

Green Prosperity  
**Renewable Energy  
Distributed Power Projects**



**Millennium Challenge Account - Indonesia**

Reducing poverty through economic growth

## The Compact



- **In November 2011**, the USG and GoI entered into the **US\$ 600 million Compact Trust Fund**, establishing MCA-Indonesia through which three Programs are to be instigated:
  1. **The Health and Nutrition Program;**
  2. **The Modernisation of the Indonesian Government's Procurement; and**
  3. **The Green Prosperity Program.**
- **The Compact is a 5 year Plan for Grant Fund disbursement**, terminating on the 1<sup>st</sup> April 2018.
- **The GP Facility**, among other objectives, will be the instigator to **support and encourage the Public and Private Sector Investors and Lenders** to meet the objectives of the **Clean Energy concept of Rural Electrification**.
- **The Green Prosperity Program**, consists of four main components:
  1. **Participatory Land Utilisation Planning** - to assist in setting village boundaries, Spatial Certainty, etc.
  2. **Technical Assistance & Oversight** – Provision of Technical & Financial Capability for the preparation of Project Feasibility & Financing Documentation
  3. **Green Prosperity Facility** - being funding for the establishment of Natural Resource Management & **Renewable Energy Projects through Grant mechanisms.**
  4. **Green Knowledge** – Capacity Building in local and national arenas

**Today we will be only describing the RE Project funding methodology in the GP Facility, which is handled through 3 Grant Windows, totalling about \$150 million.**

# Window 1



## Grant Partnerships - GP Facility Funding Window 1 for Community Owned Projects

MCA-Indonesia will provide Matching Grants, typically 1:1 ratio with minimum \$1 million and maximum \$10 million per partner, to Donor Managers such as NGO's, International NGO's, Private Benefactors etc. for a range of RE and NRM Projects.

Total Value ~ \$45 million

### A. Sub-Micro size ( $\leq 300\text{kW}$ ) projects for domestic or community applications being

- Biomass energy sourced through non-food grade crops capable of propagation on marginal lands;
- agricultural and livestock biomass wastes;
- wind, water, and solar natural resources

for provision of RE for electricity generation, biofuel production and/or heat generation in rural communities. Examples:

- Biogas from agricultural and livestock wastes for utilization by cooking stoves, food preparation and preservation, (or other appropriate household applications);
- Biomass utilization for drying crops during harvesting or other appropriate household applications to minimize deforestation as an energy source;
- Solar energy (inter alia, for pumping or lifting irrigation water, lighting, clinics, internet access systems and other household and community applications);
- Sub-micro Hydro for diesel fired generation replacement;
- Micro wind turbine.

### B. Micro size ( $\leq 1\text{ MW}$ ) Biogas from agricultural and livestock wastes (e.g. POME, biogas and methane capture) and associated micro grids to off-grid or captive applications.

### C. Micro Applications $\leq 10\text{kW}$ for private consumption, e.g. rooftop PV.

## Window 2



### Grant Managers - GP Facility Funding Window 2 for Community Owned Projects

MCA-Indonesia will provide 100% Grants issued through procured Grant Managers who will manage small scale Community RE projects and NRM projects with a Maximum Grant of \$1 million & Minimum of \$100,000 to a single Grantee.

Total Value ~ \$40 million

- These Projects will all be Community Owned Off-Grid =  $\leq 100$  kW selling to community or private consumption;
- Household-scale energy provision using agriculture or farming waste (e.g. biomass, biogas);

Note that the RE application must be associated with a GP NRM initiative and should complement that NRM aspect.

## Window 3



### RE Grant Funding - GP Facility Funding Window 3 for Community Owned and Commercial Scale Projects

- Window 3 activities will support GOI's goals of:
  - increasing the **electrification ratio** and increasing access to electricity in unserved areas; and
  - increasing share of sustainable renewable energy resources in the national energy portfolio (**energy mix**)
- **Window 3a** will support **Small-scale off-grid Community Owned RE projects** through essentially 100% Grant (with tangible and intangible contribution from the local community and local government):
  - **100 kW < Off-Grid ≤ 3 MW selling to Community**
  - **On - Grid = ≤ 1 MW selling to off-taker/PLN**
- **Window 3b** will support **Commercial Scale Investor Owned RE projects**:
  - **Commercial scale (up to 10 MW) On-PLN grid or Captive Offtake RE projects through Matching Grant Funding**, where the **Matching Grant is used along with Equity and Debt Financing** to reinforce the projects to **Investment Grade and achieve Financial Closing**.

## Technical Assistance & Project Preparation Grant



In addition to the GP Facility, under the GP Activity 2:

**“Technical Assistance & Oversight** – Provision of Technical & Financial Capability for the preparation of Project Feasibility & Financing Documentation”

MCA-Indonesia also has a **~\$35 million Grant Program** to assist in achieving prudent, **Investment Grade Project Preparation** for all of its projects (RE and NRM).

This **Technical Assistance & Project Preparation Grant (TAPP)** can be used, inter alia, to prepare **Detailed Feasibility Studies/Front End Engineering & Design** for **Community Projects** and to **Rectify Gaps** identified in **Commercial Project DFS's**.

# The Compact Policy, Legal and Regulatory Reforms



**There is a section of the Compact which specifies Policy, Legal and Regulatory Reforms. This States:**

The Parties agree that **implementation** by the GOI of the **policy, legal and regulatory reforms** below are necessary to fully achieve the objectives of the GP Project:

- a. The GOI agrees that **ESDM**, in collaboration with stakeholders in the private sector and NGOs, shall develop and adopt a **FIT** applicable to **biomass, solar** and other renewable energy projects (non-hydro renewable energy projects). **The FIT shall provide a reasonable incentive for independent power producers to develop and sell power to PLN.**

**ESDM and PLN shall adopt and put in place any legal and institutional framework necessary to implement the FIT.**

- b. The GOI agrees to the issuance of the relevant decrees/regulations for the implementation of the Electricity Law of 2009 (Law 30/2009) in order to create the conditions for assistance to any on-grid renewable energy project.
- c. **PLN shall issue the following:**
  - (i) **standard, transparent procedures for structuring and executing transactions** involving independent power producers,
  - (ii) **standard bankable power purchase agreement** for small-scale renewable power producers **by technology type**; and
  - (iii) **standardized application procedures** for renewable energy project developers.
- d. The GOI shall consolidate the existing renewable energy master plans of PLN and EBTKE into a single, national GIS-based database/inventory platform of (a) RE resources, and (b) current and planned installation of renewable energy projects. The database shall have **an initial focus** on **biomass, small hydropower** with capacity of 0.5 – 10 MW, and **solar power** generation projects

## The Compact



**Within 6 weeks** of the signing of the Compact, **ESDM issued Ministerial Decree 4/2012** which stipulated most if not all of the requirements and **required PLN to perform.**

**Nearly Three Years later** and the FiT **can no longer “provide a reasonable incentive for independent power producers to develop and sell power to PLN”** and therefore **needs revision.** The industry needs a **2014 Decree for each technology.**

**The Hydro 2014 Decree** was issued in **May 2014**

**But the Biomass/Biogas FiT is still not out.**

**There is no FiT for PV.**

**After nearly three years from the 2012 Decree, there is no standard, bankable PPA from PLN.**



## The GP Community Project Locations



- The Community Projects must be located in the 24 Pre-Selected Districts (Kabupaten), selected for their relative poverty and lack of infrastructure:

Province	GP Districts (GP Kabupaten)
1. Jambi	(1) Merangin, (2) Muaro Jambi, (3) Kerinci, (4) Tanjung Jabung Timur
2. West Sulawesi	(5) Mamuju, (6) Mamasa
3. West Nusa Tenggara	(7) Lombok Tengah, (8) Lombok Timur, (9) Lombok Utara
4. East Nusa Tenggara	(10) Sumba Timur, (11) Sumba Barat, (12) Sumba Tengah, (13), Sumba Barat Daya
5. West Sumatra	(14) Solok Selatan, (15) Pesisir Selatan
6. South Sulawesi	(16) Luwuk Utara, (17) Luwuk Timur
7. Southeast Sulawesi	(18) Kolaka Utara, (19) Kolaka
8. West Kalimantan	(20) Kapuas Hulu, (21) Sintang
9. North Kalimantan	(22) Malinau
10. East Kalimantan	(23) Mahakam Ulu, (24) Berau,

## The GP Commercial Project Locations



Currently, the Commercial Projects must be located in the Compact Provinces:

Province			
1.	<b>Riau</b>	8.	<b>Southeast Sulawesi</b>
2.	<b>Jambi</b>	9.	<b>West Kalimantan</b>
3.	<b>West Sumatra</b>	10.	<b>North Kalimantan</b>
4.	<b>South Sumatra</b>	11.	<b>East Kalimantan</b>
5.	<b>Bengkulu</b>	12.	<b>West Nusa Tenggara</b>
6.	<b>West Sulawesi</b>	13.	<b>East Nusa Tenggara</b>
7.	<b>South Sulawesi</b>		

Discussions are ongoing between the two governments and expectation is that this will be extended to be Nationwide.

## GP Project Selection



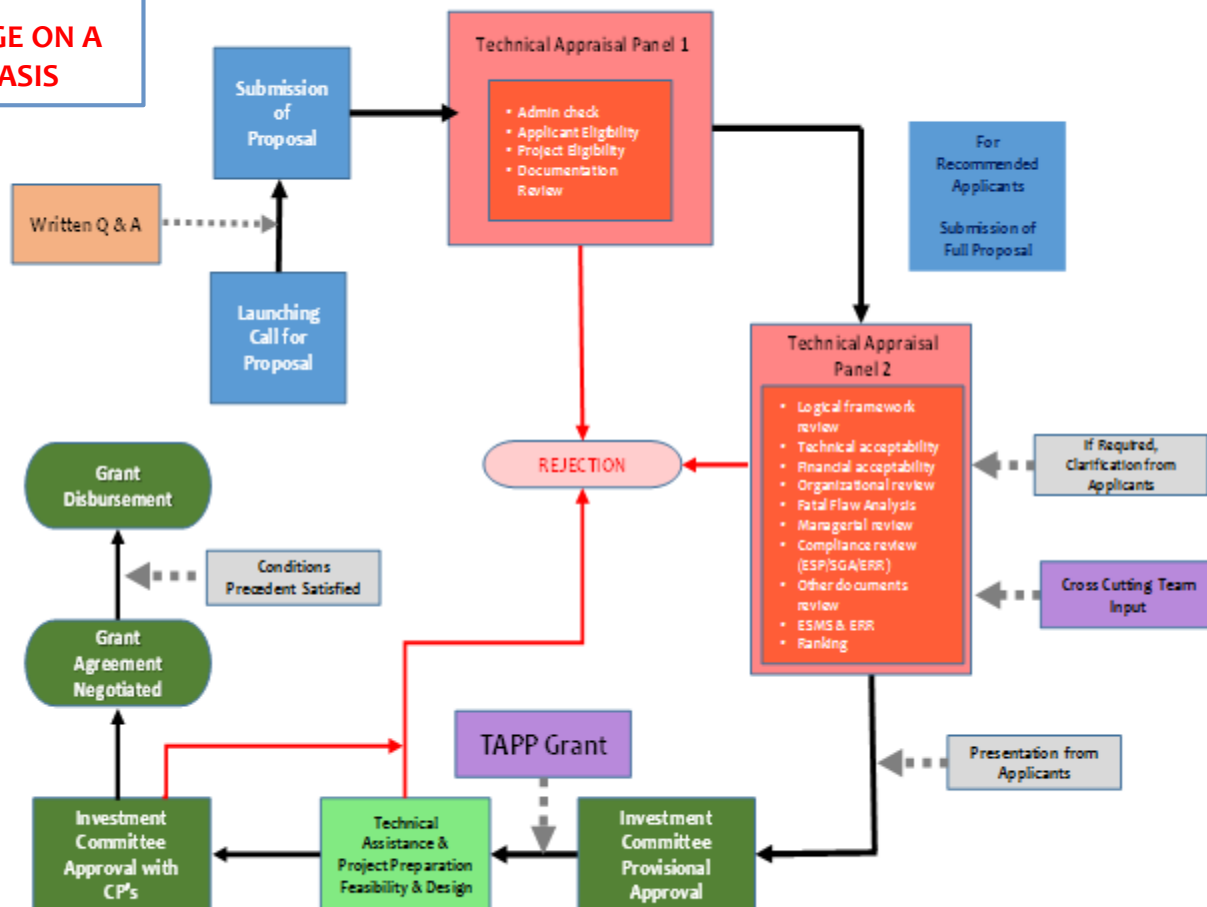
- Every **GP Project** has to be **openly and competitively selected**.
- Every **GP Project** and **Applicant** has to meet certain **Eligibility Criteria**.
- Every **GP Project** must meet certain **Minimum Achievements**. Projects that do not meet these hurdles will be rejected.
- Proposals will be reviewed, ranked and recommended for approval in accordance with certain project eligibility criteria reflecting, inter alia:
  - a minimum **Economic Rate of Return (ERR) of 10%** as defined by the MCC hurdle rate;
  - a core objective of **Improving Environmental Stewardship** (as reflecting best practices, and further detailed in Section 3 below);
  - contribution, directly or indirectly, to the **Reduction of Greenhouse Gas Emissions**;
  - **Equal Access for Women and Other Vulnerable Groups** to the project or its benefits;
  - for commercially viable projects, suitable **Risk Allocations** to the parties; and
  - a **set of sector-specific investment and eligibility criteria** which will be developed, including criteria for projects related to renewable energy, natural resource management, land use planning, agriculture, watershed management, forestry, and other livelihoods projects or sectors as agreed by the Parties.



# GP Project Selection

## TYPICAL SELECTION SCHEME

SUBJECT TO CHANGE ON A CASE BY CASE BASIS



# The GP RE Technologies



**Table 1**

Category	Description
<b>Biomass &amp; Biofuels</b>	Biomass to electricity, through thermal or gasification technology from sustainable sources
	Bioenergy projects using palm oil mill effluent (POME) from sustainably derived palm oil
	Biogas from animal manure
	Biofuels production, distribution and infrastructure including biodiesel and bioethanol
	Biomass fuels derived from managed plantations, individual growing & collection or waste materials
<b>PV Solar &amp; Hybrids</b>	Off-grid solar photovoltaic systems with inverter, battery or other storage capabilities.
	Mini-Grid and/or Grid-connected photovoltaic electricity generation facilities
	Thermal or Concentrated Solar Technologies
<b>Hydropower</b>	Aggregated Micro Hydro ( $\leq 1$ MW off-grid, i.e. 3 X 200 kW or 200 +300+400 kW).Up to 5 separate micro hydro projects, each with their own individual mini-grid, can be aggregated subject to them being in relatively close proximity to one another and managed from a single location.
	Mini Hydro ( $\geq 1$ MW but $\leq 3$ MW)
<b>Wind</b>	Community wind power systems (Mini-grid applications) including Hybrid applications with PV

# The Vision



- In January 2014, the DPR law makers enacted the new National Energy Policy. There are four important targets:
  - Reduce the reliance on **Fossil Fuels** as energy sources;
  - Reduce the emissions of **Green House Gases** (Carbon Dioxide & Methane).
  - Achieve an **Electrification Ratio** of **85% in 2015** and **100% in 2025 from approx. 80% today**.
  - Increase the level of **RE** technologies in the total power generation technology mix. The target for **RE** based production is **23% in 2025** and **31% in 2050 from a level today of approx. 11%**.
- Since Java and main urban areas are well connected, any increase in electrification ratio can only come from rural and remote areas. Many GP Provinces are under 60% and many islands and remote areas are below 20%.
- The predominant power generation in rural/remote areas is by diesel engine. This results in costs Rp 4,500/kWh – Rp 6,500 kWh - the further east, the more expensive. Let's assume a mid-cost of Rp 5,500/kWh.
- The FIT needed to achieve a viable & attractive investment depends on the location but based on the location of, for example, Sulawesi as a mid eastern location, then our proforma show that **Hydro FiT** needs ~ **Rp 1,100/kWh**, **Biomass ~Rp 1,900/kWh** and **~PV needs Rp 2,700/kWh**.
- Taking a **mid-FiT value of Rp 1,900/kWh** and taking the mid cost for PLTD generation, the **savings** to be had in replacing PLTD **with RE plant amounts to Rp 3,600/kWh**.
- Translating this into a MW installed equivalency, then every 1 MW of RE which replaced 1 MW of diesel fired plant would save approx. **\$2.2 million per year, year after year**.
- PLN has **2,000 MW of diesel plant**. If all replaced then savings are **\$ 4.4 billion per year (Rp 50 trillion), every year for 20 years (the term of the RE Power Purchase Agreements)**.

## The Cure



- **Construction Risk** is perceived by the Lenders as **being exceptionally high** and Lenders currently require **Corporate/Personal Guarantees**, thus shutting the door to the much needed involvement of SME's.
- The **GP Program** will set **bench marks for successful prudent development of RE Projects**. GP will be insisting that **Competent and Proven EPC Contractors** are employed and through GP's methodology, it will open up the Sector to true **Commercial Project Financing**.
- **Working with Public & Private Sector Commercial Lenders**, GP will demonstrate that **prudent development produces financeable RE Projects**.
- The **Ministry of Finance** must acknowledge the **huge savings in subsidies** resulting from the use of Renewable Energy and **support the increase in the use of Renewable Energy generation and support a viable FiT**.

## The Future Plans



- We plan to have **Calls for Proposals** or **Calls for Expressions of Interest** for **Window 1** and **Window 3a** this Month. In addition, **Window 2 Grant Managers** are being **Procured in October**.
- We are preparing to have a **Call for Proposal** for **Window 3b** and an **Investment Forum** in **November** or **December** of this **Year**.
- Please follow us on our website [www.mca-Indonesia.go.id](http://www.mca-Indonesia.go.id) to see the **Calls** and **Latest News**

**Thank You for Your Attention**