

# OSTOCON



**Lao PDR**  
**NDE**

**Presenting two cases on**

- 1. Nature based Solution in six cities in Lao PDR**
- 2. Power to Gas masterplan in Lao PDR**

**A Webinar on Ensuring Climate Resilient Recovery after COVID-19**  
**26 Oct 2021 at GSTIC 2021**

## ❖ Priorities under Lao PDR revised updated NDC

### ❖ CASE I- CTCN supported interventions on Nature based Solution in Lao PDR

- ❑ CTCN Technical Assistance on City Climate Vulnerability Assessment and Identification of Ecosystem-based Adaptation (EbA) Intervention
- ❑ CTCN Fast Technical Assistance - Designing Ecosystem-based Solutions for Building Urban Resilience
- ❑ Reflections on the impact of CTCN support to Laos on EbA

### ❖ CASE II- CTCN TA on developing Lao PDR Power to Gas masterplan

- ❑ Overview of Technical Assistance (TA) on Power to Gas masterplan in Lao PDR
- ❑ Activities under implementation and impacts

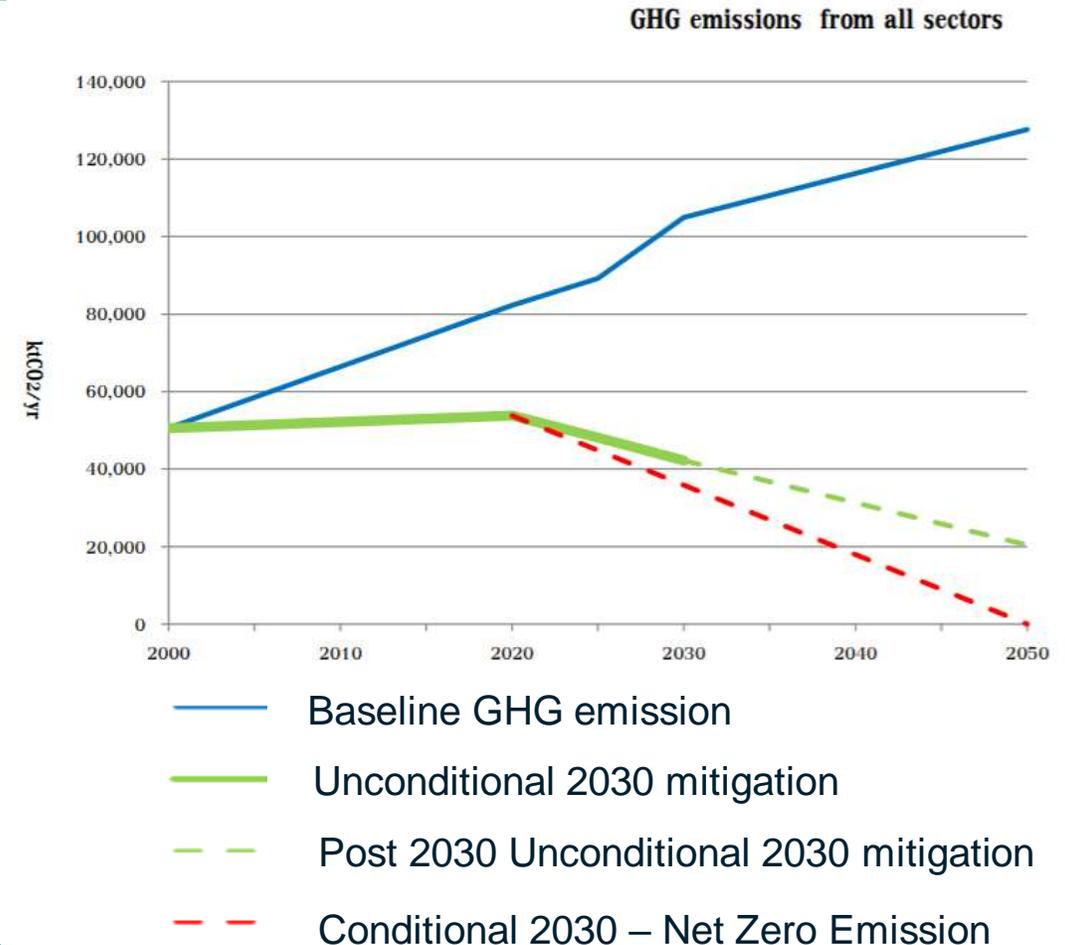
## ❖ Challenges (COVID-19) and way forward

# Priorities under Lao PDR's updated NDC

- Submitted updated NDC to UNFCCC on 5 March 2021.
- Intending to achieve the Net Zero Emission by 2050 with conditional mitigation.
- Energy sector comprising the transport offers large opportunities to decarbonize towards Net Zero.
- Adaptation measures are equally emphasized in NDC, contributing to Paris Agreement as Laos remain highly vulnerable to Climate Change.
- Some extracts from updated NDC of Lao PDR:

*“Nature-based solutions shall be prioritized as effective lower cost options to counter climate-induced disasters such as floods, landslides and droughts”*

*“Proposed interventions under NDC will also serve the country's post COVID-19 economic recovery by increasing resilience and accelerating decarbonization.”*



## CASE I- CTCN supported intervention on Nature based Solution in Lao PDR

- ❑ **CTCN Technical Assistance on City Climate Vulnerability Assessment and Identification of Ecosystem-based Adaptation (EbA) Intervention**
- ❑ **CTCN Fast Technical Assistance - Designing Ecosystem-based Solutions for Building Urban Resilience**
- ❑ **Reflections on the impact of CTCN support to Lao PDR on EbA**

# CTCN TA - City Climate Vulnerability Assessment and Identification of Ecosystem-based Adaptation Intervention

- **Objective**

- City climate vulnerability assessment and identification of ecosystem-based adaptation interventions in Laos.
- **Cost of the project: USD 245,179**

- **Deliverables and Outcomes of the TA**

- CTCN-TA contributed to design a GCF project proposal focusing on ecosystem-based adaptation in six cities in Laos.
- The knowledge and data obtained from the CTCN-TA strengthened the technical design of the GCF project.
- CTCN-TA helped identifying technical options for adaptation in urban areas, specifically technical skills, knowledge and equipment.

- **Impacts created**

- Identified the vulnerability of people and ecosystems in each of the six cities and made it clear that people in urban areas are currently impacted by climate change.
- Identified overall costing of EbA interventions that would be required to respond for reducing climate risks.
- **Leveraged USD 11.5 million (GCF grant + Gov Laos in-kind)**

# CTCN FTA - Designing Ecosystem-based Solutions for Building Urban Resilience

- **Objective**

- Conduct an economic and engineering analysis in the six cities.
- **Cost of the project: USD 23,000**

- **Deliverables and Outcomes of the TA**

- Contributed to revise and re-submit the GCF funding proposal *Building resilience of urban populations with ecosystem-based solutions in Lao*
- Overall Economic and Engineering Analyses

- **Impacts created**

- Estimated the economic impacts for the 6 proposed interventions;
- Designed interventions for flood remediation and residual flood risks;
- Analyzed the potential pollution remediation issues.

Location: 15° 7'59.27"N X 105°48'49.83"E



The floods occur on annual basis during July - October (Huay Nyang-Kham, Pakse)

# Reflections on the impact of CTCN support to Laos

>> CTCN support has been catalytic, transformational, and has helped leverage larger financing

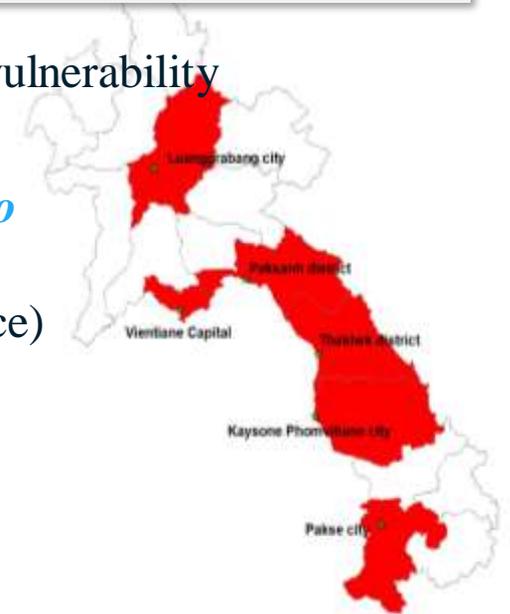
**Key deliverables and lessons learnt from CTCN TA & FTA on the city level climate vulnerability assessment of people and ecosystems and identification of adaptation measures have generated great impact, far beyond the 6 cities they targeted..**

- TA/FTA were the 1<sup>st</sup> step for a national scale assessment and mapping of climate change vulnerability

**6 VAs (2017) → 145 VAs (2021)** *The National Vulnerability Assessment Report was endorsed by MONRE in 2021 and is being distributed to all relevant sectors*

- They built the foundation for work in other sectors (e.g. GEF proposals IWRM, C. Finance) *GEF proposals being finalized on Integrated Water Resource Management and Ecosystem-based Adaptation in the Xe Bang Hieng river basin and Luang Prabang city, and on Piloting innovative financing for medium-sized cities (the CTCN GEF challenge program)*
- They were instrumental in leveraging financing to implement adaptation measures

**\$ 270 K → \$11.5 Million** *GCF project to build resilience in 4 city populations with ecosystem-based solutions.*



## **CASE II- Developing a power to gas masterplan in Lao PDR**

- ❑ Overview of Technical Assistance (TA) on Power to Gas roadmap in Lao PDR
- ❑ Activities under implementation and impacts

# Overview of Technical Assistance (TA) on Power to Gas masterplan in Lao PDR - *under implementation*

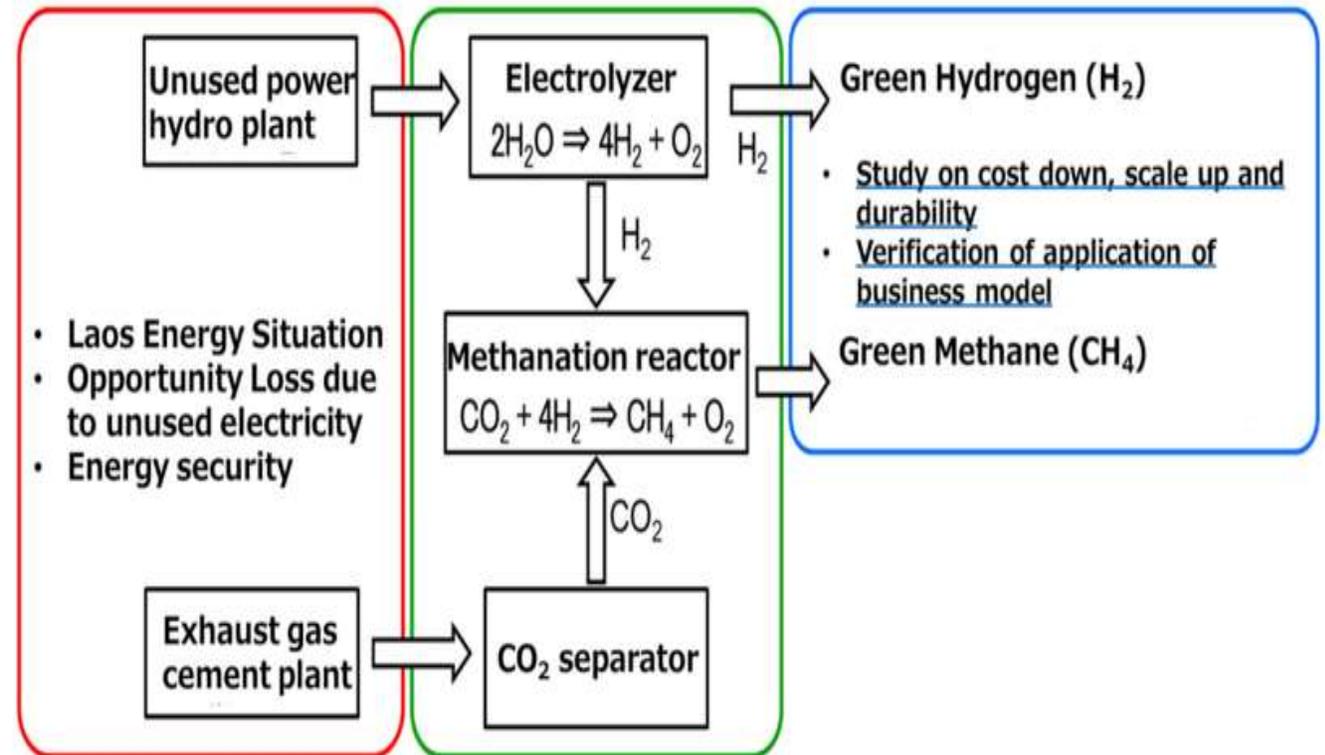
## Objective:

- Develop a masterplan for Laos to operationalize Power-to-Gas technology on a commercial basis in the future

## Context:

- Explore abundant and unused hydro as green source of energy
- to produce **GREEN HYDROGEN**
- Test with **Carbon Capture technology** in industries
- To produce Green Methane use as fuel.
- Reduce GHG emissions in Industry and transport sector

## Systemization of production suitable to local environment ( Hydrogen / Synthetic gas system)



Source- Hitachi Zosen

## Budget for CTCN TA:

- USD 243,881

# Activities under implementation and impacts on Power to Gas masterplan in Lao PDR

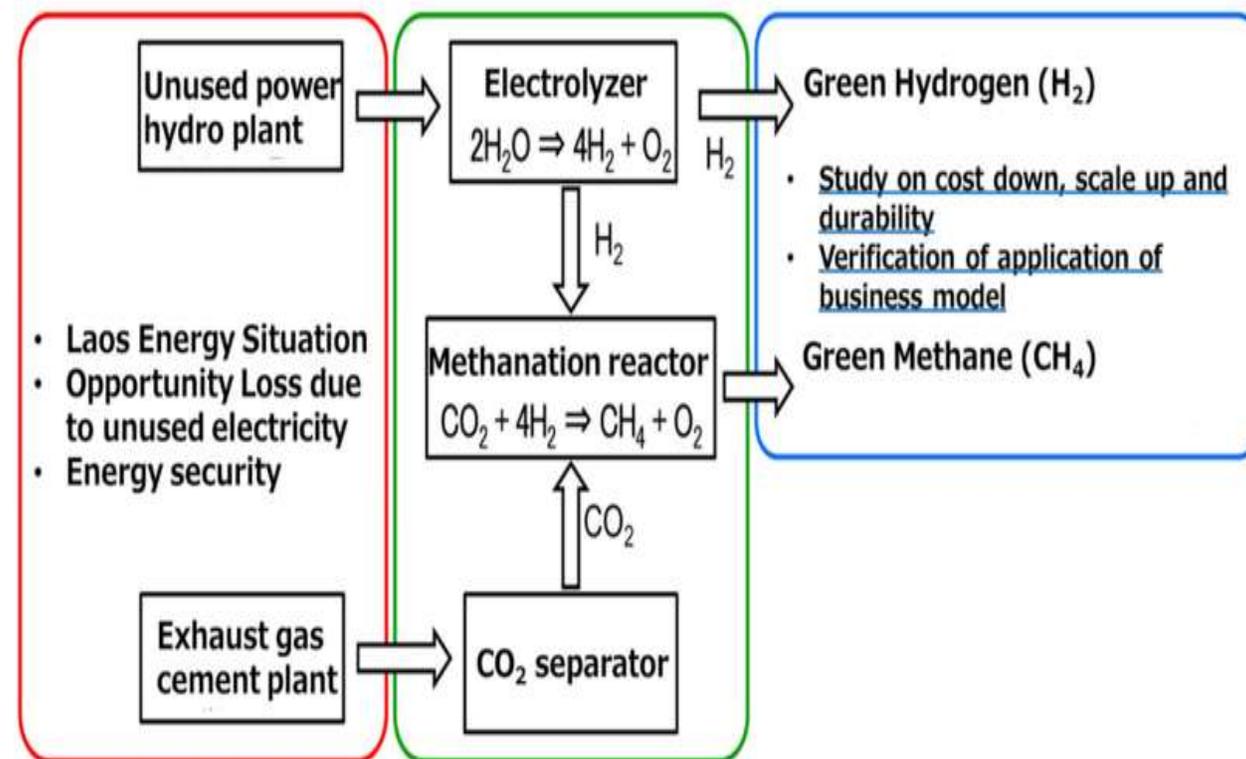
## Activities (Under Implementation):

- Power to Gas state of the art technology
- Country assessment for various application and related barriers in industry and transport sector
- Cost benefit analysis of power to gas technology in Laos
- A mater plan containing a roadmap, strategies and action plan to implement power to gas technology in Laos

## Impacts:

- Support the decarbonization of the industry and transport sector
- May serve as regional demonstration with potential opportunities to scale up in other countries in the region with similar energy landscape

## Systemization of production suitable to local environment ( Hydrogen / Synthetic gas system)



Source- Hitachi Zosen

# Challenges (COVID-19) and way forward

- **It may take years to be able to assess the full impact of CTCN TA support... Lao PDR is committed to carry forward the work through and after COVID19.**
- **Lao PDR's commitment to emerge resiliently from COVID-19 reflects in its updated NDC**
  - *The NDC has been mainstreamed into our National Socio-Economic Development Plan and National Green Growth Strategy;*
  - *Climate change adaptation and resilience approaches have been also mainstreamed at provincial master plan;*
  - *There are some sectors aim to contribute to net zero emissions 2050 target under the NDC, such as Land use change and forestry; Energy; Agriculture and Waste.*
- Lao PDR continued the efforts on Nature based Solution work under GCF approved proposal implemented by UNEP, despite of lockdown and travelling restricting the travel and data collection.
- The project is adapting the situation by decentralizing activities to provinces and supporting them virtually.
  - *Institutional arrangements strengthened with the PMU established with key staffs*
  - *On April 7th, 2021- Inception workshop was conducted to launch the project*
  - *National and Provincial Project Steering Committees (NPSC/PPSC) were formed.*
  - *National and provincial project workplans were prepared and endorsed by NPSC.*
  - *MoU signed with Environmental Protection Fund (EPF) is in the process of signing*
  - *agreements with NUoL, UN-Habitat.*

Thank you for your attention