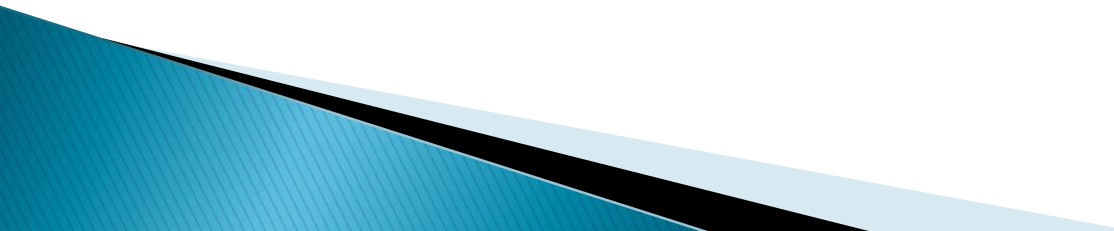


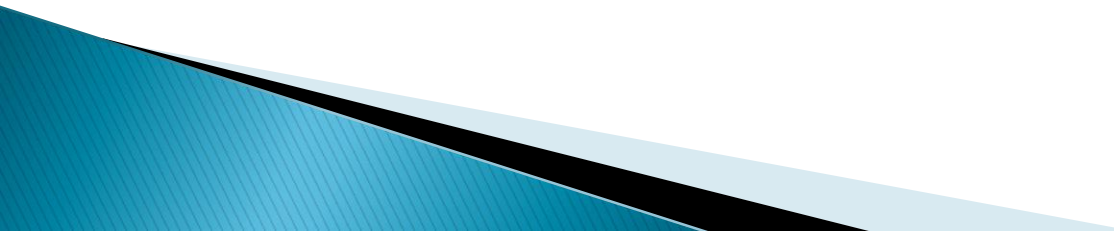
Feed– In Tariffs

The Gambian Context
Matarr Touray
PURA

OUTLINE

- ▶ CHALLENGES
 - ▶ ROLE OF PURA
 - ▶ FEATURES
 - ▶ Eligible Technologies
 - ▶ F.I.T Rules
 - ▶ TARIFF SETTING
 - ▶ SETTLEMENT
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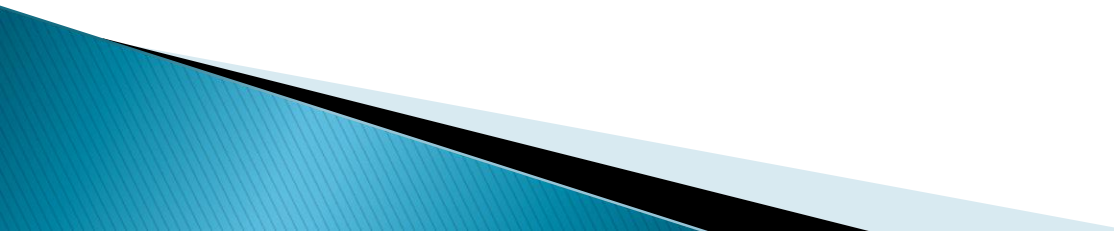
Challenges for the power sector

- ▶ Insufficient transmission and distribution network
 - ▶ Insufficient generation to meet demand (suppressed Demand)
 - ▶ Lack of regional interconnection
 - ▶ Losses
 - ▶ Insufficient private sector investment
 - ▶ Relatively high tariffs
 - ▶ Exposure to international fossil fuel prices
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Role of PURA

Institution	Roles and Responsibilities
PURA	<p>Implement the regulatory framework to support renewable energy</p> <ul style="list-style-type: none">• Within the legal framework, define the rules for pricing renewable electricity• Calculate FIT each year, including announcing the indexed level of existing PPAs.• Ensure NAWEC implement the rules in practice• Check that claiming generators are really renewable• Monitor progress to ensure (1) costs to consumers are within acceptable levels and (2) investment framework is sufficiently stable and attractive• Issue generation licences.• Dispute resolution between NAWEC and generator.• Check that the cap has not been reached, announce once the cap is reached.

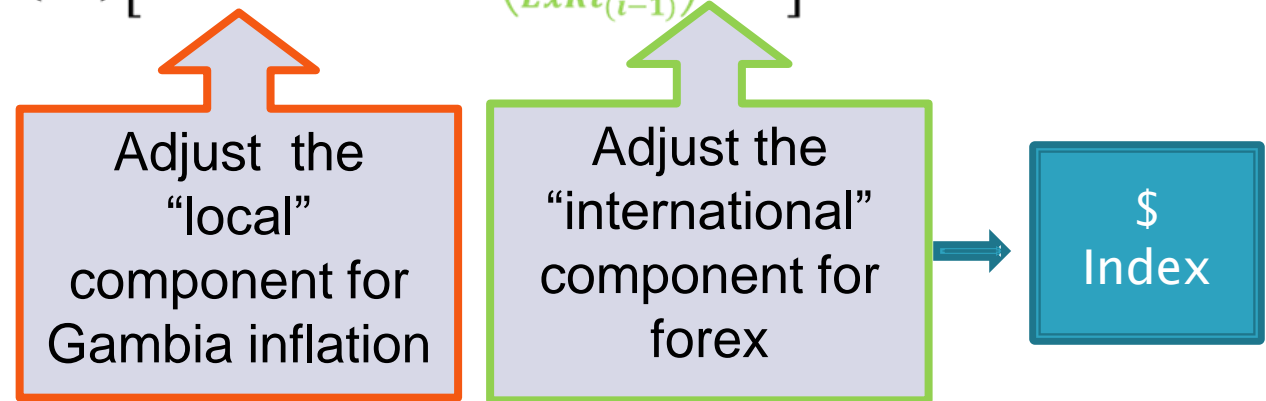
Main Features

- ▶ No extra cost to consumers: The initial support level to be determined by the avoided cost methodology (LFO/HFO).
 - ▶ Eligible technologies: solar PV, wind, biogas, biomass. (Subject to review)
 - ▶ Automatically eligible scale: 20kW (Admin) to 1.5MW.
 - ▶ Below 20KW, net metering. NAWEC to offer decision. PURA can review
 - ▶ Above 1.5MW, can negotiate traditional PPA.
 - ▶ Certainty: PPA for 15 years from plant commissioning. Tariffs published 3 years in advance to give certainty to project developers, and thereafter only adjusted based on indexation.
 - ▶ Simple benchmarking indexation formula linked to local inflation (for a deemed local component) and foreign exchange rate (Dollar, for a deemed international component).
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Example of indexation

- ▶ The proposed formula will be

$$T_i = T_{(i-1)} \left[(1 + Inf) \cdot LIL + \left(\frac{ExRt_i}{ExRt_{(i-1)}} \right) \cdot FL \right]$$



- ▶ T_i Tariff for period “i”
- ▶ $T_{(i-1)}$ Tariff in previous period (i-1)
- ▶ Inf = Local inflation in percentage for the year (i.e. 5%)
- ▶ LIL = Deemed Local Inflation Link (in percentage)
- ▶ FL = Deemed Foreign Link (in percentage) ($LIL + FLC = 1$)
- ▶ $ExRt_i$ = Exchange rate, GMD/Euro for period “i”
- ▶ $ExRt_{(i-1)}$ = Exchange rate, GMD/Euro for previous period (i-1)

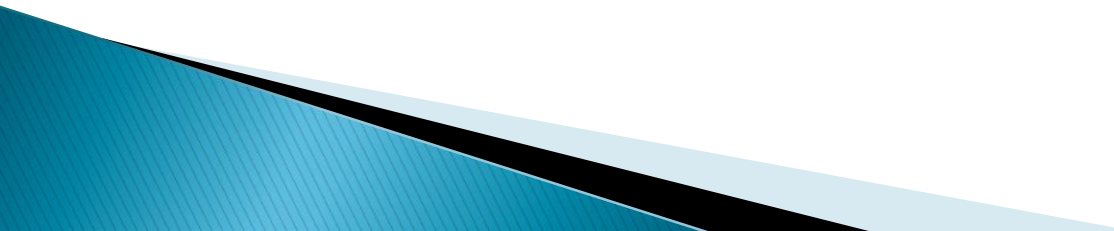
More on Certainty: Foreseeable revenue streams

- ▶ Revenue can be foreseen for business plan
 - 15 years indexed tariffs
 - Initially set three years in advance
 - Projects have time to identify sites, gain permits and raise finance, with the certainty of what their revenues will be.
 - Part link to inflation and to forex means some risk protection for capital costs and for inflation

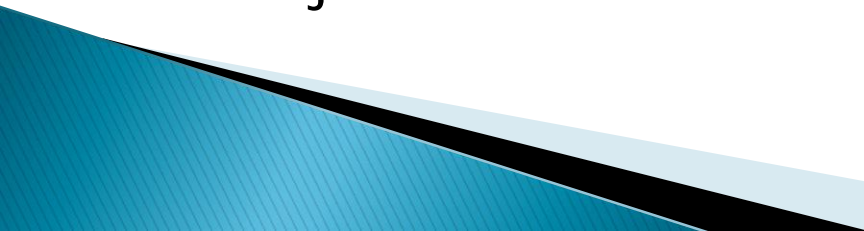
Feed in Tariff Rules: Define eligibility

- ▶ PURA certifies “Eligible Renewable Plant”, that are eligible to receive the Feed In Tariffs.
 - Based on an “Eligible Renewable Technology” (Annual Authority Announcement)
 - On-Grid and eligible for connection to the grid under the Connection Agreement
 - In the Gambia
 - Capacity is no greater than the “Specified Maximum Capacity” and no lower than the “Specified Minimum Capacity” (Annual Authority Announcement)
 - Operated in compliance with the Rules, the Standard Power Purchase Agreement, the terms of its Generation Licence and all pertinent laws
 - Complies with any “special requirements” which PURA impose


Cap on overall level

- ▶ **The system is not well placed to integrate large volumes of variable renewable generation.**
 - Currently not stable and suffers from frequency disturbances and load shedding.
 - No central control system and all the power plants are engines, with low inertia (ability to help stabilise the system).
 - Initially a cap of 10% of total installed capacity. until further technical studies are carried out. 6 MW.
 - The ultimate decision on the level of the cap is for PURA
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Feed in Tariff Rules:

- ▶ The Feed In Tariff set by PURA and approved by the Secretary of State.
 - FIT will be set in Gambian Dalasi per kilowatt hour of delivered electricity.
 - Feed In Tariffs calculated in accordance with a methodology set out by the Authority and approved by the Secretary of State (AVOIDED COST).
 - Generator and NAWEC shall enter into a Standard PPA.
 - Generator invoices the NAWEC according to the timescales set out in the PPA based on the metered generation.
 - Annual Authority Announcement each year, including the adjusted FIT
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Tariff Setting Approach

- ▶ **Renewable technology cost-based approach**
 - This approach allows costs to be targeted to technologies, and results in the broadest range of technologies developed.
 - There is a requirement for high levels of regulatory scrutiny at both the initial tariff setting and regular tariff reviews.
 - The cost to consumers is higher because more expensive technologies are supported. Government policy is not to allow any additional costs to consumers.
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Tariff Setting Approach

- ▶ **Private avoided costs methodology** (a single tariff which represents the avoided cost of the alternative form of generation). 10MW Diesel
 - Simplest approach: single tariff based on existing technologies.
 - Might not be enough to foster the development of some renewable technologies.
 - High cost of current generation means renewables compete more easily

Feed in Tariff Rules:

Define how FIT will be reviewed

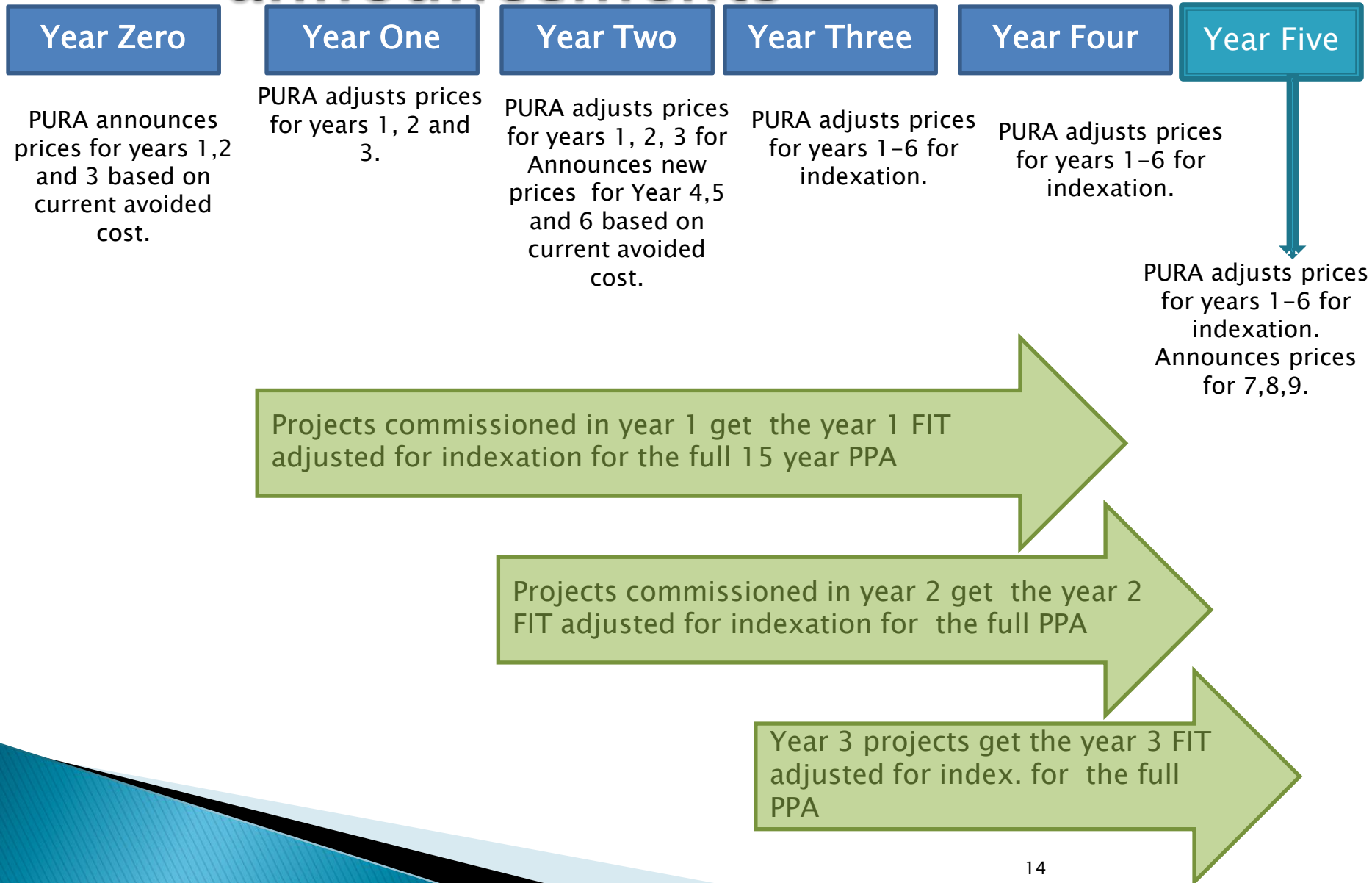
▶ Duration

- **FIT cover fifteen (15) years from the date of commissioning. After this, if plants continue to operate, future tariffs may be freely negotiated... in compliance with any rules set by PURA.**

▶ Reviewing the Feed In Tariffs for existing projects:

- **FIT for existing projects only reviewed based only on an index to inflation for the “Deemed Local Inflation Link” and an index to the dollar Exchange Rate for the “Deemed Foreign Link”, and not for any other reason**
- **Announcement of the FIT levels for new projects three fiscal years in advance on a rolling basis, and once announced only reviewed based on indexation**

Example of tariff announcements



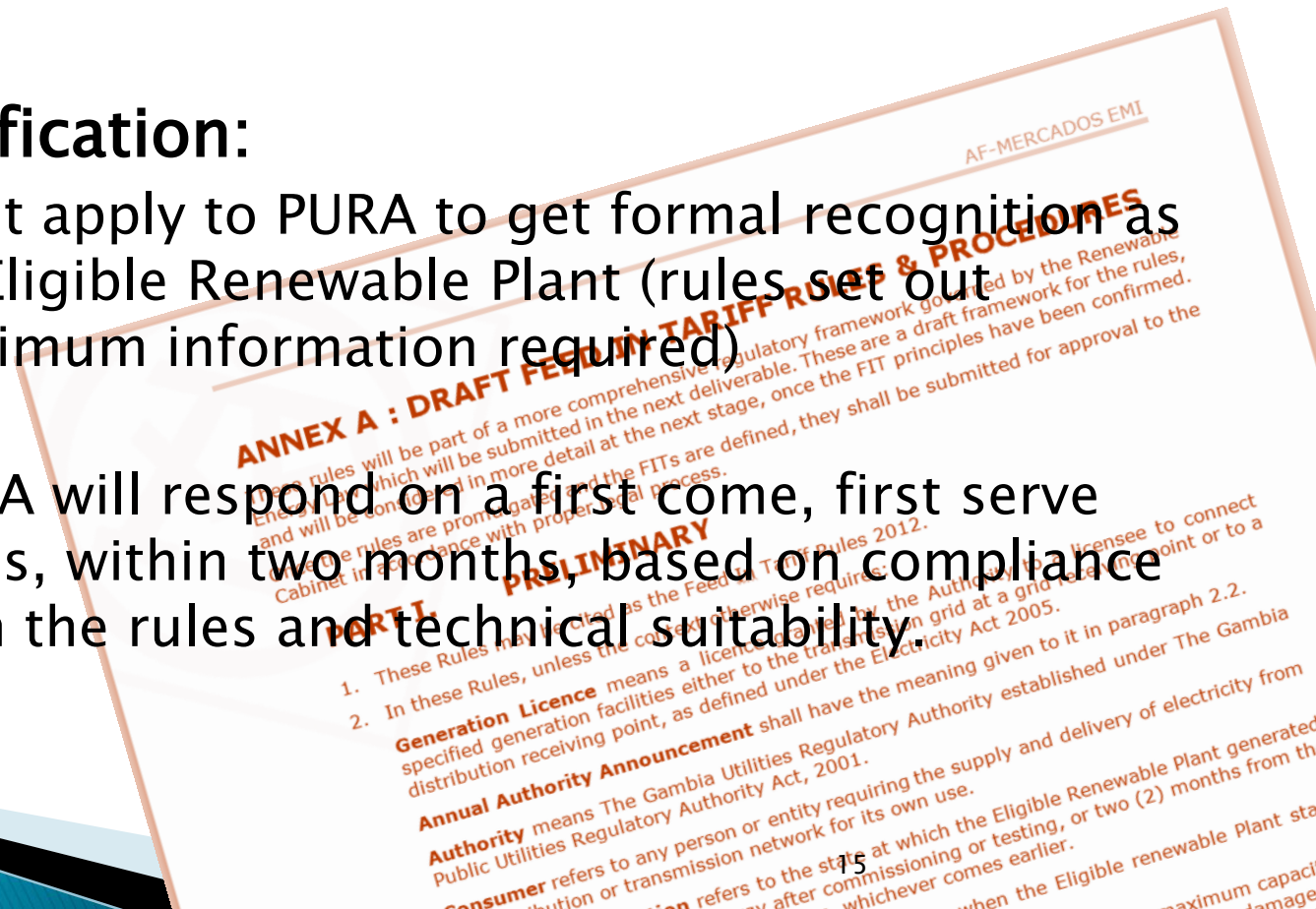
Feed in Tariff Rules:

Administration

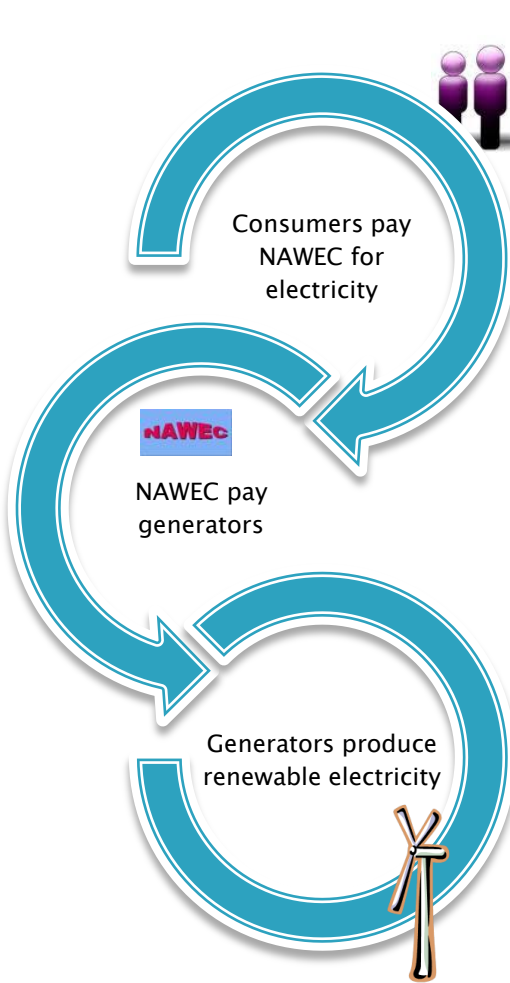
- ▶ **Reporting:** PURA shall consolidate and report on renewable generation (information provided by NAWEC) .

- ▶ **Certification:**

- Must apply to PURA to get formal recognition as an Eligible Renewable Plant (rules set out minimum information required)
- PURA will respond on a first come, first serve basis, within two months, based on compliance with the rules and technical suitability.



Settlement



1. Paying renewable generators for their power
 - the payments would come from NAWEC as the single grid company and electricity supplier.
2. Frequency of Payments
 - 20kw–100kw paid every 3 months.
 - 100kw to 1.5MW paid every month.
1. Auditing the scheme to ensure that it is being followed correctly.
 - Where generation from a particular plant seems unusual or fraud is suspected, PURA will have the right to audit the site and ensure that the generation is from the source claimed.

THANK YOU FOR YOUR ATTENTION
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