responsive regulation that is required. Consequently, this year we will begin the process of amalgamating the relevant functions of the Regulators, to ensure that when the new ICT Act is promulgated the new Regulator is in place to undertake the revised functions.

## Data Protection Legislation

The Data Protection Bill is far advanced, Mr. Speaker, and within three (3) months this Honorable House will have the opportunity to review and debate its provisions.

## Cybercrimes Law

Mr. Speaker, while in Opposition my colleagues and myself rose many concerns about the Cybercrimes act which was eventually amended and passed in 2015. Recently, there has been renewed interest and outcry as it relates to how various sections of this law is interpreted and enforced.

In keeping with our original stance that the law, as it was passed, required further enhancements; I will be beginning the process of review of this piece of legislation during this financial year.

## **National ICT Governance Structure**

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### The ICT Authority

Mr. Speaker, last year I advised the Parliament that we would drive better ICT governance practices throughout Government to make it more efficient and to make information more accessible. Mr. Speaker, with the approval of the ICT Roadmap by Cabinet, I now have the blueprint to make this happen.

The first step Mr. Speaker, is the Creation of a new ICT Authority. This central ICT Authority, established by statute, will drive the ICT operations of Government. We are in the process of contracting a consulting firm to develop the process for transition to the ICT Authority. This process expected to be completed in the next 18-24 months.

The formation of the ICT Authority will be supported by the development and implementation of a new funding model for ICT. The inefficient and ineffective approach of funding ICT for each entity of the Government in isolation will be replaced, over time, with a holistic approach to funding the recurrent budget for ICT Service delivery. This will support the centralized model of delivering ICT as a shared service.

### Leadership in Government ICT – CIO, eGov and ICT Think Tank

Mr. Speaker, for governance to take root we must have sound leadership. The recruitment of a new Government CIO is far advanced and we are looking to complete this exercise in the very short term. I also want to acknowledge the stellar contributions of Dr. Louis Shallal the former CIO for his yeoman work during his time in the post.

Mr. Speaker we are also in the process of finalizing the recruitment process for a new CEO for eGov Jamaica. My information is that candidates have been shortlisted and interviews will begin this month.

Through the Office of the Chief Information Officer (CIO) in the MSET & e-Gov Jamaica Ltd. (e-GovJa):

- The GOJ's ICT Governance Framework was approved in 2016;
- The ICT Council was approved in April 2016

The e-GovJa continues to support effective ICT service delivery across the GOJ. Two (2) main strategies have been employed through the establishment of enterprise architecture and shared business models.

Finally, on the topic of leadership Mr. Speaker, By the end of this month we will be launching the GoJ ICT Think Tank. This is an eGov initiative geared at facilitating and generating ideas, market research and product concepts for government to citizen or government to business services.

### eGov Capacity Building

Mr Speaker in August of last year a joint MoU between the MoFPS and MSET valued at over JMD\$171 million dollars was signed. This injection of cash will be used to:

- enhance eGov's technical capacity
- help eGov to retool
- transform eGov into a better service delivery organization

### GovNET

Mr. Speaker for a very long time administrations have talked about "joined -up" government. It is my goal Mr. Speaker to make the concept of joining government a reality through the long-awaited creation of GovNET. GovNET will be the single wide area backbone network connecting all Government agencies and services. While we have been working over the course of several years to complete various aspects of the physical network in partnership with the National Works Agency, we have now engaged a specialist firm to provide the detailed design, equipment specification and costing of the network. This will be completed in four (4) months.

### Government of Jamaica Online Portal – Jamaica.gov.jm

While Jamaica last year saw improvements in our ICT rankings internationally, one of the factors that has, nonetheless, greatly hindered greater progression in those listings has been the absence of a single national on-line portal for the Government of Jamaica (GOJ). This is one of the signature characteristics of true e-Government.

I am happy to announce Mr. Speaker that in June of this year the long-awaited GoJ Portal will become a reality. This initial phase of the national portal will create a single point of entry to the GoJ with links to Government websites and services. During the second phase of the portal consultancy services will be used in the development of a Business Plan for the Portal, addressing matters such as long-term sustainability and phasing of the additional services and functionalities to be provided going forward.

### Jamaica Open Data Portal

**In July 2016, the MSET on behalf of the GOJ and its partners officially launched the Jamaica Open Data Portal** to make government data machine readable and more easily accessible online. This initiative was supported by the United Kingdom's Department for International Development in collaboration with the World Bank. **This move made Jamaica the first English-speaking Caribbean nation to launch an Open Data portal joining more than 40 such programs in the world.**

## Cyber Security

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Mr. Speaker, cyber security continues to be an area of primary importance to me and to the Ministry. Last year I issued instructions to conduct, for the first time, a security audit of all government websites and online services

Following the security audit of Government websites completed by eGov, with support from the CIRT, JCF and JDF, a web security policy for the Government is in the process of being developed and will be complete within the next six (6) months. In the meantime, efforts are currently underway to address vulnerabilities that were identified from the audit as immediate threats.

### Securing Access to Government Websites

Additionally, Mr. Speaker, an immediate measure that will be introduced this year is the **adoption of Secure Sockets Layer (SSL) Certificates or HTTPS, to secure all GoJ websites for the protection of all users of GoJ web services. Guidelines for the introduction of secure web access via Secure HTTP (https) will be issued for all MDAs this month with a mandate for full implementation by the end of FY2017/18.**

### The Cyber Incident Response Team

Mr. Speaker special mention must be made of the stellar work being done by the Cyber Incident Response Team (CIRT) headed by Dr. Moniphia Hewling. Since its launch the Jamaica CIRT has been promoting best practices to raise awareness of the risks that exist with use of technological devices as well as to help citizens guard against unsafe cyber practices.

### Cyber Security Public Awareness Programme

In July, the MSET in collaboration with the Jamaica Bankers Association (JBA) launched a cyber security public education and awareness campaign in an effort to:

- heighten awareness about the potential risks associated with using the Internet and social media platforms, and
- promote safeguards to reduce vulnerabilities.

The campaign is being supported by the JBA to the tune of \$15 million.

### Cyber Security Awareness Month

In keeping with the launch of its Cyber Security Awareness Programme, the Ministry through the Jamaica Cyber Incident Response Team (JA-CIRT) participated in several activities during October recognized internationally as Cyber Security Month. The activities culminated with a Cyber Security Awareness Day on October 31, 2016. The day featured several presentations from members of the constabulary and other cyber experts aimed at building awareness about human trafficking, cyber bullying, threats and dangers associated with internet and social media use among others.

### Cyber Standards Workshop

In November, the MSET partnered with the Commonwealth Telecommunications Organization and the Information Assurance for Small and Medium Enterprises (IASME) Consortium to host a Cyber Standards Workshop. This workshop provided participants with information on IASME/Cyber Essentials Standards, the aim of which is to assess the level of security in enterprises and provide assurances and improve the trust of customers, investors, insurers and others partners, so as to increase opportunities in on-line commerce. The workshop, which was held over two days, was attended by representatives from the private sector, consumer associations and Government Ministries, Departments and Agencies.

To ensure the creation and maintenance of a robust cyber security framework for Jamaica the CIRT continues to actively participate in ensuring the following;

- Ensuring that the committees of the National Cyber Security task force remain active.
- Timely Implementation of the National Cyber Security
- Work with the private sector and other critical infrastructure to ensure cooperation in the sharing of relevant information and voluntary reporting of threats
- Building trust with MDAs and private citizens by ensuring timely and confidential response and initial investigation of incidents

- Ensure that international best practices, policies and standards are followed and maintained by GOJ MDAs as well as private companies doing business with Government.
- Facilitation of local and international workshops/trainings/seminars related to cyber security, forensics and standards
- Being a central and reliable point of contact for international bodies of a similar nature when there is a threat originating in Jamaica that affects other jurisdictions
- Lead project proposals for the development of cyber security in Jamaica

With all of that Said Mr. Speaker, we are still a far way from where we need to be and the CIRT currently does not have the resources or staffing it needs. I want to use this opportunity to call on my colleague Minister of Finance to help us to get the resources we need in the form of the **requested staffing and post approvals for this critical entity.**

## **YEDAI – Bolstering the Animation and Tech Ecosystem**

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### Animation - Creative Industries Education and Employment Programme

Mr. Speaker, tomorrow the **Youth Employment in the Digital and Animation Industry (YEDAI) Project** of the **Ministry of Science, Energy and Technology (MSET)** will officially launch the **Creative Industries Education and Employment Programme (CIEEP)**. This program Mr. Speaker with an estimated investment of US\$779,000.00, will to equip 150 Jamaican animators with industry-standard training. Initiatives such as these signify the direction in which Jamaica's technology and animation industries are going. Demonstrating that we are not only consumers, but producers of international-industry-level animation is indeed a step in the right direction.



# Science



# Science

Now on to the Science portfolio Mr. Speaker.

Last year I highlighted the fact that as a country we have failed to use scientific research to drive our decision-making processes. Countries like Singapore, South Korea and Costa Rica have made significant economic advances within the last 40 years, and have done so primarily on the basis of investment in Science, Technology and Innovation (ST&I). **I also made mention Mr. Speaker, of a worrying metric, less than 1% of GDP is spent on Research and Development (R&D). In fact, Mr. Speaker on closer analysis, it is less than 0.1%.**

Mr. Speaker, countries that are experiencing prosperity or exponential growth have one thing in common; specific policy directives to increase investment R&D. In fact, econometric studies estimate that the return on investment in R&D range from 20% to 40%.

Mr. Speaker deliberate action must be taken to fix this dilemma.

## Finalization of the ST&I Policy

We have been hard at work Mr. Speaker. **A draft Science Technology and Innovation Policy (ST&I) has been tabled at the ST&I Thematic Working Group of Vision 2030.** The policy envisages *“a dynamic STI culture, unleashing the creative potential of our people, catalyzing development and sustainable prosperity and empowering Jamaicans to excel in an evolving world.”*

Mr Speaker, this cross cutting policy will prescribe the mechanism by which we solve our problems such as crime, environmental degradation and food insecurity. But it will also guide us in exploring and exploiting our competitive advantage such as culture, nutraceuticals, tourism and sport. We look forward to engaging each ministry, within the next few weeks, to discuss how the policy should advance Jamaica's priority sectors. Under the guidance of policy development experts from Vision 2030 a second draft will be tabled for **Cabinet in May**. Thereafter it is full speed towards promulgation during **Science Month this November**.

## The National Science and Technology Fund

With that said Mr. Speaker, I am personally elated to announce to this honourable house that come tomorrow I will refocus Jamaica's acknowledgement of the importance of science by launching the **National Science and Technology Fund**. It is a national fund that will support high impact, mission-based projects in your organizations. We will fund research and technology that have the greatest potential to create more jobs, new products, cleaner environments, and safer communities. The Fund will also support:

- technology transfer from innovators to industry and service sectors

- intellectual property support
- human resource development and
- popularization of science

Mr. Speaker in keeping with my mantra of action and not just talk, **the fund has already started to do work. Its first task is to support the joint collaboration in Science and Technology (S&T), between South Africa & Jamaica.** Under this cooperation agreement we hosted the South African Minister of Science and Technology, Grace Naledi Pandor and her delegation in November of last year. At that meeting we agreed to partner in conducting high quality research with an emphasis in indigenous knowledge systems and water.

As such Mr. Speaker, I am pleased to announce that tomorrow I will also **officially open this Joint Research Collaboration Call that will make approximately J\$90 million available to Jamaica's scientific community over the next 3 years.**

### Science and Technology Parks

Mr. Speaker, the ability of a nation to promote sustainable economic growth depends heavily on the ability of the nations to improve innovation. Globally the establishment of science and technology parks are important economic adaptations toward sustainable economic growth. **One in which the catalysis of economic transformation drives growth and enhances stability. Science and Technology parks:**

- act as a nexus between business and science
- promote innovation based economic growth
- play a significant role in knowledge and technology transfer into market
- promote and contribute to local and regional economic development
- facilitate the emergence of new technology-based companies
- bring together local and international capacities from universities, R&D institutions, startups, and corporations etc. to generate new high value-added products for global consumption

**Therefore Mr. Speaker, in this fiscal year the Government of Jamaica will undertake a feasibility study to determine Jamaica's readiness for establishing a science, technology, research and innovation park. We will take a collaborative approach that will be facilitated through a PPP with a US-based entity.** The study will detail an assessment of Jamaica's industries, technology capabilities and challenges that influences the development of the park. Further, it will provide relevant documentation that will provide guidance to GOJ to make the next strategic steps to determine the capacity development needed to take place in short order and position this country to reap the benefits of our scientific and technological capacities for national

development.

### Standardization of the National Nutraceutical Industry

Mr. Speaker let me quickly highlight 2 things here in relation to the Nutraceutical Industry .

1. A draft Submission is in the final stages of preparation in collaboration with the Ministry of Health and will be presented to Cabinet in short order to ensure local enterprises involved in the manufacture of products characterized as Nutraceuticals will be monitored under an approved regulatory framework
2. It is important to note that the medicinal marijuana industry is in fact the production of Ganja nutraceuticals. With the passing of the Dangerous Drug Act, 2015 my ministerial counterpart approved 2 R&D orders and in my short term before handing over to the CLA I further granted and approved 2 orders for R&D. Since the handing over nothing has happened and the development of the industry is at risk. I therefore intend to reinforce under my ministry the issuing of orders for R&D as a means of getting us back on track towards making Medical Marijuana the major industry it is touted to become.

## Closing

In closing Mr. Speaker, Jamaica is uniquely poised to propel itself to regional leadership and a staggering level of economic growth and superiority.

Our aim is to build a modern Jamaica through a modern grid that can evolve to meet the demands of our growing economy. Through technology innovation to make us a leader in the Caribbean. Through a renewed focus on science to build a platform for innovation. Mr. Speaker we are building a modern Jamaica at the Ministry of Science Energy and Technology and it is my intention and hope to achieve this in my lifetime.

My God bless this parliament, our people and Jamaica land we love

Thank you