



CDM CAPACITY BUILDING WORKSHOP, FIJI

24th – 28th January, 2011

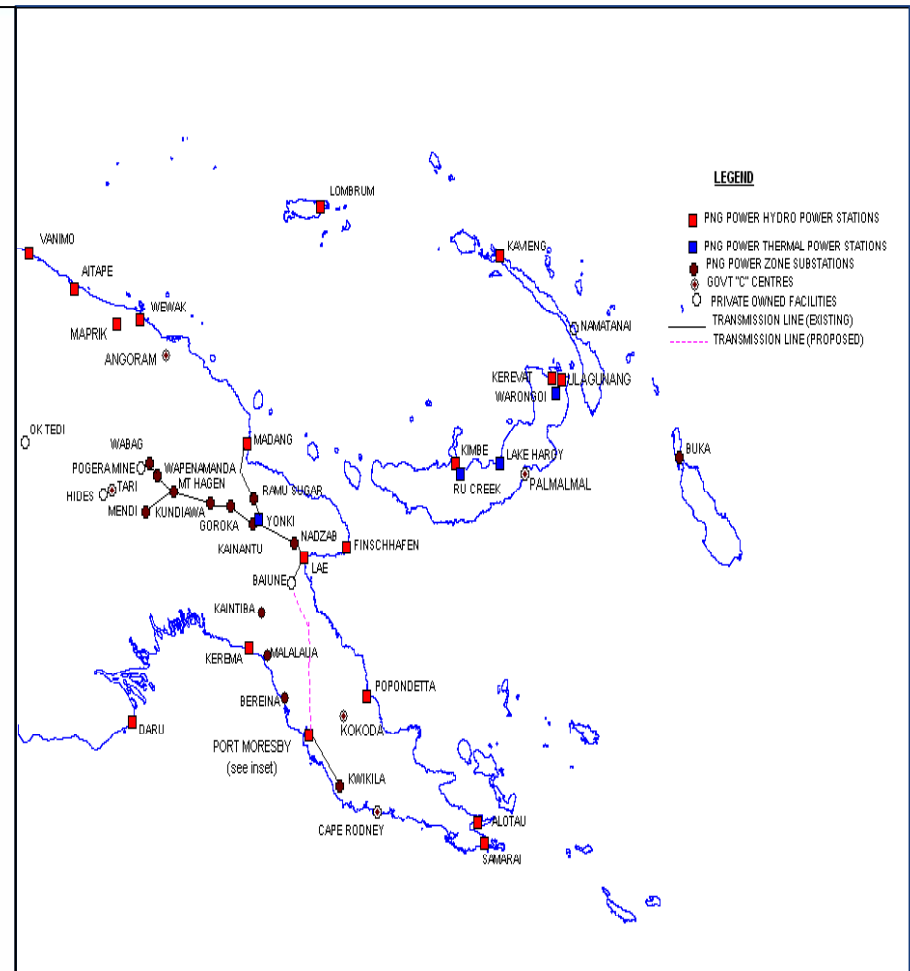
CDM Project Opportunities, Current Status and Trends in Project Development

Outline

1. PNG Power Ltd – An Overview
2. Historical GHG emissions from main sectors and growth trend
3. Potential CDM project types
4. DNA setup and project approval criteria
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7. PNG Power Ltd: Where we are!







1. PNG Power Ltd – An Overview

- is a State owned Corporation with the Government's ownership interest held by the Independent Public Business Corporation.
- is a vertically integrated utility – generation, transmission, distribution and retail;
- has major transmission and distribution networks in Port Moresby, Ramu Valley and Gazelle Peninsula (Rabaul) that are supplied by major hydro power plants;
- also supplies electricity to 19 regional centres predominantly by diesel powered thermal generation (over 60 generating units).
- PPL currently supplies around 89,000 customers with 700,000 MWh of electricity from 406 MW of nameplate generation capacity.



2. GHG emissions from main sectors and growth trend

- Historically, emissions in PNG have mainly been caused by smallholder agriculture and forestry.

Driver of emissions	Emissions Mt CO ₂ e	Description
 Smallholder agriculture	20-30	<ul style="list-style-type: none"> Increasing population leads to expansion of cropping area into forest (and shortening of rotation cycle)
 Commercial agriculture	10-15	<ul style="list-style-type: none"> Clearing of forest for establishment of commercial plantations (predominantly oil palm), mainly on fertile lowland forests
 Timber harvesting	50-60	<ul style="list-style-type: none"> Logging results in significant deforestation and degradation, mainly in lowlands and islands Current logging practices are unsustainable
 Mining, infrastructure	5-10	<ul style="list-style-type: none"> Historically largely from mining, less from infrastructure Includes forest dieback from Ok Tedi spill)
 Fire	2-3	<ul style="list-style-type: none"> Caused by humans (hunting, spreading from subsistence burning) and lightning Forest degradation makes fires more likely
 Everything else	<5	<ul style="list-style-type: none"> Oil and gas (LNG fully operational will be 6) Transportation Energy

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SOURCE: Sheaman (2008, 2009), Fox (2009)

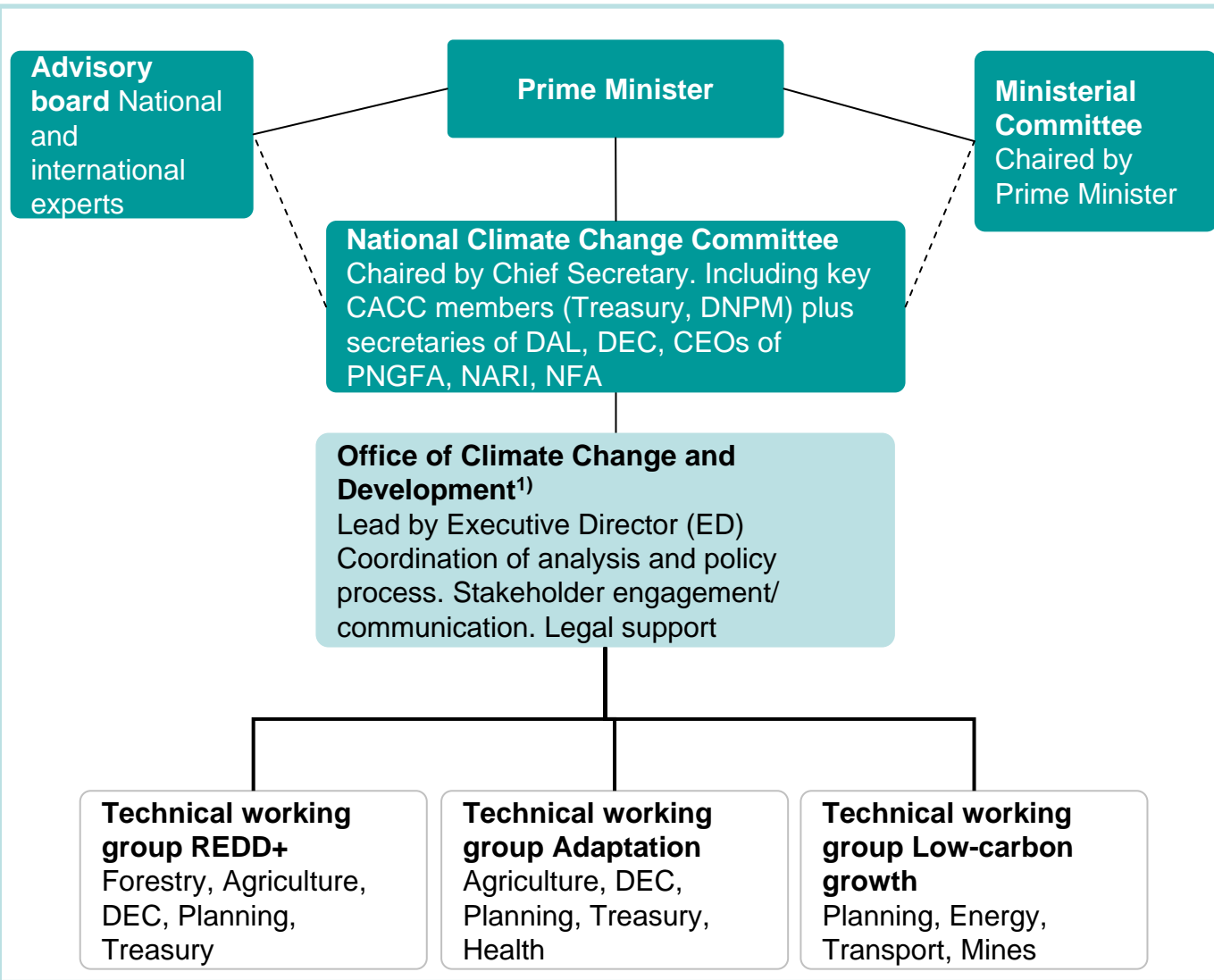
3. Potential CDM project types

- Forestation projects
- Agricultural projects
- Methane avoidance
- Geothermal power development
- New Hydropower development (large & small)
- Capacity upgrade for existing hydropower development
- Efficient power systems
 - Supply-side management projects
 - Demand-side management projects
- Biofuels/Biomass
- Energy efficient projects
 - ICLs to CFLs
 - Others
- Fuel switching/fuel conversion
- Voluntary market projects

4. DNA setup

- Established in March 2007
- Called Office of Climate Change and Development (OCCD)
- To effectively carry out its functions, OCCD has strategically developed a Climate-Compatible Development Plan.
- This strategic plan has three elements:
 - i. Economic Development:** Achieve GDP per capita of USD 3,000 by 2030, as set out in our Vision 2050, to meet our people's aspirations for a better life.
 - ii. Mitigation:** Reduce emissions of greenhouse gases, by at least 50% by 2030 and becoming carbon neutral by 2050. Over 90% of this reduction will come from Reducing Emissions from Deforestation and Forest Degradation (REDD+), at an average cost of ~USD 4/t.
 - iii. Adaptation:** Reduce the vulnerability of Papua New Guineans to the risks associated with climate change, such as coastal and inland flooding, agricultural yield changes and diseases.

The organizational structure and arrangements combines strong political leadership with access to technical expertise across multiple stakeholders



Strong political leadership support across key ministries

Lean office with strong team incl. 'secondees' from other departments

Proving to be very effective

¹ OCCD Executive Director reporting directly to Prime Minister

The Approval Process

- Submission of PIN in DNA approved format/template
 - Should accompany a Project Inception Report
 - Initial review will comment and provide information to sustainability criteria
 - Letter of no objection is delivered to the project developer
- Submission of PDD
 - Submitted with a Sustainable Development Report, should it be not specifically defined in the PDD
 - Attached should be Environmental Impact Statement (Level 3 Activity) or Permit Application (Level 2 Activity), as stated in the Environment Act 2000.
- LoA is issued, should PDD:
 - seen as a contributor to GHG reductions
 - meet the sustainable development objectives of PNG

The SD Criteria

- Uses both qualitative and checklist-weighting analysis in assessing the projects performance against the following sustainability pillars:
 - i. Have addressed and/or have an environmental benefit in area including the following
 - Air quality (i.e. GHG emissions reduction; Water quality and quantity; Soil condition (quality and quantity); Biodiversity (species and habitat conservation) and Other pollutants (toxicity, radioactivity, POPs, ozone depleting substances)
 - ii. Contribute to economic development in the following areas:
 - increase employment ; transfer more efficient and environmentally friendly technology; technological skills reliance, skills development and institutional capacity and have positive financial flows
 - iii. Improve social conditions by addressing the following:
 - Livelihood of the poor (alleviate poverty, distribute benefits equally, access to essential services); Employment (job quality, fulfillment of labour standards); Human and institutional capacity (including empowerment, education, participation and gender) and Access to energy and other amenities or amenity services
- SD Criteria addressed in MTDGs, PNG Vision 2050, PNGSDP, 4th National Goal, MDG7

5. Progress with CDM and voluntary carbon project development

- Talk of voluntary carbon projects, but at the moment nothing as yet.
- Not really sure of other projects beside CDM projects from the energy sector
- Existing CDM project:
 - Lihir Gold Geothermal project
- CDM projects underway:
 - NBPOL methane flaring
 - CDM PoA for small scale hydropower projects in PNG

6. Barriers to CDM and voluntary project development and suggestions

- Financial
 - Developed nations commitment to fund such projects not as ODAs but funding arrangements fitting to PICs
- Capacity Building Development
 - PICs yet to fully grasp the nitty-gritty of CDM
 - Programs designed more applicable to PICs
- Practical Experience
 - PICs yet to have that and boost confidence in developing CDM projects
- Post 2012
 - Nothing really concrete on this issue, hence management is really not confident in pursuing CDM
 - Seem more conservative

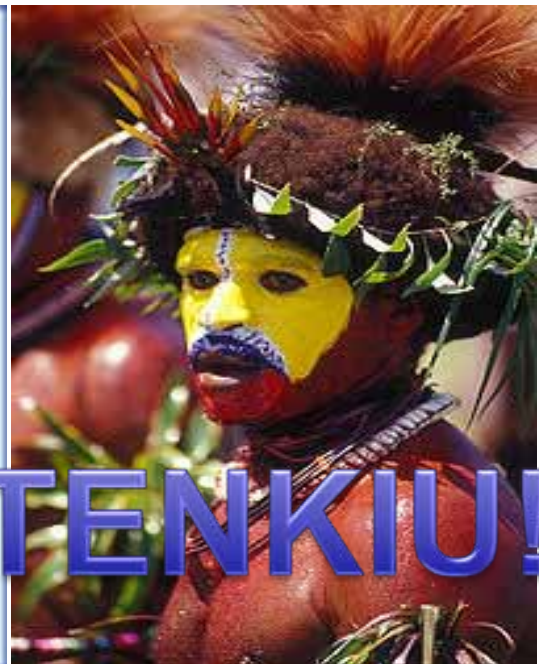
7. PNG POWER LTD: Where we are!

- **CDM PoA for small hydropower projects under the ADB multitranche financing facility ("MFF") to Papua New Guinea for the Town Electrification Investment Program ("TEIP ") .**
 - **Co-ordinating/managing entity and Implementing entity for the first tranche projects**
 - **Currently working on the CDM PoA – PDD and CPA-PDDs with ADB TSF**
 - **ADB's FCF is the BUYER of CERS; CERPA reviewing in progress**
 - **Work underway for finalizing of detail design and construction of projects**
 - i. **Divune HPP:**

Capacity	= 3 MW
CERS	= 20,800
 - i. **Ramazon HPP :**

Capacity	= 2.8 MW
Annual CERS	= 18,200
- **Proposed Naoro Brown HPP:**

Status:	Phase 1 – Prefeasibility study done ; Phase 2 – currently underway
	Currently undergoing discussions with potential buyer of CERS
Capacity	= 80 MW
CERS	=160,000 - 180,000



THANK YOU/TENKIU!

