

**Presentation**

**on**

**Increasing Prioritization of Expanding Access to Clean and Modern  
Cooking Solution in National Energy Access Planning: A Case of Nepal**

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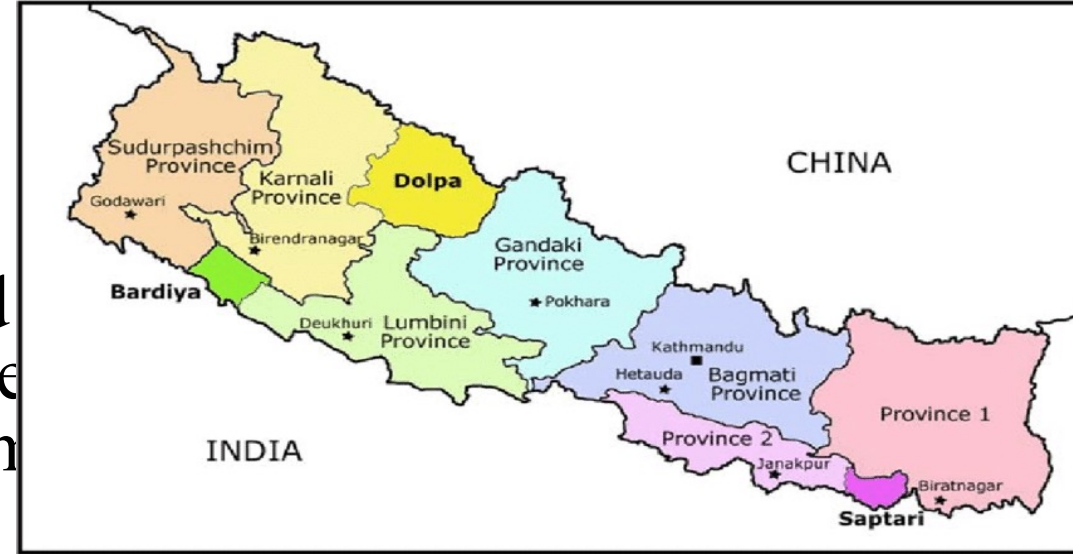
14 June 2023

# Presentation Outline

- Brief Introduction of Nepal
- Current Energy Situation
- Cooking Fuels Used in HHs
- Various Models of Clean Cooking Technologies
- Government Plan-Targets
- Government Policies
- Opportunities
- Key Challenges
- Lesson Learned
- Collaboration

# Brief Introduction of Nepal

- Nepal is a small landlocked country located between India to the East, West and South with the highest peak (8,848 m), birth place of Gautam Buddha (Lumbini).







- Total area of the country is 147,516 sqkm and total population is 29.1 million (6.6 million households)
- The total GDP of Nepal is around US\$36 Billion and per capita income is US\$1,399
- Country has federal system with 7 provinces and 77 districts (three tiers of Government – Federal, Provincial and Local)
- About 95% of population have access to electricity (Hydropower and other RE).




# Current Energy Situation

- Nepal has huge potential of hydropower and other renewable energy sources – solar energy, wind energy and biomass energy.

## ▪ Power : Potential / Progress

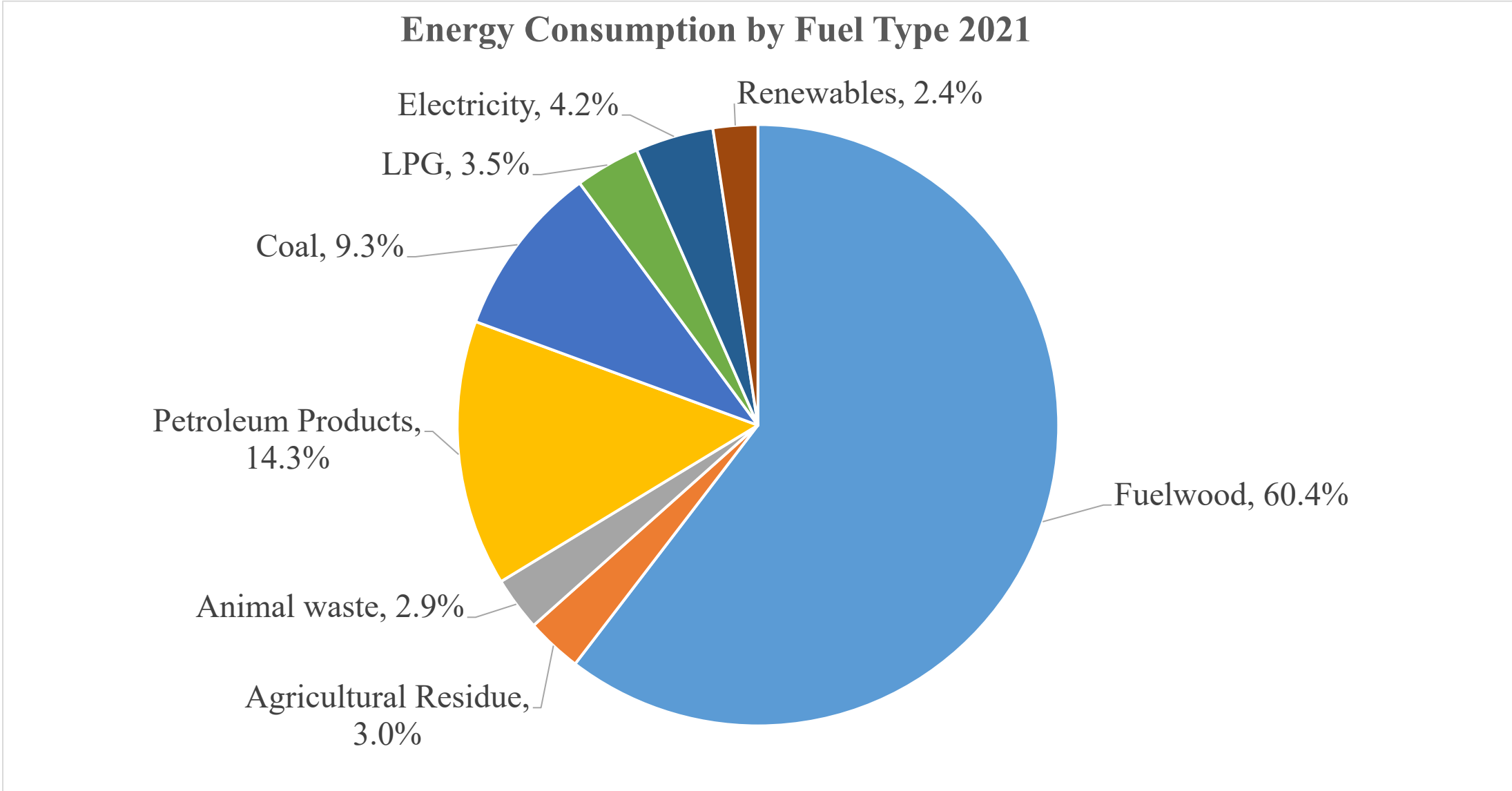
- Total potential of hydropower  83,000 MW
  - ❖ Economical Potential  42,000 MW/**2,449 MW**
- Total potential of Solar PV  2,100 MW (taking 2% of area)/**120 MW**
- Total potential of Wind Energy  3,000 MW (considering 10% of feasible area)/**153kW**

## ▪ Clean Cooking Technologies: Potential/Progress

- Total Potential of Biogas  1.9 million (Nos.)/**439,547**
- Total Potential of Improved Cook Stoves  3 million (Nos.)/**1.5 million**
- Total Potential Electric Cook Stove  3 million (Nos)/**40,874 Nos**

- **Almost 50% of the HHs in Nepal are expected using the clean cooking technologies incl. LPG**

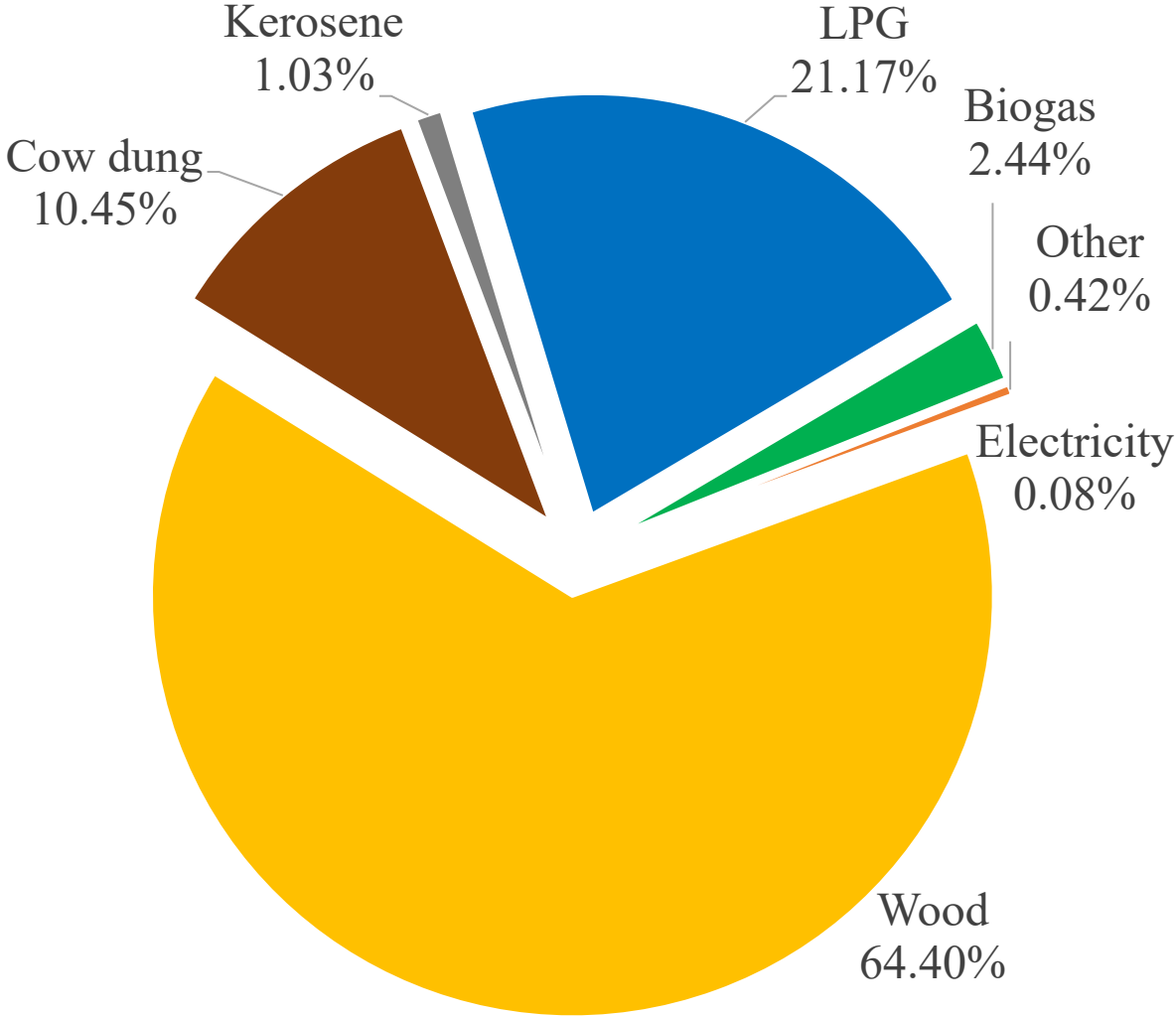
# Current Energy Situation.....



Source: WECS, 2022

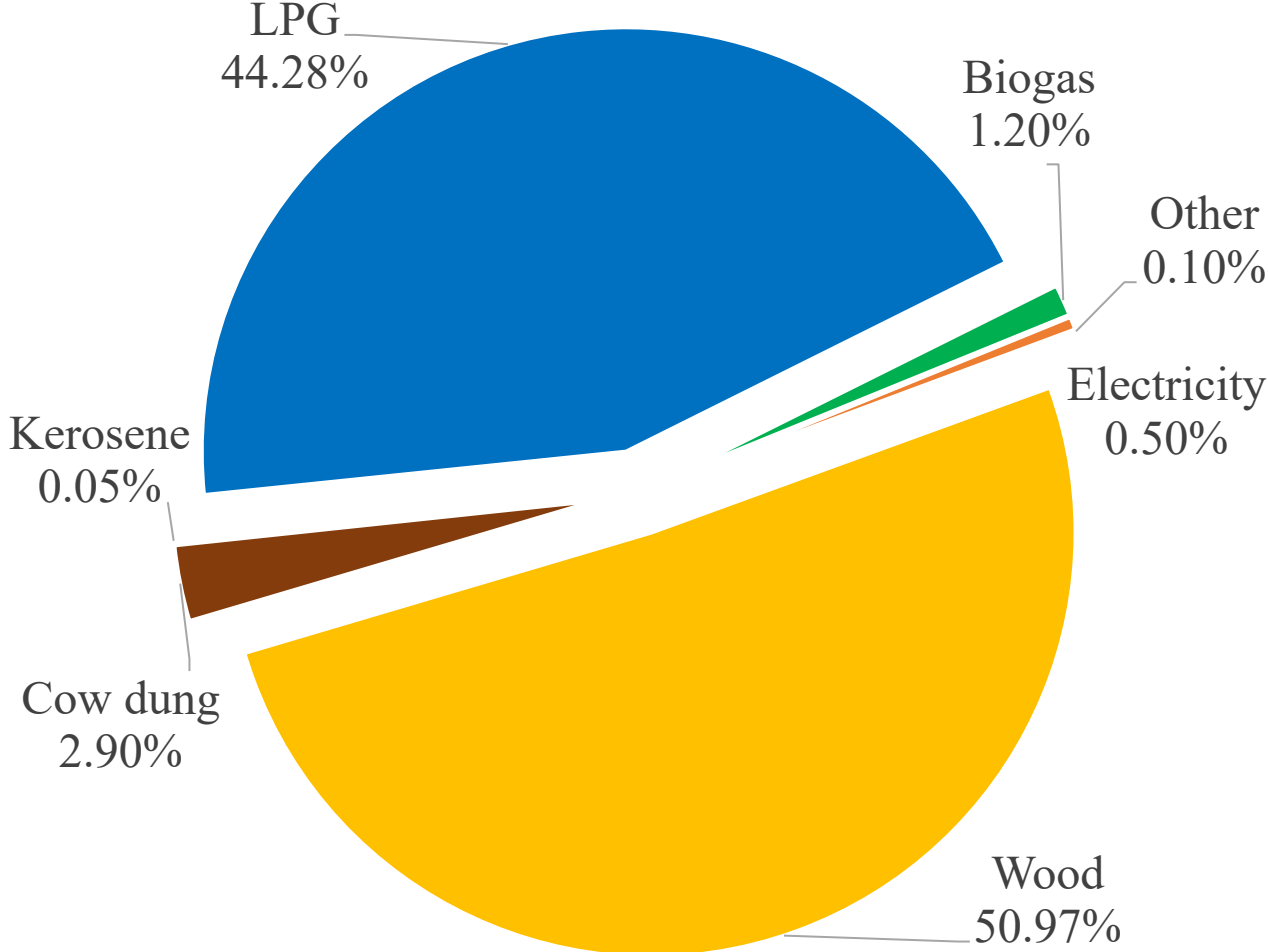
# Cooking Fuels used in Households, 2011 and 2021

2011



Source: CBS Nepal, 2012

2021











Source: CBS Nepal, 2022

# Various Models of Clean Cooking Technologies in Nepal



# Government Plan – Targets

- Generation of Electricity  15,000 MW (by 2030)
- Per Capita Electricity Consumption  1,500 kWh (by 2030)
- Electrification  100% (by 2024)
- High Voltage Electrical Transmission Lines  400kV/765 kV
- Electric Cook Stove  500,000 Nos (2023-2028)
  - **Electrical Cook Stove**  **to every HHs (by 2030)**
- Household Biogas  100,000 Nos (2023-2028)
- Improved Cook Stoves – Rocket (Tier 3)  490,000 Nos (2023-2028)
- All Provincial Governments have their targets and plans for promoting e-cooking stoves, and other clean energy technologies (such as biogas)



# Government Policies

- Providing the direct financial support in terms of the subsidy, tax exemption
- Encouraging the private sector for manufacturing, supply and installation of the clean cooking technologies
- Development of environment friendly technologies
- Reducing the GHG emission through the promotion of clean cooking technologies
- Research and development for increasing the efficiency and reducing the upfront cost of the technologies
- Transfer the technology to the rural areas
- Financing the clean cooking technologies through use of carbon fund
- Increasing awareness to create demand and continuous use of the technologies

# Opportunities

- Reduction of indoor air pollution and GHG emission
- Use of locally available clean energy resources and technologies
- Reduction of imported petroleum products for cooking (LPG, kerosene etc.)
- Improvement in health, education and quality of life of people
- Reduction of the workload of women and school going girls
- Green employment generation in the country
- Reduction of the trade imbalance (*Nepal imports the huge amount of petroleum products every year from India, and imported around US\$ 3 billion last year 2021/22*)
- Promoting the gender equality and social inclusion (GESI)
- Access to international funding such as GCF, clean cooking fund, challenge fund, innovative fund etc.

# Key Challenges for Achieving 100% Clean Cooking Solutions

- The major challenge is to provide the 100% households with clean cooking solution in Nepal by 2030:
  - Designing of the robust clean cooking technologies that can meet the needs of the household
  - Limited local manufacturing capacity and testing, lack of standardization
  - Reliability and sufficient electricity supply in the grid areas for electrical cook stoves
  - Availability, affordability and reliability of the clean cooking technologies
  - Mobilization of the financial resources (internal and external)
  - Access to easy financing such as through micro finance
  - Providing the low cost repair and maintenance services in rural areas
  - Increasing adaptation of the clean cooking technologies

# Lesson Learned

- Designing various models of the technologies meeting the needs of the households
- Available, reliable and affordable clean cooking technologies are important factors for successful dissemination of the technologies
- Demand driven approach is key factor for adoption of the technologies
- Standardization, testing, quality assurance and field based monitoring are essential for sustainable operation of the technologies
- Access to finance (**both grant and credit**) should be linked with technical backstopping including minimizing failure of the technologies/models
- Distribution, and repair & maintenance service centre should be in place
- There should be an integrated approach of the disseminating the technologies linking with health, education, income generation and rural development
- Long-term policy and plan in place

# Collaboration with CCA and MECS

- Alternative Energy Promotion Centre (AEPC) is collaborating with various development partners, international organizations (primarily with GCF, CCA and MECS) and National Organizations (Practical Action, WWF, CRT/N, BSP-N) for clean cooking solution to 100% HHs in Nepal.
  - Country Action Plan for Transforming the Cookstoves and Fuels Market in Nepal
  - Standardization of clean cooking technologies (such as e-cooking)
  - Market assessment of electric cooking technologies
  - Sharing of information on technologies, modalities and policy measures
  - Resource mobilization on clean cooking technologies
  - Alliance for the wider dissemination of the clean cooking solutions

**Thank You So Much**  
**For**  
***Your Kind Attention***

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