Financing, Policy & Governance Challenges and Opportunities

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COMPANY OVERVIEW

ITP Renewables:

- a global leader in renewable energy consulting and project management
- part of the ITP Energised Group
- expertise across renewable energy, energy efficiency, storage and associated technologies

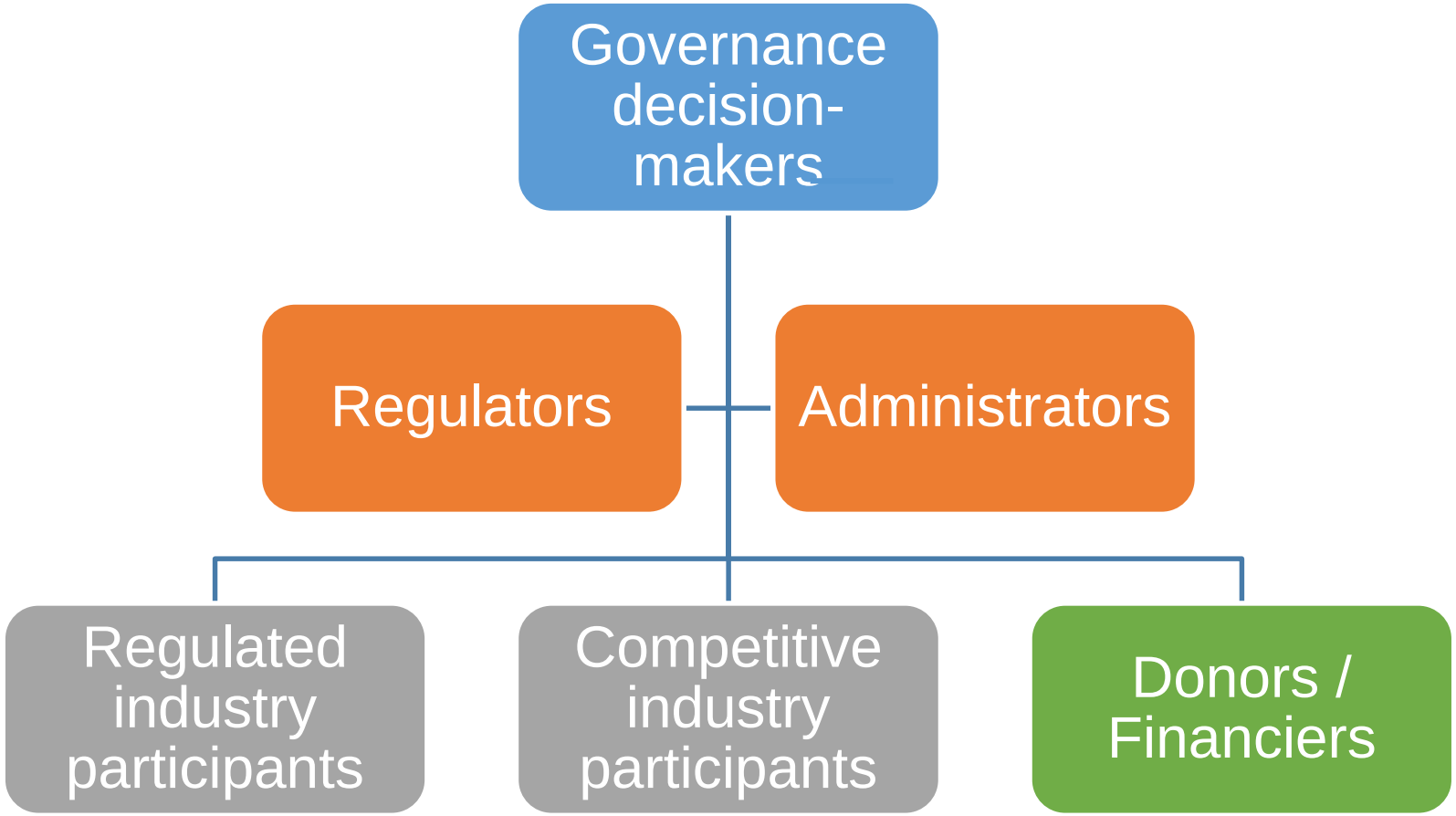
Our staff:

- experienced renewable energy engineers, specialist strategic advisors, experts in economics, finance, emissions reduction and policy.
- extensive professional backgrounds in industry, academia and government.

Challenges

1. Breaking the repetitive cycle of stop start progress based on donor injections and repeated mistakes
2. Policy development for private investment in power systems
3. Electrification of transport – how should Pacific Islands think about this?

Decision Making Frameworks



Source: Passey et al, 2008

Framework implementation

- Complete separation of powers may not be possible:
  - Governance and Administration bodies may be combined
  - Overlap possible between Governance body and Regulated industry participant
- Important that the **Regulator is independent** so it can effectively evaluate the scheme / program / project

Set Assessment Criteria

Who: Decision maker, Regulator, Administrator, Donor

Effectiveness:

How effective is the program / project (e.g. at deploying plants that generate the expected amount of renewable electricity over a given timeframe?)

Efficiency:

Is the project able to deliver renewable energy at low cost, and are there any other cost impacts?

Equity:

Are the costs and benefits of the project distributed fairly?

Administration:

Is the program / project difficult to administer, including any relevant auditing and compliance requirements?

Include an Evaluation Phase

Who: Regulator, Administrator, Utility

Monitoring:

- of uptake, issues and outcomes

Assessment:

- of monitored results to assess costs and other aspects

Recommendations:

- for revision and adaptation for future projects, based on the assessments
- to ensure processes remain relevant, that lessons learned are acted upon
- to respond to changing circumstances, including prices, new technologies or information

Opportunities to break the stop start cycle

- Independent regulatory structures – decision makers, regulators, donors
- Aid funding which focuses on long term processes, rather than short term capital expenditure alone – Donors
- Roadmaps to establish 5 year planning cycles – Donors, decision makers, utilities, consultants
- Local training, quality control, standards, import regulations/taxes – Decision makers, PPA, regulators, consultants
- Long term programs for outer islands – local community, donors, regulators, decision makers, consultants

Institutional support

Need to address disconnect between power sector revenue and expenditure – Regulator

- Unsustainable tariffs
- Low operational funding
- Training for local utility staff
- IT and data systems

Need complimentary activities - Decision makers

- Energy education programs
- Energy efficiency programs
- New meters
- Network maps
- Appliance performance standards
- Supportive import tariff structures

Facilitating Independent Power Producers

Use of PPAs to Encourage Private Sector Investment

- Who: Regulator, Utility, PPA, Competitive industry participant, Donors
- To attract private investment into new generation capacity
- To capitalise on diverse renewable energy resources
- To develop an attractive investment environment for IPPs
- To balance counterparty risk and reward
- A stable policy environment is critical to de-risk private investment

Structure of a PPA

- A core component of key legal and commercial terms and conditions
  - to communicate ‘core’ responsibilities and obligations
- Supplementary Schedules
  - more details specific to the project
- A standard PPA Template
  - equitable starting point for negotiation
- Independent financial and legal advice still necessary.

Evaluation Criteria for reverse auctions

Role	Examples of Criteria
Effectiveness	Desired amount of generation capacity or output.
Efficiency	Electricity generation cost ($/MWh) compared to generators currently operating in similar areas.
Equity	Type of impact on electricity prices.
Administration	Cost of designing and implementing the auction and selecting the successful IPP(s)

Use of Private Distributed Generation

Rooftop PV avoids land access issues, earthworks and fencing

Use of Feed-in Tariffs

- Who: Decision makers, regulator, utility, PV industry, users, administrators
- Distributed generation - rooftop PV on grid connected buildings can be a cheap way of increasing local generation
  - Tariff structure is critical to ensure community and utility are better, not worse, off
- Minimum rate per kWh for exported electricity
- Net metering limited to specified capacity (MW) or % of electricity sales (MWh)
- Focus on gross FiT based on avoided cost of generation
  - system owner pays for relevant TDR costs through the tariff they pay for electricity use
  - both the electricity use tariff and the amount of electricity used stay the same

FiTs cont.

- Customers need confidence their investment can be re-paid
  - Set time over which tariffs will be paid - no retrospective changes
  - DG systems should always be paid at least the avoided cost of generation (with no time limit)
  - Gross FiTs should not be imposed on systems installed under a net FiT, until their specified contract time is reached
  - If the FiT value needs to be changed (e.g. avoided cost of generation changes), the new rate should only apply to systems installed after the date of change
  - To facilitate change to new tariffs over time, a set period of time (say 5 years) can be specified

FiTs continued

- Announce any reductions in support over time at the start, E.g. net FiTs no longer available after 5 MW installed.
- Have public information on DG systems, tariffs, requirements, standards and approval processes
- Consider higher FiTs for generation during peak demand periods or in grid constrained areas (needs time-of use meters)
- Can have different tariffs for each technology (e.g. mini-hydro, PV, small wind, small biogas), or each sector (commercial, residential, or community)
- A public register of approved installations will be useful

Example of Evaluation Criteria for FiTs

Role	Example Criteria
Effectiveness	Number, nature and generation from DE systems Assessment of technical impacts.
Efficiency	Generation costs cf central Utility administration - as a per kWh cost.
Equity	Survey residential recipients for income and housing type.
Administration	Administration costs per MW installed or per kWh

Electrification of transport

- Who: Decision makers, regulators, utilities, transport sector
- Potential to change the energy dynamics in Pacific islands
  - Reduced transport fuel imports
  - Increased electricity demand -> needs to be renewable to be sustainable
  - Cleaner
  - Cheaper to maintain
- Do Pacific Islands want EVs?
- Where do they source supply – currently second-hand market?
- Perceived maintenance hurdle or new technologies?
- Future use of batteries?

	Current Actions	3 year	10 year
PIC Utilities	• Managing diesels with inc RE • Little budget for O&M	• High RE implementation plans and resourcing • Access to finance for new projects via IPPs	• Range of RE of different scales, with tariffs and consumer assistance (EE, appliances, PV etc)
Consultants	• Re-doing reports every few years	• Move to next phase of implementation	• Assess progress
PIC Govt	• Controlling tariffs • Making ad-hoc decisions about projects • Heroic GHG targets	• Establishing independent regulators • Allowing more cost reflective tariffs • Set 5 year plans	• Regular review of plans and progress • Look for new ideas, eg EVs
Research	• Ad-hoc	• Priority list from each country	• Range of projects involving local researchers
Donors/finance	• One-off capital grants • Re-run of roadmaps and other reports	• Long term funding strategies to support processes not just projects	• Use of donors to facilitate finance at appropriate terms • Share outcomes

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