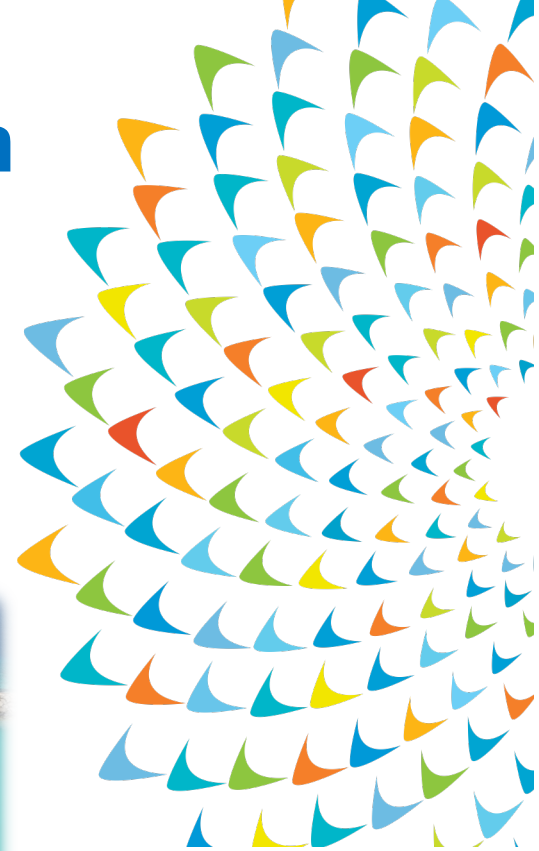


# Towards a Just Energy Transition in South Asia - Maldives case

## (POISED and ASSURE Projects)



June 2023



ADB



# Agenda

- **ADB interventions Supporting Energy Transition**
  - **POISED** Project and its additional financing
  - **ASSURE** Project ( expect approval in Q3 2023)
- **Energy Transition (ET)**
- **Pathways for Just Transition (JT) from ET**
- **Grounding JT principles into activities**
- **Lessons and opportunities**

# Ongoing Project : \$131 million POISED & Additional Financing

## POISED - Investment

ADB GRANT : USD 48.5 m

CTF GRANT : USD 12 m

JFJCM GRANT : USD 5 m

EU GRANT : USD 5 m

EIB Loan : USD 50 m

Adl Financing : USD 10.5 m

**Total : USD 131 m**

## POISED - Outputs

Solar PV installed : 28-30 MW

Energy Storage : 10 MWh

Diesel Generators : 20 MW

**“ Scattered over 160  
Outer Islands “**

## POISED - Outcomes

30% Peak demand by PV

Diesel savings : 0.1- 0.3  
Liters/Kwh

Reduced Co2 emissions

Tariff Reduction

## Sustainable growth



## Capacity development



## Impacts :

- More Sustainable energy sector based on renewable resources
- All Islands initiate electricity sector decarbonization



# Proposed ASSURE Project

**\$100.5 million**

1

**Private Sector Investments in Renewable Energy Enhanced**

- Up to 48% RE ( from ~ 10-12%)
- Covering at least 20 islands
- Including Floating Solar

- Sovereign Investments support BESS + EMS + Grid
- Private sector – Solar Panels in IPP

2

**Solar Independent Power Producer projects de-risked**

- Liquidity support (ESCROW)
- Performance incentive for bidders

- Attract Private Sector
- Reduce Government borrowings

3

**Renewable Energy Penetration using new Technologies and Net metering Increased**

- Exploring wind and ocean energy
- Model for Rooftop solar deployment (utility driven)

- Identify and develop pilot for other technologies
- Potential for scale up in future

4

**Capacity building of MOECCT, FENAKA and URA Strengthened**

- Necessary technical support for relevant stakeholders
- Policy and regulatory support for URA , EPA and others
- New areas and cross sectoral areas energy sector has high potential
- Financial Management support for FENAKA

5

**Disaster-resilient, innovative, and gender- and socially inclusive renewable energy-based farming technologies pilot tested and promoted**

- Support Energy–Water–Food nexus
- Community driven / operated

- Cross-sectoral approach supporting Agriculture using RE , efficient use of water , adopt new technologies , reduce chemical use.



# 100% Energy Transition

- ❑ ADB's entire energy sector portfolio in Maldives supports “**ENERGY TRANSITION**”
- ❑ **POISED project**: Fundamental Shift towards sustainable RE system from Fossil fuel (diesel) based.
- ❑ **ASSURE project**: Accelerated RE penetration by facilitating private sector and innovative technologies



# 100% Energy Transition





# 100% Energy Transition

- ❑ **Solar-Battery hybrid systems ( Optimal design) based on island configuration.**
- ❑ **Cross sectoral Interventions (Decarbonization strategy to support other sectors)**
  - Solar PV-based ice making plants (**Fisheries**)
  - Solar PV-battery Ferry (**Marine Transport** )
  - Renewable Energy - Water - Food nexus (**Agricultural**)
- ❑ **Innovative and emerging technologies**
  - Ocean based technologies ( wave, ocean current, tidal etc.)
  - Small wind technologies
  - Advanced storage (3C batteries , flow batteries)



# Energy Transition to Just Transition

## 1) Public Outreach and Awareness Campaign

- Attract strong community support – reduce air & noise pollution , improve quality of life
- Covering **160 outer islands** (~ 7000 participants and about **50% women**)







# Energy Transition to Just Transition

## 2) Career Guidance Sessions for Students

- Covering grades 8 to 10 and 12 (including teachers)
- Covering **160 outer islands (~6750 students – 3300 girls and 3400 boys)**





# Energy Transition to Just Transition

## 3) RE training and Community Empowerment

- **WDC's** trained on RE and its benefits
- Home Solar Program and Net metering campaign  
( 253 households installed rooftop solar in outer islands)





# Energy Transition to Just Transition

## 4) Energy Efficiency and Employment Opportunities

- 120 Male and 30 Women employed by Utility
- Distributed 3,221,250 LED bulbs, 78,760 LED tubes, 534 LED harbor lights and 2,500 LED streetlights





# Just Transition Interventions



## First Solar Powered Community Ice Plant in Dhiffushi to support Fisheries

- The plant is operated by the island council and Women Development Community





# Just Transition Interventions

## Solar PV Based Ice making Plant

**-Cross sectoral intervention supporting Fisheries**

### Community Inclusion

- **Solar PV system – Owned by Utilities**
- **Ice Making Machine – Owned by Island Community**

### Benefits for Community

- **Residents use Ice to preserve fish – supporting the main economic activity**
  - 365 Tons of Ice
  - ~ 320000 MVR
- **Save fuel for Fishermen**
- **Generate Revenue for Island Council**
- **Create Ownership among Community**

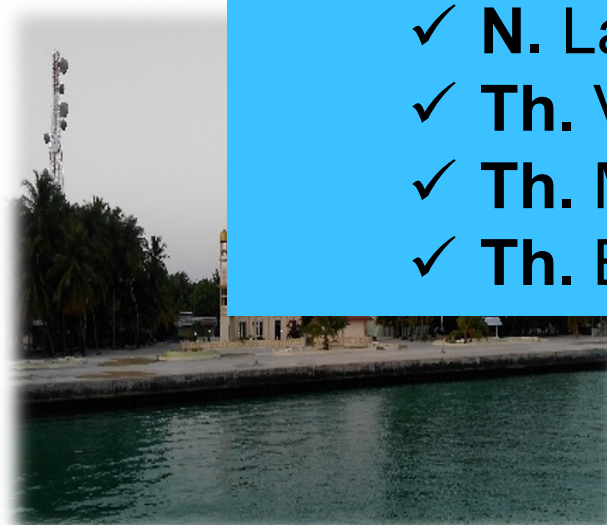


# Replication of Success Stories



## Replication of Solar Powered Community Ice Plants to support Fisheries

- 4 Ice-making plants to be installed in 2023 in:
  - ✓ **N. Landhoo**
  - ✓ **Th. Vilufishi**
  - ✓ **Th. Madifushi**
  - ✓ **Th. Buruni**





# Just Transition Interventions

- ❑ **Renewable Energy–Water–Food Nexus**
  - **FIRST** Renewable Energy (PV+BESS) based reverse Osmosis desalination plant
  - **Support Irrigation** integrated with modern and efficient systems (sprinklers , drip system , timers , sensors etc.)
  - **For agriculture** activities (engaging modern methods – shade houses, green houses, pilot hydroponics etc.)
  
- ❑ **100% community and gender inclusive** intervention to be run by Women Development Councils.



# Lessons and Opportunities

- Energy Transition / Just Transition**
  - Country , State , District or City context
  - Shall not wait for large scale transition ( region / country)
  - Identify areas of immediate interventions
  
- Grounding floating ideas into interventions**
  
- Replicate Successful interventions**
  
- Share experiences**





**Thank you**

