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Partnership on Sustainable, Low Carbon Transport
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TENTH REGIONAL ENVIRONMENTALLY SUSTAINABLE TRANSPORT (EST) FORUM IN ASIA,
14-16 MARCH 2017, VIENTIANE, LAO PEOPLE'S DEMOCRATIC REPUBLIC

Implementation of Renewable Energy Projects

(Presentation for EST Plenary Session 5 of the Provisional Programme)

Final Draft

This presentation has been prepared by Dr. Sermkham Thoummavongsa, Ministry of Energy and Mines, Lao PDR for the Tenth Regional EST Forum in Asia. The views expressed herein are those of the author only and do not necessarily reflect the views of the United Nations.

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Intergovernmental Tenth Environmentally Sustainable Transport (EST) Forum in Asia

Renewable Energy and Energy Efficiency for Low carbon City

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15 March 2017, Vientiane, Lao PDR

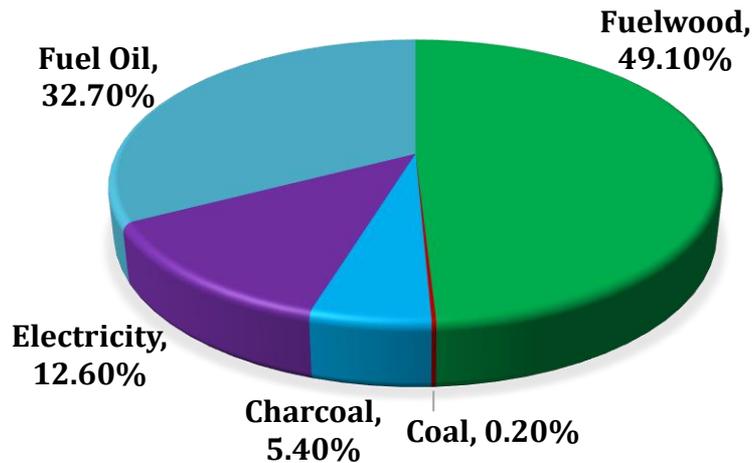
CONTENTS

- I. Overview on Energy Consumption
- II. National Energy development Plan
- III. R.E Policy and Strategy
- IV. EE&C Development & its National Policy
- V. Benefit/Roadmap on Electric vehicle
- VI. Summary on Energy development for Low Carbon City
- VII. Challenge
- VIII. Need to support

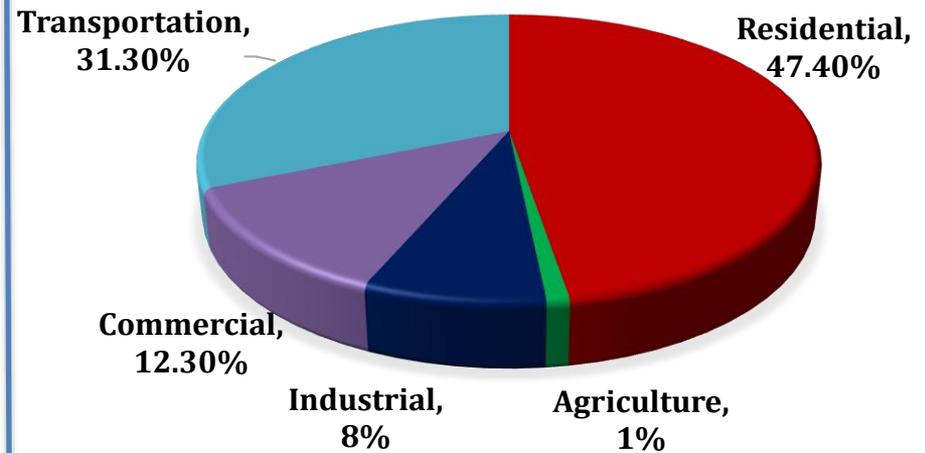
I. Overview of Energy Consumption

- **Energy Consumption (2014): 2,510 KTOE**

ENERGY CONSUMPTION BY TYPES



ENERGY CONSUMPTION BY SECTORS

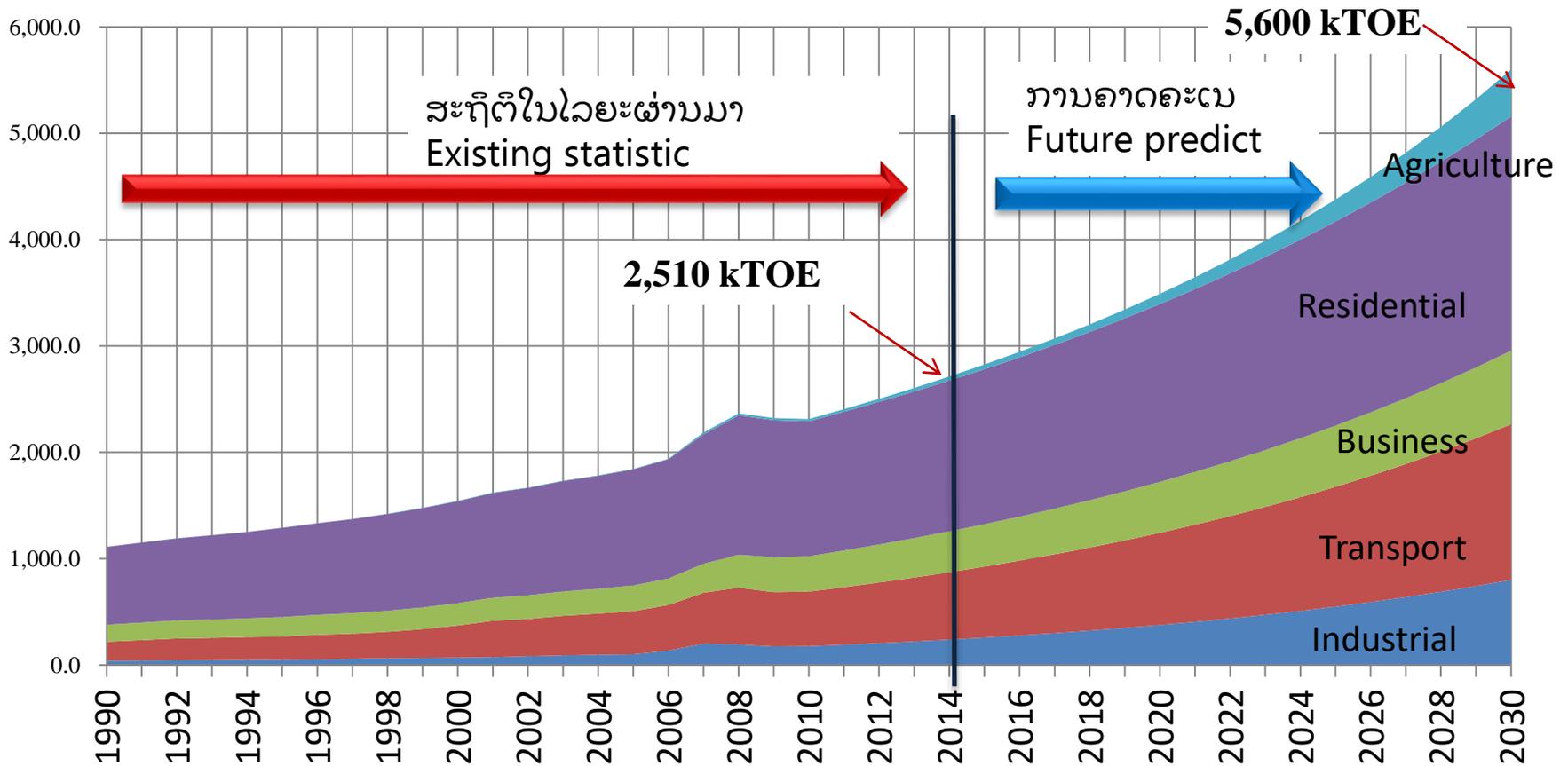


Primary Energy Consumption in Lao PDR by 2014 (MEM)

Trend of Total Energy Demand

ທ່າວ່າງໃນຄວາມຕ້ອງການຊົມໃຊ້ພະລັງງານສຳເລັດຮູບ, kTOE

■ ອຸດສາຫະກຳ
 ■ ຂົນສົ່ງ
 ■ ທຸລະກິດ
 ■ ທີ່ຢູ່ອາໄສ
 ■ ກະສິກຳ



Main target on Energy Sector

- Lao PDR is 91% electrified
- Promote energy efficiency and conservation by Reduce 10% of energy consumption in 2030 (Compare to BAU)
- Provide clean energy to sustain economic growth and Poverty alleviation
- Increase power Export for revenue earning
- Expand access to electricity services up to 95% of households by 2020
- Increase RE use to 30 % of national energy consumption by 2025

Power Generation Share

Total Install Capacity 6,400 MW, 44 Project

Thermal Power 1800 MW

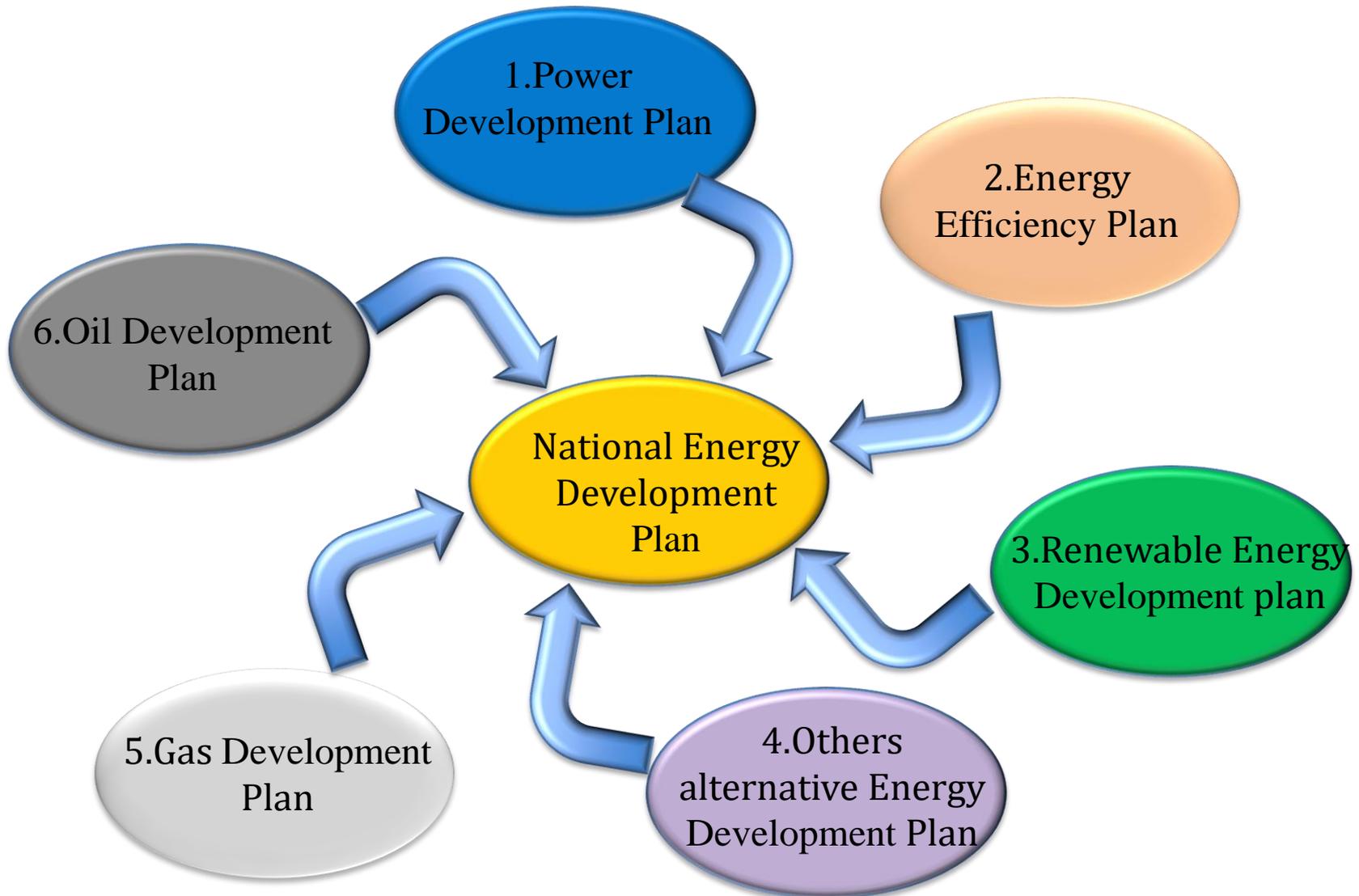
Hydro Power 4556.5 MW

Solar Power 3.5 MW

Biomass 40 MW

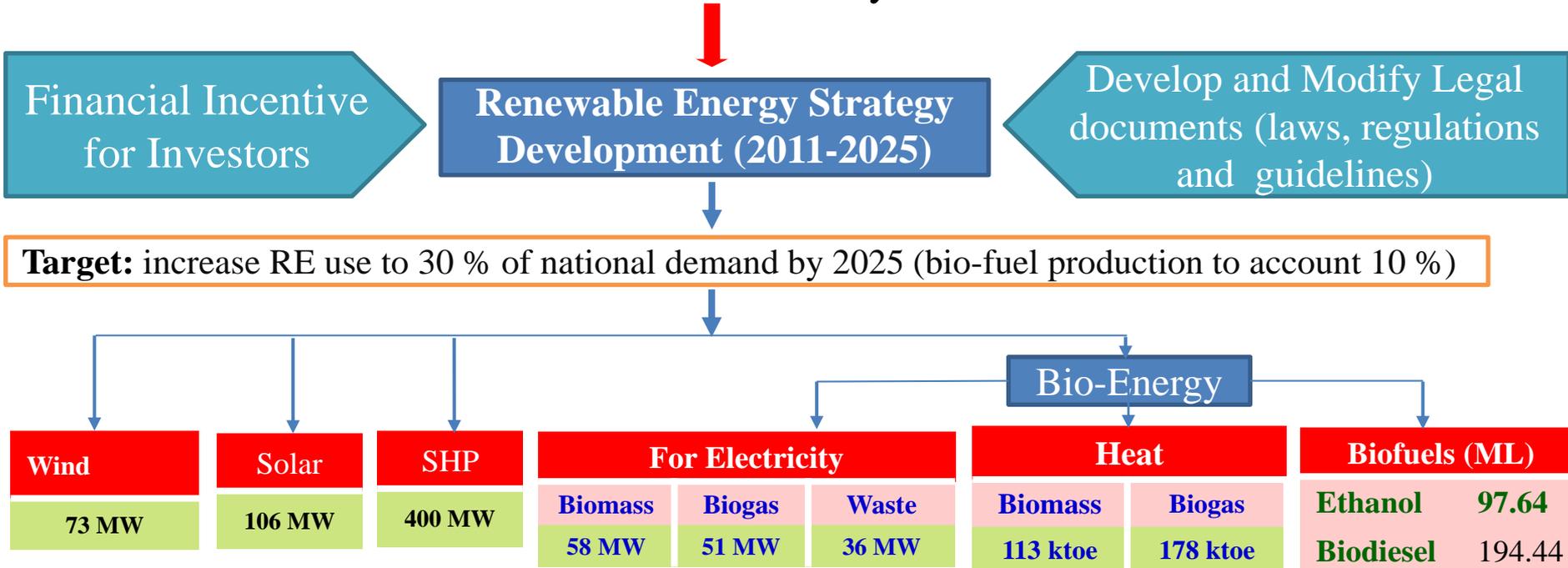
Almost 72% of power in Lao PDR are generating from
Renewable Energy : 4,600 MW

II. National Energy Development Plan



III. R.E Policy and Strategy

Objective: Ensure energy security, sustain socio-economic development, and enhance environmental and social sustainability



Support Mechanism

- **Establish Renewable Energy Fund**
- **Financial Mechanism:**
 - Import duty free on production machinery, equipment and raw materials
 - Import duty free on chemical materials necessary for biofuels production within 7 years
 - Profit tax is divided in to 3 categories: 20%, 15% and 10%. Profit tax exemption is possible for a certain period depending on activities, investment areas and size investment
- Subsidies on unit product price depending on energy type and times period

Biofuel Development

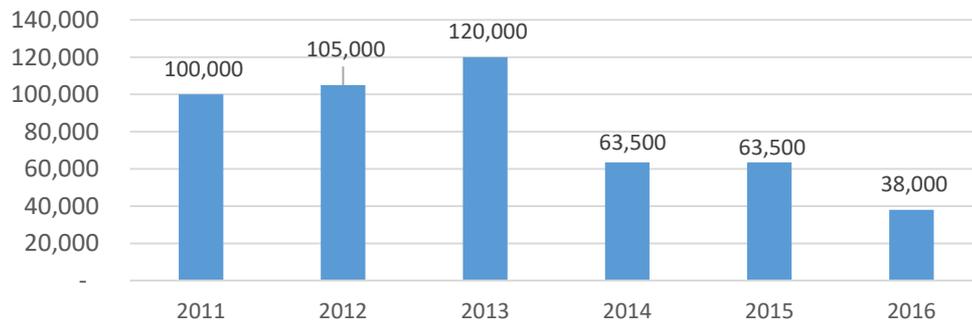
Plantation-Area	Harvest-Area
Palm oil	
300+800 ha	60 ha (2016)
FFB	173,640 kg
CPO	33,000 L
B100	20,000 L
Biodiesel Plant: 20,000 L/day	
Extraction Plant: 20 tons/day	
Vernicia Montana	
12,350	3,000 ha
Fruit collection	75,000 kg
B100	18,000 L
Biodiesel Plant: 1,000 L/day	
Extraction Plant: 2 tons/day	
In 2017 new Plant 2 units; Each unit 15 t/day	
B100	18,000 L

Biodiesel-Makao Oil Lao Co., Ltd
Luangprabang, district
Luangprabang Province

Lao-Agrotech Co., Ltd
Naxaythong, district
Vientiane Capital

Bio ethanol: June 2014
The GOL signed MOU with 2 local private company to conduct feasibility study of bio ethanol production from cassava (each 200,000 L/day)

Current Statute Bio-Diesel Production B100 (liter)



IV. EE&C Development & its National Policy

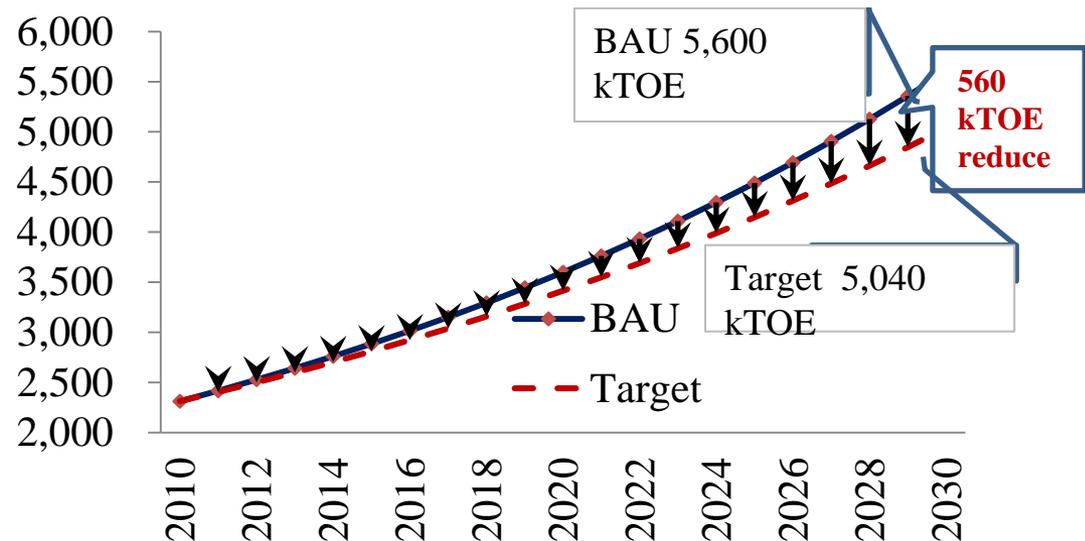
- The National EE&C Policy towards 2030, aiming to achieve the following goal:

- Reduction of national energy demand by 10% (year 2030)
- Reduce energy consumption level by around 1% per year on average (BAU)
- GHG reduction (2.6 Mil.tco2 in 2030)

- 4 areas of focus:

- Industry
- Residential
- Building & office
- Transportation

- What's up next:.....



V. Benefit/Roadmap on Electric vehicle

Benefits

- To promote use of potential clean energy of country to transportation system
- To shift mode conventional transportation system to environmental friendly system
- To reduce a gap of deficit on energy by reducing fuel oil import
- To Promote green growth and sustainable development with all relates sectors

Road Map

- Plan for charging station set up
- Tax scheme for EV and electric motor-cycles
- Campaign for CO2 reduction with EV

VI. Summary on Energy development for Low carbon city

- Almost of energy using in Lao PDR are indigenous
- Main source of power generation is hydropower
- To reduce pollution from transportation sector there are some measure issuing:
 - Biofuel development, Bio-diesel and Ethanol
 - Using additive technology to the fuel oil
 - Develop EV transportation system
- Super clean cook stove are putting in place for using in many communities
- Study of Mini/Micro-grid with RE

VII. Challenge

- EV development plan have to include in the social economic development plan
- All relates technologies are import
- Huge amount of capital is needed for infrastructure development on shift mode transportation
- Local capacity development including awareness raising is taking time and making cost
- Coordination mechanism including scope of work with cross sectors have to set
- Additional specific legislation tools to support EE&C in transportation sector have to develop

VIII. Need to support

1. Budget for study research and development
2. Technology transfer including experience
3. Capacity development to both ministries such MEM & MPWT
4. Develop coordination mechanism across relates
Ministries include: MEM, MPWT, MOST, MOIC
5. Develop specific legislation tools to manage all EV and relates parts importing to the country
6. Others activities...



Thank you

