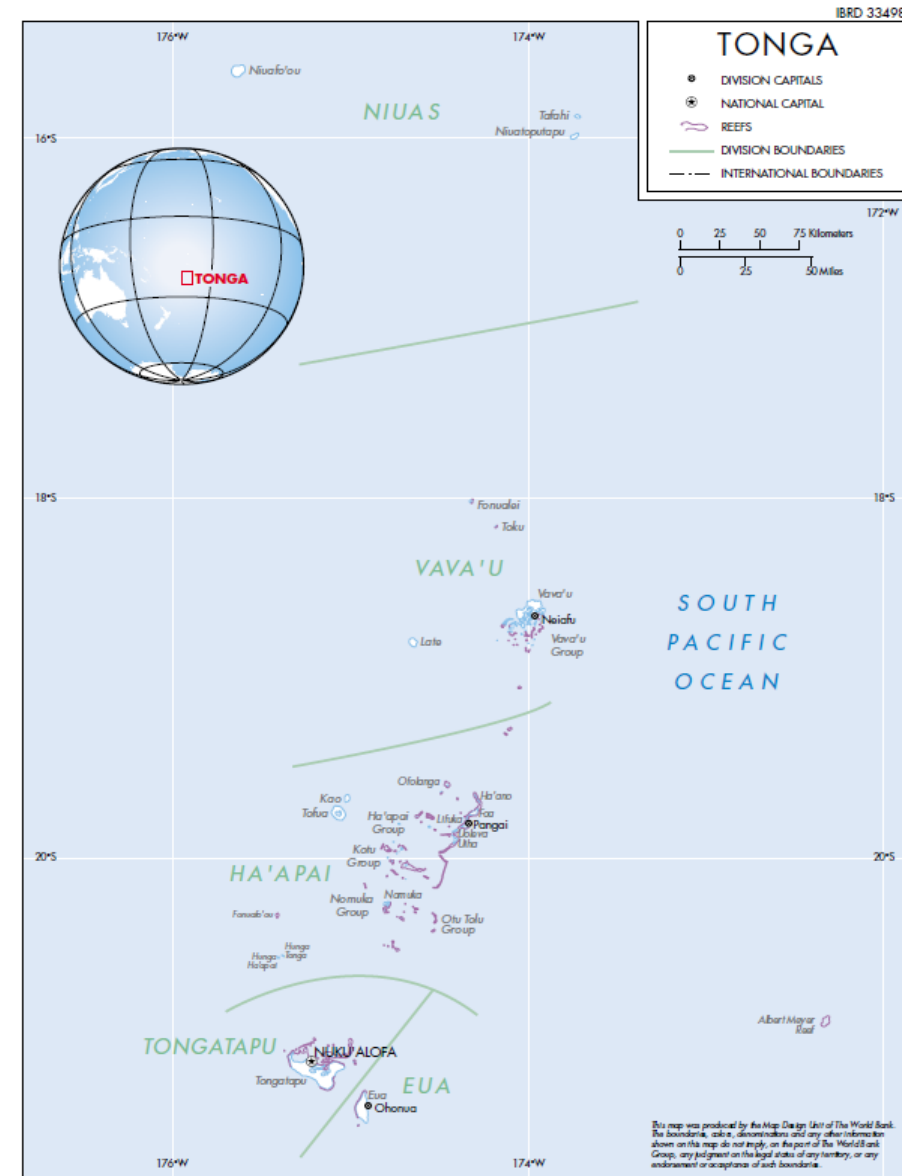


Tonga at a glance

- **Tonga:**

- South Pacific
- Small scattered 172 Islands
- Pop 103,000
- Isolated as one of Small South Pacific Islands
- Lack of mineral resources
- Limited renewable energy potential
- GDP per Capita: US\$5127 [2012]
- Exports: Agricultural and Marine products; tourism is growing



**CLIMATE CHANGE IS REAL AND THREATENING TO
THE PEOPLE OF SMALL ISLANDS**

ADDRESSING CLIMATE CHANGES:

PACIFIC LEADERS TOP PRIORITY AGENDA

ELECTRICITY SECTOR SOLUTION

UNESCAP 3RD SEPTEMBER 2019

Dr TEVITA TUKUNGA

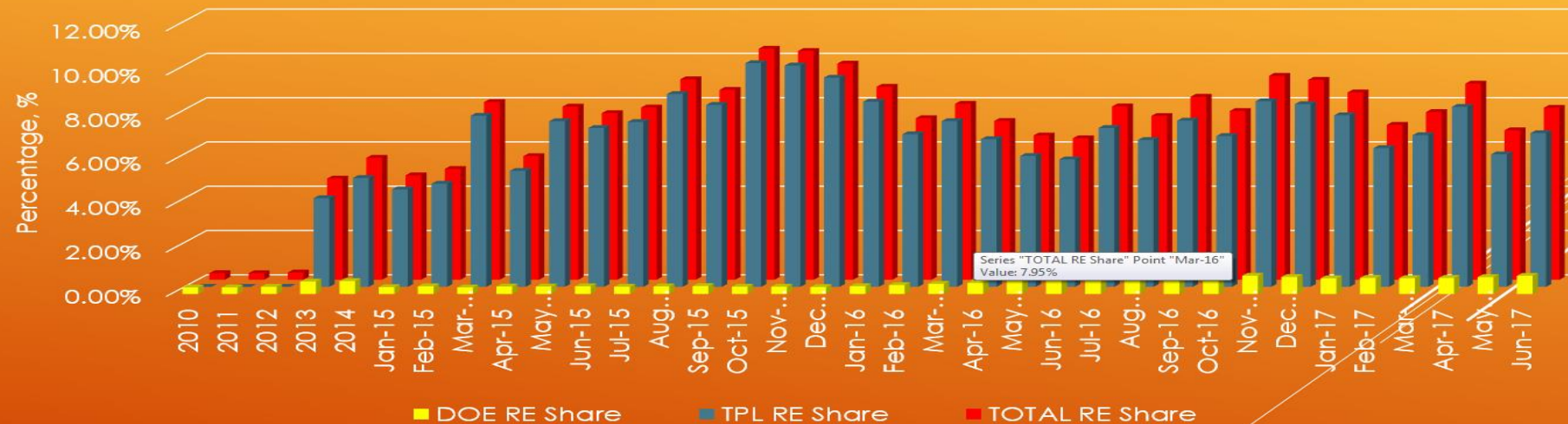
Tonga electricity sector TARGETS and STATUS on RE

TARGETS

A. 50% SHARE OF RE IN TOTAL ELECTRICITY GENERATION by 2020 - by TERM 2010 ; 70% by 2030 - by NDC 2015 ; 100% RE

B. FROM 18% TO 11% ELECTRICITY LOSSES IN THE ELECTRICITY NETWORK by TERM

Share of RE Total Electricity Generation



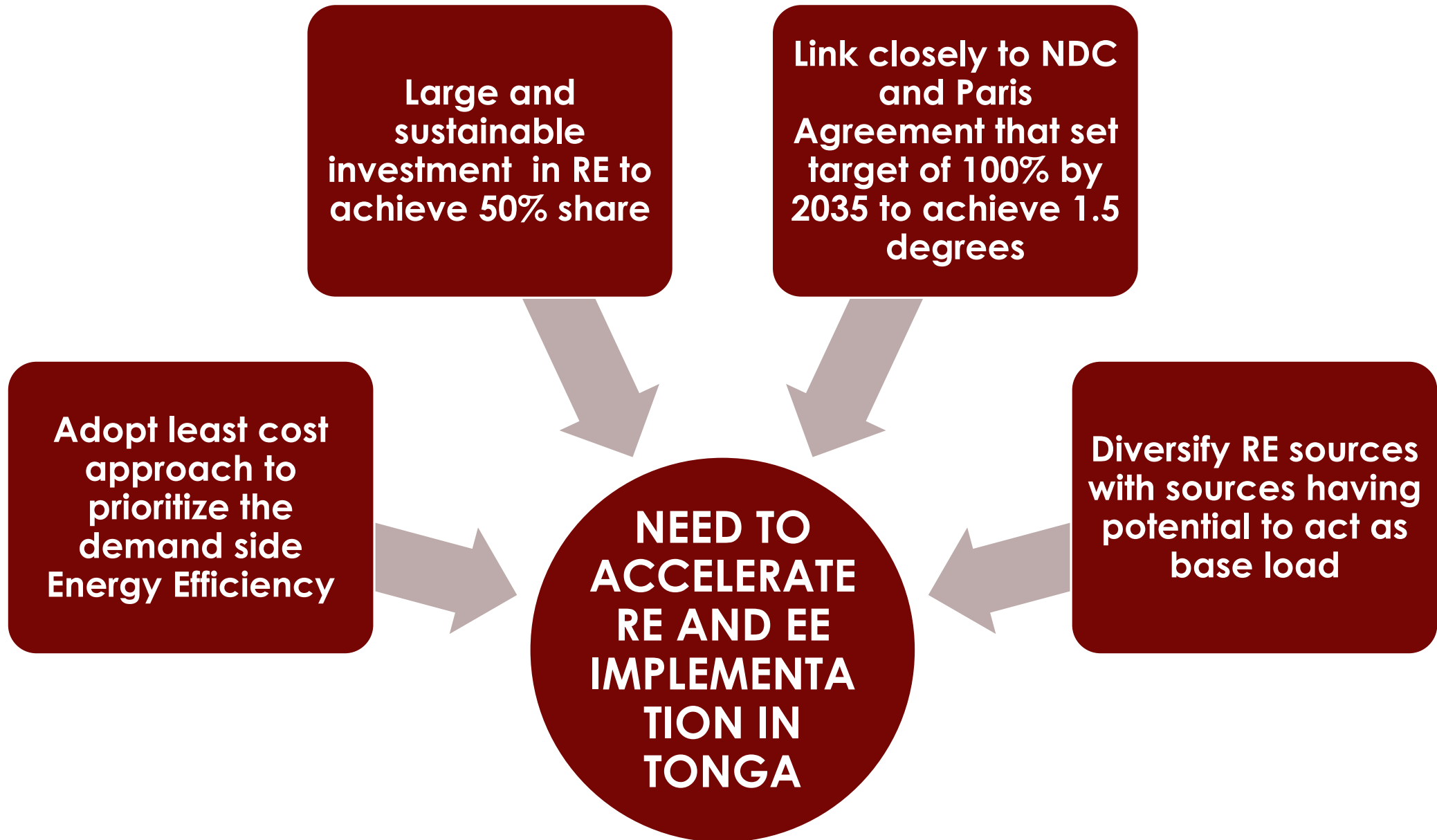
► TONGA RENEWABLE ENERGY PENETRATION 2019

18%
RE PENETRATION

20 %
BEST MONTH ACHIEVED

6.2MW
DIESEL GENERATION LIMIT REACHED

What is needed?



CTCN support to TONGA

Biogas to energy project using circular economy approach

- Project Proponent: Energy Division
- Status: Response plan under preparation
- Broad Objectives: *To undertake feasibility study and technical designing for biogas-based energy plant at an industrial scale in Tonga following Circular Economy Approach*

Tonga Energy Efficiency Master Plan (TEEMP)

- Project Proponent: Energy Division
- Status: Completed
- Broad Objective: To develop the Tonga Energy Efficiency Master Plan with a decision making tool

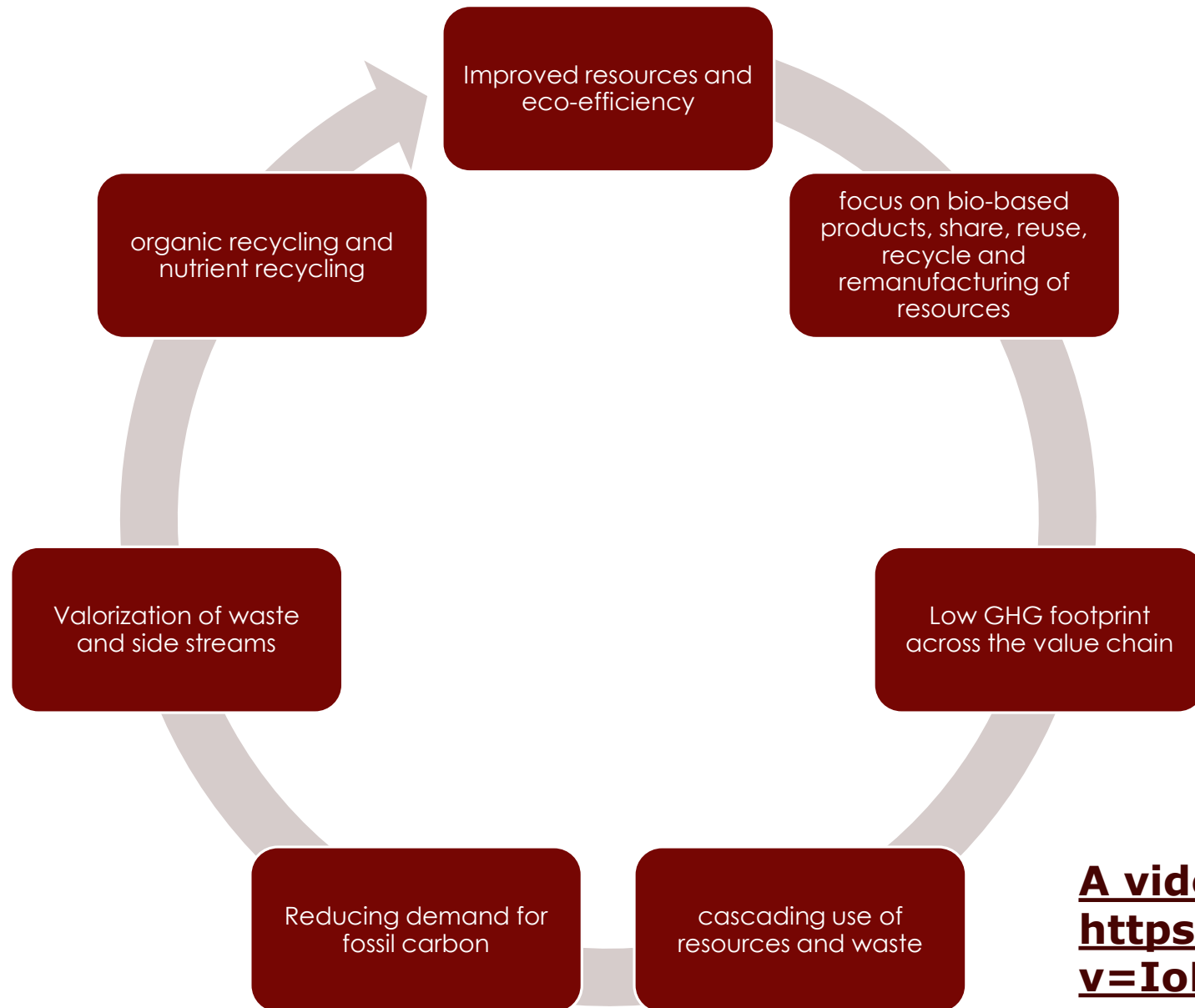
Tonga Energy Efficiency Master Plan Phase II- towards implementation

- Project Proponent: Energy Division
- Status: Implementer selection process undergoing
- Broad Objective: To make necessary revisions in TEEMP for taking it for Cabinet approval

- ▶ Circular Economy - the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste minimized.
- ▶ In the project context, the circular economy approach includes:
 - ▶ Improved resources and eco-efficiency in the agriculture sector
 - ▶ Low GHG footprint across the agro-value chain with cascading use of resources and waste
 - ▶ Reducing or replacing fossil fuels in the entire agro-value chain
 - ▶ Valorization of waste and side streams including the organic recycling and nutrient recycling

CIRCULAR ECONOMY IN AGRICULTURE

Biogas feasibility study in Tonga -Circular Economy Approach



A video on Circular Economy
<https://www.youtube.com/watch?v=IoFCo2kPeDM>

Biogas feasibility study in Tonga using circular economy approach- Outputs and Activities

Output 1- Baseline and resource assessment to support industry scale biogas plant in Tonga

- Activity 1.1- Resource availability assessment in Tonga
- Activity 1.2 - Baseline analysis of biogas technologies *existing or likely feasible to be implemented in Tonga*

Output 2- Biogas technologies at industrial scale will be identified

- Activity 2.1- Conduct detailed feasibility studies on biogas technologies for agriculture
- Activity 2.2- Undertake a consultation workshop to receive the feedback on the outcome of the feasibility study

Output 3- Capacity Development on biogas technologies

- Activity 3.1- Design an appropriate training mechanism for technicians to operate and maintain the biogas plant.
- Activity 3.2- Design a program for onsite study trips and experience sharing

Output 4: Support provided on proposal development

- Activity 4.1- Design proposal to apply for the implementation of the biogas project
- Activity 4.2: Design technical specifications to support the procurement of the biogas plant.

THANK YOU FOR YOUR ATTENTION

The image features a solid orange background with a subtle gradient. In the center, the text "THANK YOU FOR YOUR ATTENTION" is written in a bold, white, sans-serif font. In the bottom right corner, there are several thin, white, parallel lines that create a sense of motion or a modern design element.