

# ASIAN DEVELOPMENT BANK

## SE4ALL INVESTOR FORUM

# Building a Conducive Clean Energy Ecosystem

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Manila, Philippines



# Presentation Outline

- Vision & Mission of Fiji Electricity Authority
- SE4All Targets
- Existing and Prospective Renewable Energy Schemes
- FEA's Strategies and Plans - RE Schemes
- Energy Access Initiatives
- Examples of Recent Investments - EA Initiatives
- Critical Issues for Investors
- Policies - Reviews and Formulations
- Comments, Questions, Answers & Discussions

# Vision and Mission

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## VISION

“Energising our Nation”

## MISSION

“We aim to provide clean and affordable energy solutions to Fiji with at least 90% of the energy requirements through renewable sources by 2025”

# NEP & SE4ALL Targets

Indicator	Baseline	Targets		
		2015	2020	2030
<b>Access to modern energy services</b>				
Percentage of population with electricity access	89% (2007)	90%	100%	100%
Percentage of population with primary reliance on wood fuels for cooking	20% (2004)	18%	12%	< 1%
<b>Improving energy efficiency</b>				
Energy intensity (consumption of imported fuel per unit of GDP in MJ/FJD)	2.89 (2011)	2.89 (0%)	2.86 (-1%)	2.73 (-5.5%)
Energy intensity (power consumption per unit of GDP in kWh/FJD)	0.23 (2011)	0.219 (-4.7%)	0.215 (-6.15%)	0.209 (-9.1%)
<b>Share of renewable energy</b>				
Renewable energy share in electricity generation	60% (2011)	67%	81%	100%
Renewable energy share in total energy consumption	13% (2011)	15%	18%	25%

<sup>[1]</sup> Preliminary data from 2007 Census, Fiji Islands Bureau of Statistics.

<sup>[2]</sup> 2002-03 Household Income and Expenditure Survey, Fiji Islands Bureau of Statistics. Reliance on wood fuels as the main fuel for cooking.

<sup>[3]</sup> Based on 15% fuel substitution to local fuels and a 3% annual efficiency improvement.

<sup>[4]</sup> Fiji Islands Bureau of Statistics based on average 36 MJ per litre of fuel.

<sup>[5]</sup> Annual Report 2011, FEA.

<sup>[6]</sup> Based on total energy consumption of 16,500 TJ (Fiji Islands Bureau of Statistics) and 60% power generation from renewables (FEA).

<sup>[7]</sup> Based on 99% renewable power and 25,000 KL of biofuel.

## Viti Levu - Existing FEA Schemes

- Monasavu Hydro Electric Scheme - 72MW
- Nadarivatu Hydro Electric Scheme - 40MW
- Wainikasou Hydro Electric Scheme - 6MW
- Nagado Hydro Electric Scheme - 1.40MW
- Butoni Wind Farm - 10MW

## Renewable Energy IPP Schemes with PPA Signed

- Vuda Renewable Energy - 18MW (tbd)
- Tropik Biomass Plant - 10MW (operational)
- Tropik/GIMCO Biomass Plant - 10MW (construction in progress)
- Fiji Sugar Corporation (Rarawai) - 40 MW (operational 2017)

## Vanua Levu

- Wainique Hydro Electric Scheme - 0.8MW (operational)
- IPP scheme with PPA signed with FSC - 10 MW (operational 2015)

# FEA's Strategies & Plans – RE

- Develop renewable energy hydro schemes through a PPP model:
  - Qaliwana/Upper Wailoa Diversion Hydro Project (Western Division)
    - Potential Output - 44MW & Generation - 206GWh
    - Approx. Cost - US\$265M (Hydropower & Transmission connection)
    - Currently have an Exclusivity arrangement with Hawkins Infrastructure Limited of New Zealand who have been engaged to carry out preliminary investigation and geotechnical drilling to firm up the feasibility and invite financial partners to undertake the development
    - Commercial talks are in the pipeline and exclusivity period ends in March 2016
    - Investor interest has to be channeled to Hawkins and contact is available.

# FEA's Strategies & Plans – RE (cont.)

- Lower Ba Hydro Project Development (Western Division) is a combination of 3 schemes on the Ba river after the Nadarivatu Hydro Scheme.
  - Potential Output - 49MW & Generation - 214GWh
  - Approx. Cost - US\$324M (3 Hydro Stations & Transmission connection)
  - European Investment Bank (EIB) is providing grant of 4.55M Euros to carry out full feasibility studies
  - Agreements with EIB to be in place by early July 2015 and work packages released by year end.
  - Development will be ready for construction by 2017. Investment funding is not clear at this stage but FEA would put out an EOI for this development.

# FEA's Strategies & Plans –RE (cont.)

- Japan International Cooperation Agency (JICA) study findings:
  - Waivaka (Central Division)
    - Potential Output - 32MW & Generation - 67.6GWh
    - Approx. Cost - US\$88.7M (Hydropower & Transmission)
    - FEA is looking for grant funding to carry out full feasibility studies.
  - Wailevu (Northern Division)
    - Potential Output - 4MW + 13MW & Generation - 8,783MWh + 49,296MWh
    - Approx. Cost - US\$75.1M (Hydropower & Transmission)
    - FEA is looking for grant funding to carry out full feasibility studies.



# ENERGY ACCESS INITIATIVES

- Rural Electrification Initiatives (Govt + FEA - 10M USD annually)
  - ▶ 5000 households/year
  - ▶ Grid extensions, diesel mini grids, solar home systems,
  - ▶ Solar-diesel hybrid systems
  
- Key Government Agencies responsible for investments:
  - ▶ Investment Fiji
  - ▶ Ministry of Infrastructure and Transport
  - ▶ Fiji Electricity Authority

# Examples of Recent Investments – Energy Access

- Case 1 - Electrification of Dreketi and Surrounding Agricultural areas - USD 7M - funded by Govt. & FEA equally - grid connected
  
- Case 2 - Electrification of corridor between Rakiraki and Korovou towns - USD 9M - funded by Govt. & FEA equally - grid connected and project under construction.
  - Investment incentives for the agricultural sector - 10 years tax free zone
  
- Lessons Learnt:
  - Community involvement is critical for enhancing project sustainability

# CRITICAL ISSUES FOR POTENTIAL INVESTORS IN RE

- ❑ Land acquisition for project development
- ❑ Water rights for hydro schemes
- ❑ Sustainability of fuel supply for biomass projects
- ❑ Environment Impact Assessment
- ❑ Striking the right FiT in order to sign PPA with FEA

# POLICIES – REVIEWS AND FORMULATIONS

- ❑ Review of National Energy Policy and Rural Electrification Policy – in progress
  - ❑ To ensure achievement of SE4All objectives
- ❑ Formulation of Grid-connect PV Policy – in progress
- ❑ National Transport Policy – in progress
- ❑ National Electrification Master Plan

# Comments, Questions, Answers & Discussions

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**Thank You**



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