



# ANNUAL REPORT

2016

DEPARTMENT OF ENERGY  
MINISTRY OF CLIMATE CHANGE & NATURAL DISASTERS





This document comprises of a collection of reports submitted by responsible officers of different programs within the Department of Energy and compiled by the Director. These reports are against the 2016 Business Plans as required by PSC through the Director General's office of the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management.



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# DOE MAJOR ACHIEVEMENTS

## YEAR AT A GLANCE

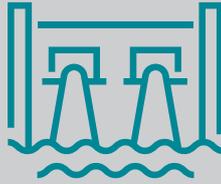
15



**staff** at the  
Department of  
Energy (DoE) **2016**

74

**households connected** to  
a pico-hydro system



691

**households connected**  
under VREP, 3247 of which  
were people and 50  
community halls



1,000+



**views** on  
[www.doe.gov.vu](http://www.doe.gov.vu)

7

**radio awareness**  
campaigns conducted



1,972

**million VT**  
Total Project Funding

Total of

8

**projects managed** by the  
Department of Energy



Connected over

771

households to the grid with  
GPOBA project



**NERM**

2016 - 2030

Updated National  
Energy Road Map  
launched



VT

27.6M

total Government  
Budget Allocation

2 solar farms adding

767kW

to the grid



Staff Recruitments

1 new  
director



2 project  
officers

Young Department  
with



under the age of 40

**NEW**

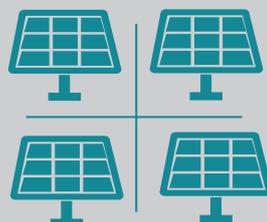
DoE Office Design  
finalized + tendered



Completion of

5

biodiesel micro-grid projects  
on Ambae & Vanua Lava



500+

likes on social media



# SECTION ONE

## OVERVIEW OF THE DEPARTMENT OF ENERGY



### REVIEW OF 2016 BY THE DIRECTOR

The year 2016, without realizing, was just like a blink of an eye consumed by very hectic schedules and activities. As usual the Department continues to commit itself to fulfill its obligations and deliver the targets for the Energy sector as reiterated in the National Energy Road Map (NERM) 2013-2020.

Post cyclone Pam in 2015, Climate Change and Energy, seen as a remedy for Climate Change issues, have become one of the global agenda in these days, especially after COP 21- Paris Agreement where out of 194 countries that signed the Agreement, only 132 ratified including Vanuatu as of the 21st September 2016. With this particular commitment, we could see a lot of effort and focus made to the energy sector as compared to previous years.

New projects continue to emerge as most bilateral and multilateral partners see energy as a flagship program for them. Major projects began implementation and some have been successfully commissioned as reflected in this Annual report. We celebrate to see more families in the rural and urban areas of Vanuatu connected to electricity in 2016 and their testimonies of these achievements are the outcomes of the dedicated work of the staff and consultants of the Department, and the private sector who have contributed significantly to energy development in Vanuatu.

With an increase in the recurrent budget compared to 2015, the Department managed to recruit two permanent staff, the Manager Finance, Procurement and Administration and the Driver-Messenger. Additional human resources were provided as local consultants to manage or coordinate the various development partner funded projects. These additional resources have boost the pace of delivering projects and contributed immensely to building the capacity of the young team of the Department. It is promising to see the local consultants building capacity of their country fellows.

As one of the key achievements for 2016, the NERM 2013-2020 was successful updated and launched in October 2016 by the Honorable Minister for Climate Change. The update now provides a more realistic vision of the energy sector priorities, updates to date of each sector priorities and a clear roadmap of investment that would enable the Government through the Department and private sector to successfully deliver its set targets in the NERM.

It has truly been a busy year and I applaud all the staff and consultants of the Department for the effort and support provided to this Department. I look forward to another year of more achievements in 2017.

## ABOUT DEPARTMENT OF ENERGY

The Department of Energy (DoE) is one of the Departments under the Ministry of Climate Change Adaptation, Meteorology, Geo-hazards, Energy, Environment and National Disaster Management Office. Its mandate is vested in Vanuatu's National Energy Roadmap (NERM) and the activities, policies, programs and projects implemented by the Department all contribute to achieving the policy priorities and targets stipulated in the NERM. DoE's role is beyond policy and legislative development for an effective energy sector. As part of its ongoing responsibilities, the DoE also identifies, implements, manage and evaluate and monitors energy programs including projects hence the composition of its staffing resources are a reflection of this multitasking role.

### 1. Vision

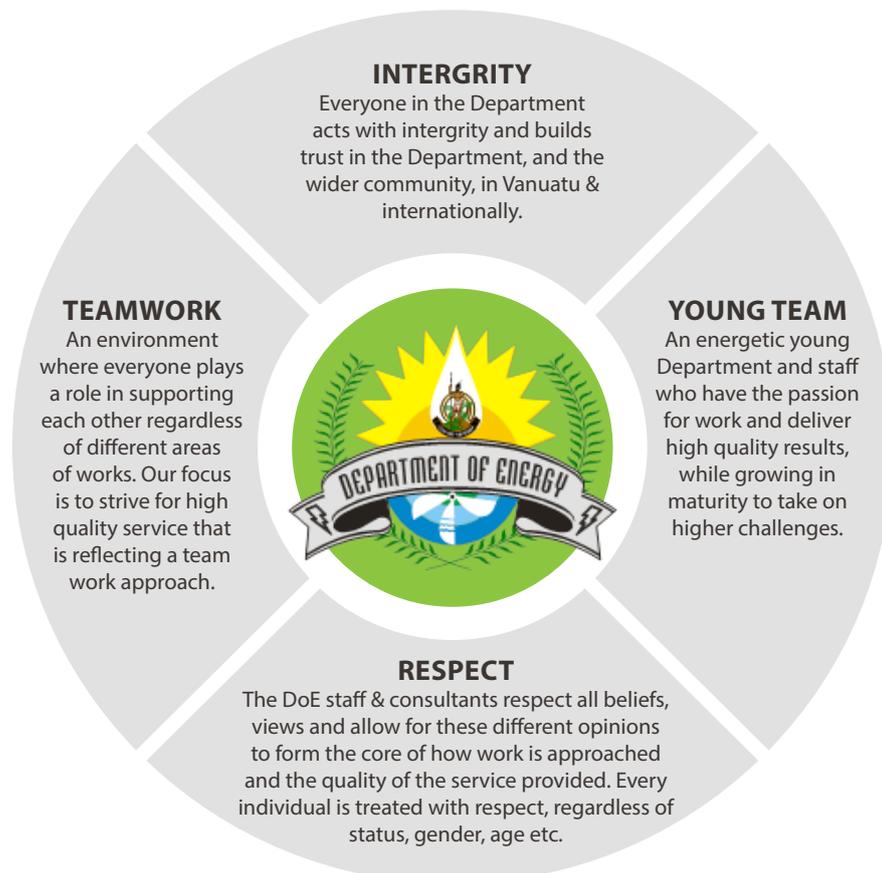
The vision of the DoE is the vision of the NERM, which is "to energise Vanuatu's growth and development through the provision of secure, affordable, widely accessible, high quality, clean energy services for an Educated, Healthy and Wealthy Nation".

### 2. Mission

DoE's mission is "an Effective, Equitable and Efficient Energy Sector", the mission of the NERM.

### 3. Principles

The four main guiding principles of the DoE and operation of the Department and its staff.



The four main guiding principles of the DoE and operation of the Department and its staff.

#### **4. Objectives**

The DoE's objective is to ensure that all residents of Vanuatu have access to clean and affordable power, and energy is efficiently utilized. This will be achieved through the following:

- An enhance service delivery by the department;
- Explore greater diversity of energy sources;
- Improve current access to electricity;
- Advance energy efficiency and conservation methods;
- Strengthen energy linkages with other Government stakeholders, industries, private sector and communities to achieve better developmental outcomes; and
- Promote a reliable, secure and affordable petroleum and gas supply chain to residents of Vanuatu.

#### **5. Six Areas of Responsibility**

The DoE is the main Government arm for all matters relating to the energy sector. This includes but is not limited to

- energy policies
- energy legislations
- electrification
- petroleum
- energy efficiency & conservation
- energy advocacy and trainings

**1. ENERGY POLICIES**

**2. ENERGY LEGISLATIONS**

**3. ELECTRIFICATION**

**4. PETROLEUM**

**5. ENERGY EFFICIENCY & CONSERVATION**

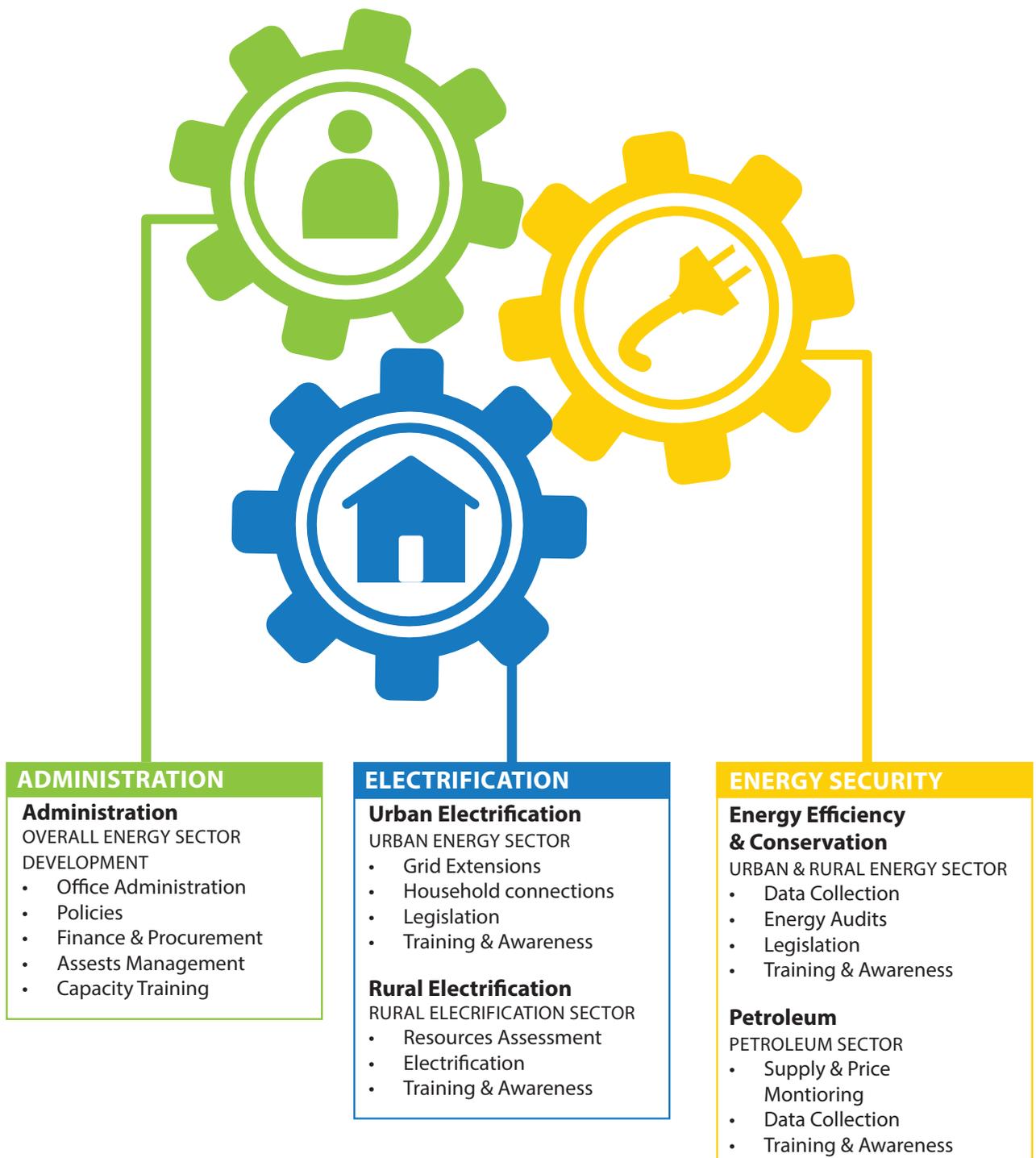
**6. ENERGY ADVOCACY & TRAININGS**

## 6. Programs, Functions and Sectors Served

The DoE has three (3) units:

1. Administration, Finance & Procurement;
2. Energy Security Unit; and
3. Electrification Unit.

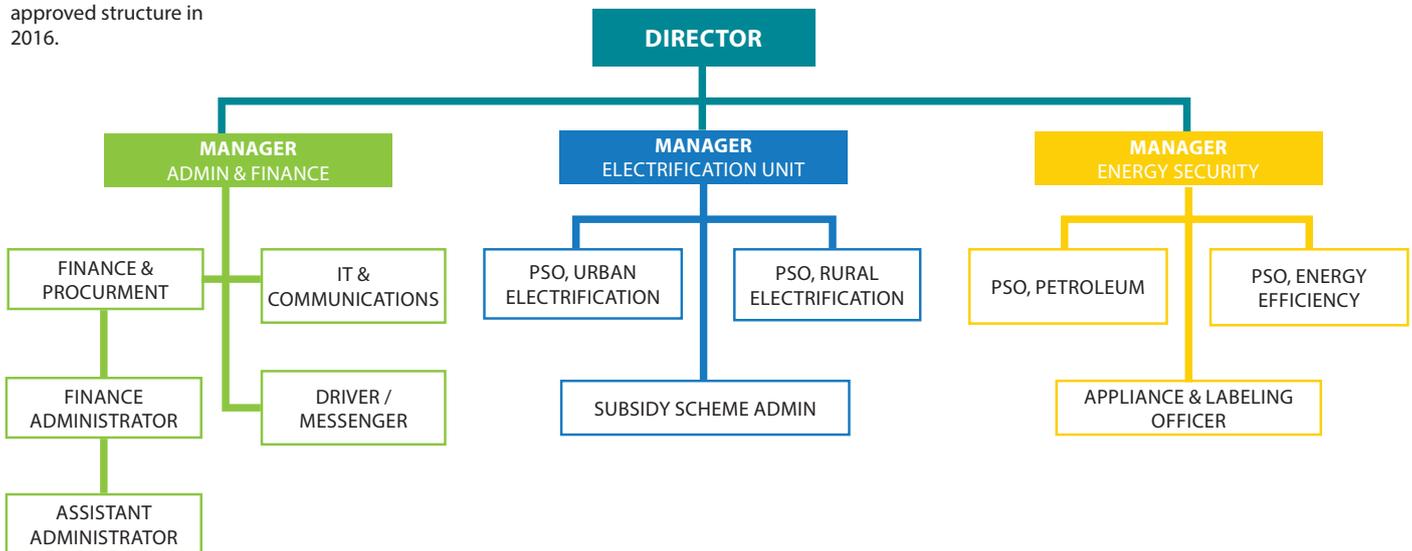
There were six (6) main programs under these three units, namely; Administration, Energy Efficiency & Conversation, Petroleum, Subsidy Scheme, Rural Electrification and Urban Electrification. The Table below shows the functions for these 6 programs



## 7. Structure and Staff

While there were 15 established positions in the DoE structure in 2016, only 7 positions were filled by permanent staff. Table below lists the names of the staff in permanent positions. While the Director position was filled in 2016, the move of Mr Garae resulted in the PSO Urban Electrification left vacant. As a result, all activities relating to urban electrification were carried over by the Director. In addition, the retirement of Manager, Energy Security later in 2016 also left the responsibilities having to be shared within the staff of the Department. On the positive side, the move by the former Project Finance Officer to the Manager, Admin and Finance position was a smooth transfer resulting in the section further strengthened. Project finances were also not affected as the Manager, Admin and Finance position also has an oversight responsibility over project finances.

Figure 1 (right)  
Schematic of the DoE  
approved structure in  
2016.



DoE in 2016 was also heavily staffed with consultants recruited on contract to support the implementation of a number of projects and programs. In most cases, these contracted officers also performed responsibilities of permanent positions while also undertaking their contracted services. While this is not usually expected, this approach created a stronger team approach to work and within the Department and thus, obligations required by DoE was completed, depicting to public of a strong capacity within DoE. It is also equally important to note that assigning DoE responsibilities to contracted staff is a strategy to also expose them to roles in permanent positions and thus could enable them to move into permanent positions once advertised.

**Table 2: Permanent DoE Staff**

|   |   |
|---|---|
| <b>Anthony Garae</b>                            |   |
| <b>DIRECTOR</b>                                 | Male<br>Administrative head of the DoE, responsible for its overall coordination and management of the core programs.<br>Appointed as Director of the Department of Energy in late 2016.<br>Date of entering PSC October 2013 |
| <b>Emma Mala</b>                                |   |
| <b>FINANCE ADMINISTRATOR</b>                    | Female<br>Assisting the Finance & Procurement Officer in the administrative and financial matters of the DoE to comply with policies and relevant laws.<br>Date of entering PSC June 2000                                     |
| <b>Kathy Kanas</b>                              |   |
| <b>FINANCE &amp; PROCUREMENT</b>                | Female<br>Responsible for managing Finance & Procurement for the DoE.<br>Currently on Study Leave.<br>Date of entering PSC December 2013  |
| <b>Leo Moli</b>                                 |   |
| <b>ENERGY SECURITY MANAGER</b>                  | Male<br>Permanent staff, but later retired in 2016<br>Date of entering PSC February 1982  |
| <b>Terry Mael</b>                               |   |
| <b>PSO PETROLEUM</b>                            | Male<br>Responsible for managing all petroleum related activities in Vanuatu.<br>Date of entering PSC October 2013  |
| <b>Joseph Temakon</b>                           |   |
| <b>PSO ENERGY EFFICIENCY &amp; CONSERVATION</b> | Male<br>Responsible for all energy efficiency & conservation programmes.<br>Date of entering PSC January 2014   |
| <b>Christopher Simelum</b>                      |   |
| <b>PSO RURAL ELECTRIFICATION</b>                | Male<br>Responsible for planning and management of off-grid activities and technical advice on stand-alone rural energy systems.<br>Date of entering PSC January 2014   |

**Table 3: Contract Staff of DoE**

|  |   |
|--|---|
| <b>Hellen Wilson</b>                               |   |
| <b>PROJECT FINANCE OFFICER<br/>FINANCE MANAGER</b> | Female<br>Originally recruited on contract under ESDP funding since March 2015, and was later appointed DoE Finance Manager<br>Date of entering PSC March 2015                      |
| <b>Brett Rakau</b>                                 |   |
| <b>IT &amp; COMMUNICATIONS</b>                     | Male<br>Website development and management, DoE database and awareness campaign support. Contract funding from ESDP<br>Date of entering PSC November 2015                           |
| <b>Elizabeth Waiwai</b>                            |   |
| <b>FINANCE ADMINISTRATOR</b>                       | Female<br>Provide prompt and professional administrative support to the project consultants. Contract funded by ESDP<br>Date of entering PSC September 2014                         |
| <b>Paul Kaun</b>                                   |   |
| <b>GGGI NATIONAL EXPERT</b>                        | Male<br>Leads engagement with the Ministry of Climate Change and other key government agencies and consultant teams in country. Contract with GGGI. Date of entering PSC March 2015 |
| <b>Willie Wilson Lewa</b>                          |   |
| <b>PALS SUPPORT OFFICER</b>                        | Male<br>Contract funding from PALS-SPC.<br>Date of entering PSC August 2016   |
| <b>Leith Veremaito</b>                             |   |
| <b>VREP PROGRAM MANAGER</b>                        | Male<br>Planning development & management of VREP, reporting to The World Bank energy sector programs.<br>Date of entering PSC September 2015                                       |
| <b>Jerry Lapi</b>                                  |   |
| <b>GPOBA INDEPENDANT VERIFICATION AGENT</b>        | Male<br>Contract and did not renew contract towards the end of 2016<br>Date of entering PSC November 2014   |

|  |   |
|--|---|
| <b>Joshua Nari</b>                     |   |
| VREP INDEPENDANT<br>VERIFICATION AGENT | Male<br>Verification of beneficiaries, vendor products under the VREP Phase 1.<br>Date of entering January 2016 |
| <b>James Alick</b>                     |   |
| PROJECT OFFICER                        | Male<br>Contract did not renew 2016   |

## 8. Funding Basis

For permanent Officers, their personnel emoluments were being met from the 2016 recurrent budget allocation. For contract officers, their remunerations were being met from respective development partner funded projects.

Goods and services of the Department were met from both Government recurrent budget as well also allocations from some of the project funding.

Breakdown of Total allocation from Government Recurrent Funding:

|   |                      |
|---|----------------------|
| Personnel Emoluments                      | 22,298,856 VT        |
| Operations (goods & services)             | 5,357,836 VT         |
| <b>Total Government budget allocation</b> | <b>27,656,692 VT</b> |

For Projects, Table 4 below provides the lists of ongoing, implemented, managed or monitored by the DoE team in 2016.

Note that total amount of donor funded projects is quite significant for a newly created Government institution to manage and the roles of contracted staff was important to ensure that these projects continue to be implemented to support Vanuatu's development. In addition to these ongoing projects, DoE team were also heavily involved in developing policies and legislations to create the platforms for the sustainability of these projects and those in pipeline.

**Table 4: List of Projects managed by the Department of Energy**

| Project  | GIP Code | Donor  | Amount VT                  | Status         |
|--|----------|--|----------------------------|----------------|
| Global Partnership on Output Based Aid (GPOBA)                           | 14D363   | World Bank   | 400 million                | Ongoing        |
| Energy sector Management Assistance Program (ESMAP)                      | 14B963   | SIDS fund through the World Bank                                   | 100 million                | Ongoing        |
| Talise Micro Hydro Project Phase II                                      | 091263   | Italian Fund through IUCN  | 20 million                 | Ongoing        |
| Pacific Appliances & Labeling Standards (PALS)                           | 13D163   | SPC  | 8 million                  | Ongoing        |
| Technical Advisory Services to Department of Energy                      | 16B263   | Government of Australia Fund managed through Governance for Growth | 65 million                 | Ongoing        |
| Solar PV Grid Connected Systems for Parliament Complex and Meteo Complex | 14C963   | UAE  | 500 million                | Completed 2015 |
| Vanuatu Rural Electrification Project (VREP I)                           | O91263   | New Zealand funding managed by World Bank                          | 470 million                | Ongoing        |
| Biofuel Projects for Malampa, Penama & Torba                             | 13A464   | European Union GoV   | 191 million<br>218 million | Ongoing        |
|  |          |  | 1,972million               |                |

## 9. Ministry and Policy Framework

### MINISTRY, MINISTER AND DIRECTOR GENERAL

As compared to previously where the Ministry of Climate Change was under the leadership on a number of Ministers, 2016 was a more stable period. The Ministry was only under leadership of one Minister since his appointment in early 2016. A Parliamentary Secretary for Climate Change was established and an experienced former Director of the Department of Environment, Protection and Conservation was appointed to that position but later the changes in personnel did not affect much the Ministry and the DoE.

DoE however, was fortunately to have its former Director appointed to the Director General position for the Ministry. This proved quite useful for the Department unfinished and major activities planned under his Director leadership were continually carried on and supported from the DG's level. Furthermore, this allowed for the Power On-grid offices to be appointed into the Directorship role thus further reinforce the capacity within the Department.

## **POLICY FRAMEWORKS - NATIONAL, REGIONAL & INTERNATIONAL**

The Government policies that guided the work of the Department in the period January to December 2016 were:

1. National Energy Road Map 2013 – 2020
2. Updated National Energy Road Map 2016 - 2030
3. Priorities & Action Agenda 2006 – 2015, Chapter 9.4
4. National Energy Policy of 2007
5. Rural Electrification Policy of 2003

The National Energy Road Map (2016-2030), in particular is the policy document for the DoE. The updated version which was developed and finalized in 2016 was a review of the energy sector achievements and status to date and provided a road map going into 2030 and able to achieve the targets. These targets fed into the National Sustainable Development Plan (NSDP) that was developed as the overarching national policy for the Vanuatu Government.

In addition, 2016 also saw the new Government develop its 100-day plan. The plan documented what was to be achieved within 100 days from their appointment. For DoE, a number of important activities were listed to be achieved, all of them were achieved within the required timeframe in 2016.

## **ABOUT THIS REPORT**

This 2016 Annual Report outlines the activities and projects implemented by DoE in the 2016 calendar year and reports on the achievements from implementing the activities.

### **1. Reporting Requirements**

This Annual Report is a requirement from the Public Service Commission for all institutions to provide on an annual basis.

### **2. Reporting Processes**

The Annual Report comprises of a collection of feedbacks from all the staff of DoE and the contractors. This report is a reporting against the 2015 Business Plan as required by PSC through the Director General's office of the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management.



# SECTION TWO

## PERFORMANCE IN 2016

### DEPARTMENT PERFORMANCE OVERVIEW

The Department of Energy's performance in 2016 can be seen in the amount of projects completed. The details are as follows.

|   |  |
|---|--|
| <b>Institutional</b>                        |  |
|   | <ul style="list-style-type: none"> <li>• Appointment of the new Director of DoE</li> <li>• Finalisation of a new design of DoE building and completion of the tendering of the works</li> </ul>  |
| <b>Policy</b>                               |  |
|   | <ul style="list-style-type: none"> <li>• Revision, Finalisation, Printing, Launch (October 2016) and Distribution of the updated Vanuatu National Energy Road Map 2016-2030</li> </ul>   |
| <b>Programs/Functions</b>                   |  |
| <b>Administration</b>                       | <ul style="list-style-type: none"> <li>• Appointment of a permanent staff to the Manager, Finance, Procurement and Administration</li> <li>• Recruitment of two (2) Project Officers – VREP Independent Verification Agent and PALS Project Officer</li> </ul>   |
| <b>Energy Efficiency &amp; Conservation</b> | <ul style="list-style-type: none"> <li>• Bill for the Energy Efficiency of Electrical Appliances, Equipment's and Lighting Products Act of 2016 developed and approved by Parliament</li> <li>• Two (2) Energy Audit Report published for the Vanuatu Police Force &amp; Northern District Hospital</li> </ul>   |
| <b>Petroleum</b>                            | <ul style="list-style-type: none"> <li>• Successful Regional Workshop in Energy, Efficiency &amp; Maritime Transport which agreed on the directions for consideration by the Pacific Regional Energy and Transport Ministers meeting in Tonga on April 2017.</li> </ul>  |
| <b>Off-grid Electrification</b>             | <ul style="list-style-type: none"> <li>• VREP officially launched and products sold by two (2) approved vendors</li> <li>• 691 households (approx. 3,247 people) obtained access to electricity through VREP I</li> <li>• 50 community halls throughout Vanuatu provided access to electricity via VREP I</li> <li>• 74 households of Loltong community obtained access to electricity through Loltong pico-hydro system</li> <li>• An additional NZ\$7m allocated by New Zealand MFAT towards rural electrification in Vanuatu</li> <li>• Feasibility study document for Renewable Energy for Small Remote Islands finalized and distributed</li> </ul> |

|                                |   |
|--------------------------------|---|
| <b>On-grid Electrification</b> | Over 771 households connected to main grid on Luganville, Tanna, Efate and Malekula since the commencement of Global Partnership Outputs-Based Aid (GPOBA) Program  |
| <b>Subsidy</b>                 | <ul style="list-style-type: none"> <li>• Over 700 VREP products roles through subsidy</li> <li>• Over 771 Grid customers connected through subsidised GPOBA funding</li> </ul>  |
| <b>Outreach</b>                |   |
|                                | <ul style="list-style-type: none"> <li>• DoE twitter, Facebook and VREP Facebook sites created</li> <li>• Over 500 viewers; 20 followers of twitters</li> <li>• VREP webpage created and published</li> <li>• VREP awareness completed on islands of Santo, Malo, Aore, Ambae, Tanna, Malekula, Vanua Lava, Mota Lava, Emae, Nguna and Pele</li> <li>• Over 7 radio awareness (including Tok-Back show) on VREP and renewable energy</li> <li>• Over 10 awareness conducted on PALS to public and schools throughout Vanuatu</li> <li>• Combined VREP, GPOBA and PALS to communities on Malekula</li> </ul> |
| <b>Infrastructure</b>          |   |
|                                | <ul style="list-style-type: none"> <li>• Completion of the installation on Loltong pico-hydropower project</li> <li>• 767 Kilowatt grid connected solar farms (Parliament Building and Meteo complex) operational after launch in early 2016</li> <li>• Signing of 1st Power Purchase Agreement (PPA) between Government of Vanuatu and UNELCO</li> <li>• Completion and commissioning of the five (5) biodiesel micro-grids on Ambae and Vanua Lava (i.e. Sola, Mosina, Saratamata, Lolowai and Longana Airport)</li> </ul>  |
| <b>People</b>                  |   |

- Three (3) new Project Officers recruited to assist Project implementations
- Former Project Finance officer appointed to Manager, Finance, Procurement and Administration

## International Meetings/Workshops

- Intended Nationally Determined Contribution (INDC) workshop in Brussels (Joseph and Antony)
- IRENA 6th General Assembly, Abu Dubai (Antony)
- IRENA Innovation week – Bonn, Germany (Antony)
- Training Program to support Renewable Energy Deployment in the Asia and Pacific Island Nations, Tokyo, Japan (Chris)
- Pacific Regional Capacity Building Workshop on Energy Service Companies, Suva, Fiji (Antony & DG Jesse)
- Regional Dialogue on INDCs for the Pacific Islands, Nadi, Fiji (Joseph and Antony)
- Regional Efficient Lighting Meeting, Bangkok, Thailand (Joseph)
- Monitoring and Evaluation training, Canberra, Australia (Helen)
- Join SPC APEC Regional Workshop on Energy Statistics for modeling for SDG, Nukualofa, Tonga (Antony)
- Training on Minimum Standard Energy Performance Standards and Labeling Standards, Suva, Fiji (Alfred and Joseph)
- Annual OPA Oil Spill Exercise, Pago Pago, American Samoa (Terry)
- Field Study on Deployment of RE and integrations into local grids, Honolulu, Hawaii (Leith and Chris)
- Energy Planning Meeting, Suva, Fiji (Antony, Paul, Chris, Joseph, Helen and Gregoire Nimbtik)
- Regional ISAC Meeting, Nadi, Fiji (Chris)
- Annual Clean Energy Forum, Manila, Philippines (Emma)
- Pacific Energy and International Maritime Organization (IMO) meeting, Port Vila, Vanuatu (Terry)

## Finances

## 2016 PRIORITY ACTIVITIES AND RESULTS

Programs and Objectives required by the 2016 Business Plan and results are summarized in the table below and commentary provided in the following text.

**Table 6: Department Business Plan Results**

| Programs & Target   | Result & Summary  |
|---|---|
| <p><b>Administration</b></p> <ul style="list-style-type: none"> <li>• Ensure an Enabling Working Environment</li> <li>• Strengthen Policy Planning &amp; Legislative Framework Ensure Timely &amp; Quality Reporting</li> <li>• Strengthen Institutional Capacity</li> </ul> <p><b>Additional achievements beyond the Business Plan</b></p> | <ul style="list-style-type: none"> <li>• Design of new DoE building and costing finalised and submitted for tender</li> <li>• Funding for the new office was secured and tender commenced.</li> <li>• Updated NERM finalised, printed, launched and distributed</li> <li>• Reviews completed on the Electricity Supply Act, URA Act, Geothermal Act, Petroleum Act Waste Management Act</li> <li>• Draft concept for the National Green Energy Fund issued for review by Government and stakeholders</li> <li>• Staff appraisals; project reports; mission reports ad 2015 Annual Report were all completed and submitted</li> <li>• Director and Manager, Finance and Procurement were recruited while interviews for driver were completed and submitted to PSC</li> <li>• Train the trainer training for women on Tanna was successfully conducted and all women who attended were well trained on pico-solar management</li> <li>• Standard report templates for DoE were completed and staff commenced using the template.</li> </ul> <hr/> <ul style="list-style-type: none"> <li>• A finger print register machine was installed in the Department to accurately record attendance</li> <li>• Over 3 general radio awareness were done on renewable energy for the Vanuatu public</li> </ul> |
| <p><b>Energy Efficiency &amp; Conservation</b></p> <ul style="list-style-type: none"> <li>• Ensure Effective Enforcement of the Legal Framework on Energy Security</li> </ul>   | <ul style="list-style-type: none"> <li>• Bill for the Energy Efficiency of Electrical Appliances, Equipment's and Lighting Products Act of 2016 developed and approved by Parliament</li> <li>• Two (2) Energy Audit Report published for the Vanuatu Police Force &amp; Northern District Hospital</li> <li>• Over 10 awareness conducted on PALS to public and schools throughout Vanuatu</li> </ul>  |

|   |   |
|---|---|
| <p><b>Petroleum</b></p> <ul style="list-style-type: none"> <li>• Support Reliable Options for Cost Savings in Petroleum and Gas Supply Chain</li> </ul>   | <ul style="list-style-type: none"> <li>• A memorandum of understanding between DoE and NETOIL was signed</li> </ul>   |
| <p><b>Additional achievements beyond the Business Plan</b></p>  | <ul style="list-style-type: none"> <li>• Biogas project feasibility study on Onesua Presbyterian College completed and design underway</li> </ul>   |
| <p><b>Rural Electrification &amp; Subsidy</b></p> <ul style="list-style-type: none"> <li>• Increase Households, Aid Posts and Community halls access to Electrification in Off-grid Areas</li> <li>• Improve Affordability in off-grid Areas</li> </ul> | <ul style="list-style-type: none"> <li>• VREP I launched successfully and 2 vendors approved to sell VREP products</li> <li>• 74 households connected to Loltong pico-hydropower systems</li> <li>• 50 community halls connected via VREP</li> <li>• 691 households (approx. 3,247 people) access electricity via VREP products</li> <li>• Over 50 sites identified and visited to assess their hydropower potential</li> <li>• Contract for electrical reticulation systems for Talise micro awarded</li> <li>• Over 300 meter boxes installed on Vanualava and Ambae via Biofuel project</li> <li>• Five (5) VREP subsidy claims processed</li> </ul> |
| <p><b>Additional achievements beyond the Business Plan</b></p>  | <ul style="list-style-type: none"> <li>• VREP II preparation documents finalised and submitted to the World Bank for submission to development partners;</li> <li>• A draft Green Climate Fund (GCF) proposal developed and shared with Government of Vanuatu</li> <li>• Wintua &amp; Lorlow villages on South West Malekula and Melsisi on Pentecost identified as potential for mini-grid systems to be funded through Austrian Government</li> </ul>   |
| <p><b>Urban Electrification &amp; Subsidy</b></p> <ul style="list-style-type: none"> <li>• Increase Household Access to Electrification in Concession Areas</li> <li>• Improve Affordability in Concession Areas</li> </ul>                             | <ul style="list-style-type: none"> <li>• Over 771 new household connected via GPOBA program since program commenced</li> <li>• Contract for Transaction Advisory Service support to the tender of Luganville awarded and team commenced assignment</li> <li>• Request for Qualifications (RPQ) for the Tender of Luganville issued</li> </ul>   |
| <p><b>Additional achievements beyond the Business Plan</b></p>  | <ul style="list-style-type: none"> <li>• A grid stability report undertaken for Luganville electricity concession and a separate one commissioned by UNELCO for Port Vila.</li> <li>• Feasibility study on viability of Sarakata River hydropower to receive additional generation capacity completed and submitted to Government</li> </ul>  |

### DEPARTMENT BUSINESS PLAN

#### To Enhance Service Delivery of the Department

Following the amendment of the Department of Energy structure in August 2015, the DoE received a supplementary budget in 2016 for recruitment. In April 2016, the Director General of MoCCA appointed all Officers acting on the positions into the positions in the new structure. In November 2016, the process of recruitment for 4 posts were advertised:

- Electrification Manager
- Finance & Administration Manager
- PSO Urban Electrification
- Driver & Messenger.

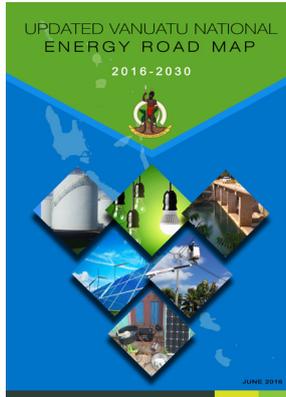
The post of Finance & Administration Manager was successfully recruited while the other 3 posts will be completed in the first quarter of 2017.

**Figure 2:** DoE staff at end of year function



In addition, a number of contracted officers were also recruited, particularly the Junior IVA for the VREP, Project Officer for PALS and Project Coordinator for ACSE Project. Other contract officers also had their contract extended. Unfortunately during this period, DoE also lost the former PALS Project Officer and GPOBA IVA and this impacted on the workload of the Department. Nevertheless, the Department was able to cope with the loss and able to reprioritize its resources and successfully continued the tasks required under the positions.

In an effort to align newly proposed Energy Sector strategic plans with the Government's National Sustainable Development Plan (NSDP- The People's Plan), the DoE updated the National Energy Road Map to capture recent developments in the sector, create new Energy Policy Objectives and incorporate Green Growth to support key economic sectors such as Tourism and Agriculture. The updated NERM (2016-2030) was prepared



by the Department and supported by consultants. This was a huge achievement for the DoE as it gave the opportunity for key energy stakeholders including development partners a view of energy partnership and growth for the next 15 years.

The transformation of the energy sector also required the Department of Energy to conduct review to the existing legislations. The DoE engaged a consulting firm to review the Electricity Supply Act, URA Act, Geothermal Act, Petroleum Act and the Waste Management Act. These reviews have been submitted to the State Law Office for legal reviews and will be submitted to the CoM for endorsement.

## Improve Access To Electricity

Access to electrification are categorized into two parts:

### 1. Rural Electrification (for rural and remote households)

In January 2016, the Vanuatu Rural Electrification Project (VREP Phase 1) was launched on Tanna. As part of the launch, a Product Catalogue was published with 6 products and 2 local vendors. Phase 1 focuses on the 'Plug and Play 5-30 Watt Solar Home System' and by December 2016, there were over 50 community halls and 691 households (with an

**Figure 3:** A VREP beneficiary (far right) smiling with her product.



estimate of 3,247 residents) that were electrified through the VREP.

Working to improve electricity access to rural people in Vanuatu requires collective effort from both the Department and the communities themselves. The connection of over 74 households (347 people) on Loltong community at North Pentecost is a classic example of a collaborative efforts of DoE, the community, which involves both men and women and two donors – MFAT and DFAT.

The result of their efforts was a dream come true for the community when a new pico-hydropower system was installed and ready for launch in early 2017. Such collaborative engagement will be what will be encouraged moving into 2017 when more installations

**Figure 4:** Community at Loltong assist with Pico-Hydro Project installation.



will be made to rural communities throughout the country. DoE was also involved in the tender of the electrical reticulation system for the Talise micro- hydropower project. Its strong involvement in the tender resulted in a contract awarded to a company to complete the electrical reticulation system for the min-hydropower project. This work will continue in 2017 before it is launched.

An outstanding and ongoing effort of the Department was to complete the installation of the biofuel mini-grid systems on Ambae and Vanua Lava. The result of the effort saw the installation of the grid system completed and several meters installed. Connections are

**Figure 5:** DoE staff undertaking training with mamas on Tanna Island.



expected in 2017 after the Project is launched.

To ensure that systems previously installed are continually functioning and provide access to electricity, DoE was also involved in a review of the M3P program, an South Pacific Community (SPC) funded initiative. A DoE staff was involved in the review as well as undertake training to the mamas on Tanna Island. The result of the efforts was that a number of women were trained in the systems.

## 2. Urban Electrification (implemented in urban and peri-urban centers)

The target beneficiaries for the GPOBA Program are low income households who reside within the Electricity Concession of VUI Ltd in Santo and UNELCO Ltd in Malekula, Efate and Tanna. The GPOBA Program is administered by the World Bank and provides subsidizes of up to 80% of the household connection fee, thus making it affordable for Low Income Households to obtain a household connection. As at December 2016, there are now 771 new households (categorized as low income) were electrified via GPOBA

**Figure 6:** Vate Electrics staff carrying out household service connection process to a household on Tanna Island.



program.

### Achieve Greater Diversity Of Energy Sources

In 2016, the DoE commissioned a study to map out the potential for small hydropower systems in Vanuatu with a view to develop a database which can be utilized by Government and private investors. The result of the assigned was that more than 20 sites were identified with the potential to deliver electricity above 30 kilowatts. The complete GIS database and maps are expected to be completed in 2017. DoE also commissioned a Grid stability study on the Luganville electricity grid and the report is expected to be submitted in 2017. In parallel, UNELCO also undertook a grid stability study which hope once the report is published in 2017, will provide more information on the potential for adding of further renewable generation capacity to the current Port Vila grid.

To understand further the opportunities and challenges of delivering rural electrification in remote island communities, DoE was also involved in a feasibility study on renewable energy –based off grid electrification Master Plan for the Remote Islands. This study was useful in that it provided a greater understanding to the Department on the opportunities and challenges of these areas, which often is underestimated in previous inputs. Furthermore, the report serves useful as it enable the Department to feed the information into the design of VREP II, a much more substantial investment plan to electrified rural communities throughout the country through Solar Home Systems (SHS), micro and mini- grid.

### **To Reduce Cost Of Energy In Urban Areas**

As part of ongoing efforts to reduce cost of energy in urban areas, DoE held regular dialogues with the Utilities Regulatory Authority (URA) in 2016 on the review of its Act to explore areas in which the Act can be strengthened in order to enable URA to effectively undertaken its task with a view to regulate better prices and reduce the costs of electricity in urban areas.

“ We have managed to halve our electricity bill, from paying an average of one million vatu per month, to now paying only half that amount and as a hospital, we are very grateful for the DoE’s support and cooperation in achieving this result, Ms Tagaro remarked ”

*- Daily Post Issue, 3 December 2016).*

DoE also undertook an energy audit on the Northern District Hospital (NDH) premise and provided recommendations to the Manager the hospital. Through the implementation of the recommendations, NDH was able to report a savings of VT500,000 per month in its electricity bill (refer to quote). This is a remarkable result from an audit which only cost around VT50,000.

DoE’s ongoing role in implementing the GPOBA program is an attempt to reducing cost to low income customers in the urban areas to connect to the grid. To date, the subsidy provided through this program has made electricity connection more affordable as compared to previously where cost of installing a meter is more than VT50,000. Low income earners are now paying just less than Vt20,000 to be connected to a Vanuatu Utilities Infrastructure (VUI) and UNELCO meter.

A clear example of reducing electricity costs is the installation of the 767-kilowatt solar panels which generate power to the grid while also offsetting the electricity bill for the Parliament Building and Ministry of Climate Change. Since the system is connected and the Power Purchasing Agreement (PPA) was signed in 2016, the two agencies have made

**Figure 7:** Part of the 767 kW solar plant at the Parliament Park



major savings to their electricity bills.

### **Promote reliable, secure and affordable petroleum and gas supply**

Having reliable, secure and affordable petroleum and gas supply for the country like Vanuatu is continually a challenge especially as most petroleum is imported. DoE's role in the sector has been more a monitoring role than directly involve in the gas and petroleum sector. Nevertheless, there are a number of important activities that DoE does in order to ensure that gas and petroleum continues to flow to Vanuatu. DoE's role has been checking the safety and environment operations of the major fuel and gas companies and through these efforts, no fires, spill or accident was experienced in 2016.

**Figure 8:** DoE staff and Commissioner of Kiribati Oil on an observation deck.



Furthermore, DoE has also an observation role in the quality of fuel that enters into Vanuatu. Through this monitoring role, no issues have been flagged to date regarding the quality of fuel in Vanuatu. Also through these efforts, Pacific Petroleum, the main supplier of fuel to Vanuatu, has announced that it will now consistently bring in cleaner diesel fuel of 10 ppm and premium unleaded petrol. Some efforts were also made in trying to ensure that reliability, security and affordability of gas and petroleum are also captured in the amendments to the legislative frameworks that were done in 2016. Although these amendments were not approved in 2016, they are now more likely to be considered in 2017 and once implemented, will have some major positive impacts. DoE's efforts have also resulted in Pacific Petroleum declaring its intention to establish a fuel storage on Malekula. While this is yet in infancy stage, the storage facility will assist with reducing cost of fuel, provide more secure transportation of fuel and enable people on Malekula can have a more reliable fuel supply.

### **Advance energy efficiency and conservation methods**

In 2016, DoE was heavily involved in the development of the Minimum, Energy Performance, Standards and Labeling (MEPSL) Bill. As part of developing the Bill, a number of awareness were undertaken throughout the country to inform the public, private stakeholders and students on the Bill. Efforts were also made to brief the relevant Ministers and Parliamentarians on the Bill before the Bill was submitted to Parliament. The result of all the effort was the Bill was approved by Parliament in late 2016. The Bill will be gazette and then enforced by the Department from 2017.

## **ADDITIONAL ACTIVITIES NOT IN DOE BUSINESS PLAN**

### **Enhance Service Delivery Of The Department**

There were several key features within DoE had greatly enhanced service delivery for 2016 was:

- The installation of the figure print recognition register, replacing the old timecard machine. This device is connected to the Office Administrator's computers including the MoCCA's HR, thus monitoring staff attendance as required by PSC. This device has seen an overall improvement of staff attendance throughout 2016.
- Vehicle Log Books were introduced in 2016 for both vehicles. DoE staff are regularly reminded to use the Log Book at all times as there was no designated Driver and that this it to ensure daily records of vehicle (in terms of fuel consumption, Kilometer per trip, etc) are effectively monitored and maintained.
- Creating more awareness through media. In 2016 DoE staff utilized Radio Vanuatu's Talk Back Shows to talk about existing and future Energy programs, thus raising Energy Sector portfolio as a means of sustainable economic development for Vanuatu. Talk back shows are encouraging as people throughout Vanuatu listen and are able to participate in the discussions.

### **Improve access to Electricity**

In addition to the tasks mentioned in the 2016 Business Plan, DOE staff were also involved

in a number of major initiatives which once implemented, will contribute a lot to increasing access to electricity throughout Vanuatu.

- Along with a team of interested Korean investor, DoE staff were involved in the preliminary study of the potential to provide electricity to villages of Wintua and Lorlo on Southwest Malekula, and Melsisi on Central Pentecost. A report is yet to be published and once published, will be pursued in 2017.
- In partnership with the GGGI and UNDP, DoE staff were also involved in the development of a draft Green Climate Fund (GCF) concept note to increase access to electrification throughout the country. The concept, if approved, will result in a substantial boost to the current access rates and will complete efforts already done in increasing access within the grid and off-grid areas.
- A major task was the development of VREP II concept and preparation of documents for the approval of the VREP II program. The VREP II program is targeting rural communities through SHS, micro and mini-grids. Once implemented, it paves the way for additional investments to be sourced using the same mechanism. In addition to the preparation work, DoE staff were also involved in lobbying donor investment to the Program. The result of the efforts was that New Zealand MFAT approved over NZ\$7million to be invested in the energy sector in Vanuatu. This is a remarkable achievement to attract the level of funding and especially, to attract NZ funding which has not been the experience in the past.

### **Achieve Greater Diversity Of Energy Sources**

In addition, continued progress is made in exploring other renewable energy sources

**Figure 9:** Sample of bigger solar systems that VREP II will be targeting.



for the country to tap into. These are researched as part of specific projects and also encouraged through the updated NERM. These efforts will continue with the hope to make the results available to the Government and investors for their investment. A result of these efforts is the installation and handing over of the 767 Kilowatt of solar panel systems which were connected to the grid in Port Vila. These solar systems are feeding additional power to the grid while also offset the electricity bills for the Ministry of Climate Change and Parliament House. To date, substantial savings have been made on electricity bills for the two institutions.

DoE through the recent reviews of the existing legislations and regulations affecting the sector, is also aiming to ensure that there legislative frameworks are conducive to enabling greater integration of the renewables and other energy sources to the current generation. A key electricity generation potential is geothermal on Efate which through the DoE in collaboration with other agencies, Government has requested the World Bank to provide support to the further development of geothermal on Efate. Work on the geothermal will continue in 2017.

To enable a greater understanding of the potential of available energy resources in Vanuatu, the DoE undertook a number of activities which includes the following:

- Field visit to South West and west of the island of Malekula. The visit comprised of a

**Figure 10:** DoE Pico-hydro field visit on Malekula



number of DoE staff combined with the VREP Project team. During the visit, the DoE team were able to visit a number of pico-hydropower systems installed by individuals on Malekula with a view to discuss lessons from the systems while also provide advice to the owners of the system. This field visit was perhaps the first of its kind to involve a number of DoE staff who took the opportunity to share experiences but also to learn

**Figure 11:** Proposed Biogas system at Onesua Presbyterian College



- from the operators the challenges of operating such systems.
- DoE undertook an assessment on the potential for a biogas system at Onesua Presbyterian college on Efate. The result of the assignment was a design of the system completed and is expected to be procured and installed in 2017. The system when completed is expected to deliver savings to the college as there will be less money spent on purchasing gas for cooking.
- A team of Japanese consultants arrived in 2016 to support the DoE in undertaking a feasibility study on the possibility of additional generation capacity to the Sarakata Hydropower system. The result of the study was an Inception Report which confirmed that there is potential within the same river system to provide additional generation capacity.

## ACHIEVEMENTS COMMENT

There were a lot of achievements for 2016.

During the first quarter, the new Coalition Government requested MoCCA-DoE to prepare and submit its 100 Day Plan. In the submission by DoE listed 2 priority areas; 1) Improve access to secure, reliable and affordable electricity for all citizens by 2030 and 2) Improve enabling framework for development of the energy sector. The 100 Day Plan is seen as a proactive tool towards better strategic planning. DoE listed actions and most of these transpired into achievements already listed into this Annual Report such as the revision of the National Energy Road Map.

The second, third and last quarter of the year was dedicated to accomplishing key milestone for the 2016 Business Plan, while providing ongoing support to major energy implementation programs such as GPOBA & VREP, and supporting RE and EE feasibility

**Figure 12:** Smiling faces of beneficiaries connected to electricity under the VREP and GPOBA Project.



studies. This also includes the CoM endorsement on the National Green Energy Fund, which was welcomed by the MoCCA, Development Partners and Industry to support achieving NERM. A significant tasks undertaken in 2016 was the commencement of the tender of the Luganville electricity service. This tender is an important tender given that it emanated from a court decision as well as Government of Vanuatu would like to see the tender achieve some of the policy objectives as defined in the NERM. The tender process is underway and is expected to be completed in the early 2017.

The increase of the recurrent budget has enabled the recruitment of the Finance and

Administration Manager and the Driver/Messenger. This has boosted the Department to a more stronger Department than previously. Major projects that have been under preparation during the last 12-18 months are now entering into their commencement stages, such as the launch of VREP Product Vendor and Catalogue, and the ACSE Project. Those in preparation include GEF, GCF and VREP Stage 2 with assistance of development agencies World Bank, NZ-MFAT, Aust-DFAT, UNDP and GGGI. Many are making significant achievements as we see more people connected to electricity in the rural and urban areas. The smiles demonstrated their satisfaction to the work that DoE has contributed to their lives.

There were also of exposure and knowledge sharing opportunities where by DoE Officials attended regionally and international, especially on Micro Grid Development. The Pacific Energy Summit also in June 2016 in Auckland gave the opportunity for partnership between industry to raise the need for more RE Investment for small island states.

Regardless of the limitations and challenges, the cooperation and support provided to the Department were very valuable which have engineered this office to achieve some of the objectives of the planned 2016 activities. The Department expressed its highest appreciation to the Ministry of Climate Change with its Corporate Services Unit headed by the Director General and the Departments under this Ministry, the Public Service Commission, together with all those Government Authorities, Development Partners and Key Energy Stakeholders who have valuably contributed in the achievements made in 2016.

## **CHALLENGES COMMENT**

While we appreciate the achievements for 2016, there were some challenges relating to insufficient budget for operations for the Office, and the limited Professional Officers were among the contributors to partial achievements of some activities in the 2016 Business Plan. There are also internal and external factors that were beyond the capacity and authority of this Department and even the Government that have contributed in non-achievements.

The population of the country as citizens, voters, taxpayers and businesses placed a responsibility-burden on the Government with high expectations to provide and or facilitate reliable, safe and affordable electrification to meet their needs. This is an ongoing challenge as this responsibility depends on the resource availability to make such expectations become reality. There were criticisms for slow to non-service delivery to the population but this was again the challenge that a small Department as the Energy Department had to face.

The mandate for DoE is to initiate dialogue between community electrification needs to project proposal and project implementation. Such information can be obtained through surveys and rather conducted through provincial Officers than Department staff. With greater financial support DoE may recruit Provincial Officers to ease Information Sharing, carryout awareness and capacity building. Since our country's chain of islands are disperse and scattered, it is difficult to gather information at all levels of communities and the associated cost transportation differs from island to island.

The DoE is housed in a small compartment in the Ministry of Climate Change building. An annex building also houses the permanent and contracted staff. Even with these two buildings, office space continues to be an issue as most staff work on bench table arrangement and without proper office tables and meeting rooms. Despite this challenge, DoE staff and contractors continue to function, delivering energy to the people of Vanuatu. It is hoped that with the new building to be build in 2017, there will be better working space for the hard working staff.

As there is no legal instrument to empower the DoE for its decisions, that is an Energy Policy, the NERM sets for new Policy Objectives that should guide the delivery of energy in Vanuatu. Additional leadership from the PSC, Ministry and the Council of Minister can be a good driving tool for moving forward for an economic and prosperity of this nation.

**Figure 13:** DoE staff in a cramped section of the DoE Office.



## STAFFING

**Table 8. Staffing Details for 2016**

| Staffing                             | Details                              |
|--------------------------------------|--------------------------------------|
| Numbers                              | 7 permanent staff & 9 contract staff |
| Performance appraisals conducted     | 7 staff & 4 contract staff           |
| Study leave                          | 1                                    |
| Secondment                           | Nil                                  |
| Annual Administration leave          | 4 obtains annual admin leave         |
| Other leave/ Resignation/ Retirement | 1 (Manager Energy Security)          |

Ms Kathy Kanas, the Finance and Procurement Officer obtained a Scholarship to study for

her Bachelor of Commerce at the University of the South Pacific (USP), Laucala Campus. She is expected to complete her studies in December 2018. Mr Leo Moli, the former Energy Security Manager retired in August 2016, after serving the Government for over 33 years. Mr Moli was the former Principal Energy Officer for Energy Unit and was instrumental in the formation of the new Department of Energy in 2012.

The number of staff although seems to be large for the Department, it has relied very much on the contracted staff to support the permanent staff to undertake the roles and responsibilities of the Department. While this is quite a risk given that these contracted staff are contracted to specific tasks, it has achieved more benefits than the risk. Both the contracted staff and permanent staff considered themselves working as a team and working for the Department. It has created a sense of working collectively for the Department than segregating projects and the Departmental responsibilities. Nevertheless, the amount of the staff as compared to the amount of the Projects/Program funding that is being managed through the Department is significant and demands some consideration in the 2017 and 2018 budget. With the additional resources that needs to be injected into the Department, the targets in the NERM would not be realistically achieved.



# APPENDICES

## APPENDIX 1: MEETINGS, WORKSHOPS & TRAININGS ATTENDED BY STAFF OF THE DOE

| Officer               | Objectives   | Agency                                       | Workshop/ Trainings   | Venue               | Date                    | Outcome/ Remarks  |
|-----------------------|--|--|---|---------------------|-------------------------|---|
| Chris                 | Providing an opportunity for government officials from Island Nations in Asia – Pacific to learn from experts and government officials both in and outside Japan With Effective Policies for the diffusion of available RE – application of policies, and financing schemes. | IRENA - International Renewable Agency       | Training Program to Support Renewable Energy Deployment in the Asia – Pacific Island Nation |                     | 8th – 12th Feb 2016     | Discuss from other SIDs on Renewable Energy Policies Applications of specific Renewable Energy Policies Vanuatu is embarking on appropriate Renewable Energy Policies to help achieve the (NERM/T) National Energy Road Targets |
| Leith, Chris & Hellen | VREP Catalogue and Product awareness for solar retailers – Lunching - for rural areas – outside concession blocks  | VREP – Vanuatu Rural Electrification Project | VREP Launching (Vendor and Products)  | Lenakel Tanna       | 29th Jan 2016           | Successful launch of VREP with promotion of products and immediate impact of sales.   |
| Joseph                | MEPS Monitoring, Verification and Enforcement scheme for Energy Efficient lighting   | UNEP – United Nations Energy Program         | Regional Efficient Lighting   | Bangkok Thailand    | 31st Jan – 5th Feb 2016 | Participate in a high level decision makers and discuss opportunities for a regional harmonization lighting practices and regulation – MEPS.  |
| Hellen                | Scope a comprehensive M&E Framework Develop a monitoring plan based on the program logic.  | ESMAP - Energy Sector Management Program     | Monitoring and Evaluation   | Canberra, Australia | 7th – 11th March 2016   | M&E is a great tool for transparency, improve planning and help us to learn from and improve on our activities and also monitor Funds.  |

| Officer  | Objectives   | Agency   | Workshop/<br>Trainings  | Venue                     | Date                      | Outcome/<br>Remarks  |
|--|--|--|---|---------------------------|---------------------------|--|
| Antony   | Preparation for Energy Statistics for the COP 21 Targets                   | SPC - Secretariat of the Pacific Community                 | Joint SPC – APEC Regional Workshop on Energy Statistics for modelling for SDG     | Nuku Alofa, Tonga         | 14th– 18th March, 2016    | National and Regional Energy Data is complementary to COP 21.  |
| Alfred & Joseph  | Energy & Customs – PALS Bill   | SPC - Secretariat of the Pacific Community                 | Training on Minimum Energy Performance standards and Labelling Standards ( MEPSL) | Suva, Fiji                | 11th - 14th April, 2016   | PALS Bill contribute to an Energy Secure Future via importation of EE Products                         |
| Terry Mael   | Petroleum Waste Management   | Petroleum Office (American Samoa) (Internal – GfG Support) | Annual OPA Oil Spill Exercise   | Pago Pago, American Samoa | 3rd –6th May 2016         | Oil spill drills(containment , control and management) is vital and should be enforced in Legislations |
| Chris  | Regional Energy Standards  | SPC - Secretariat of the Pacific Community                 | Regional ISAC Meeting   | Nadi, Fiji                | 16th -19th May, 2016      | Design and Endorsement of the Energy and Climate Change modules (through EU PacTVET)                   |
| Chris & Leith  | R/E Deployment - Future Energy Systems - Micro Grid Development Principles | World Bank DoE (Internal) ESMAP                            | Deploying and Integrating RE into Local Grids                                     | Honolulu, Hawaii          | 23rd – 27th May 2016      | Sharing RE Deployment experiences especially on implementing Micro Grids in the Region                 |
| Antony, Paul (GGGI), Chris, Joseph, Hellen & Gregoire Nimbтик (DSPPAC) | Energy Planning and NDC implementation                                     | GGGI – Global Green Growth Institute                       | Energy Planning   | Suva, Fiji                | 29th – 30th November 2016 | Identify how energy planning can assist governments in developing NDC implementation plans.            |

## DEPARTMENT OF ENERGY ANNUAL REPORT 2016

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