PROSPECTS OF LARGE BIOGAS IN NEPAL

1. GoN's Policy & Plan Perspectives
2. Development Partners Support Perspectives
3. Implementation & Financing Perspectives
4. Issues & Challenges
5. Comments on Experts Presentation & Way Forward

MUKESH GHIMIRE

SENIOR OFFICER (HEAD- BIO ENERGY)- AEPC

PROJECT MANAGER- WORLD BANK SUPPORTED SREP PROJECT

Biogas in Numbers

Potential for Domestic Biogas- 1.1 Million

No of Biogas system Installed- 426,000 Small +283 Large

No of very large size plants (>200m3)- 7 completed+ 25 under construction 586 Demand

No of Installer Companies- 150+

No of Consulting Firms: 15+

Nepal's Program Modality replicated in- 23 Countries

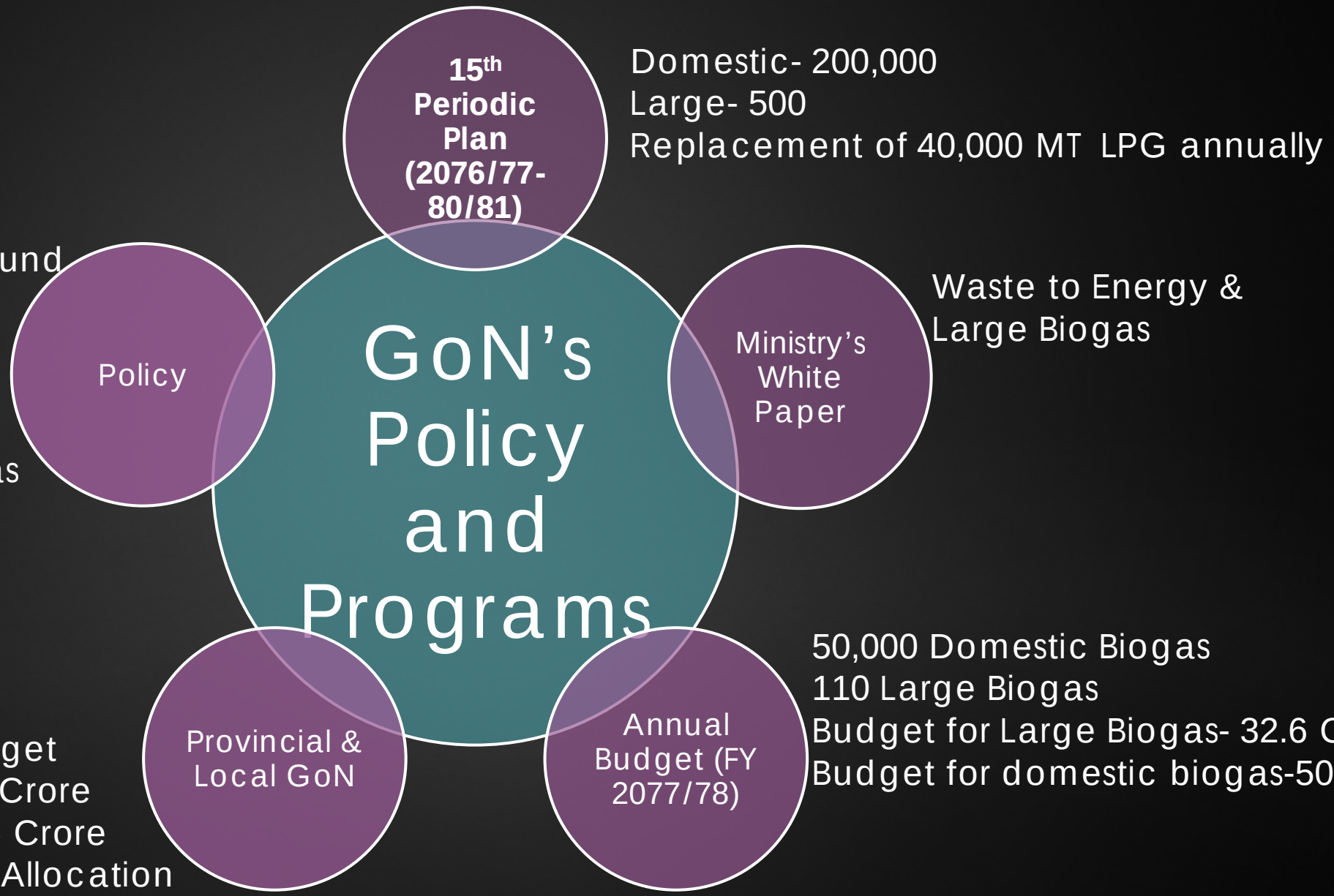
CDM registered biogas- 2,48,883

CER Reduction - 3.3 million (94.2%)

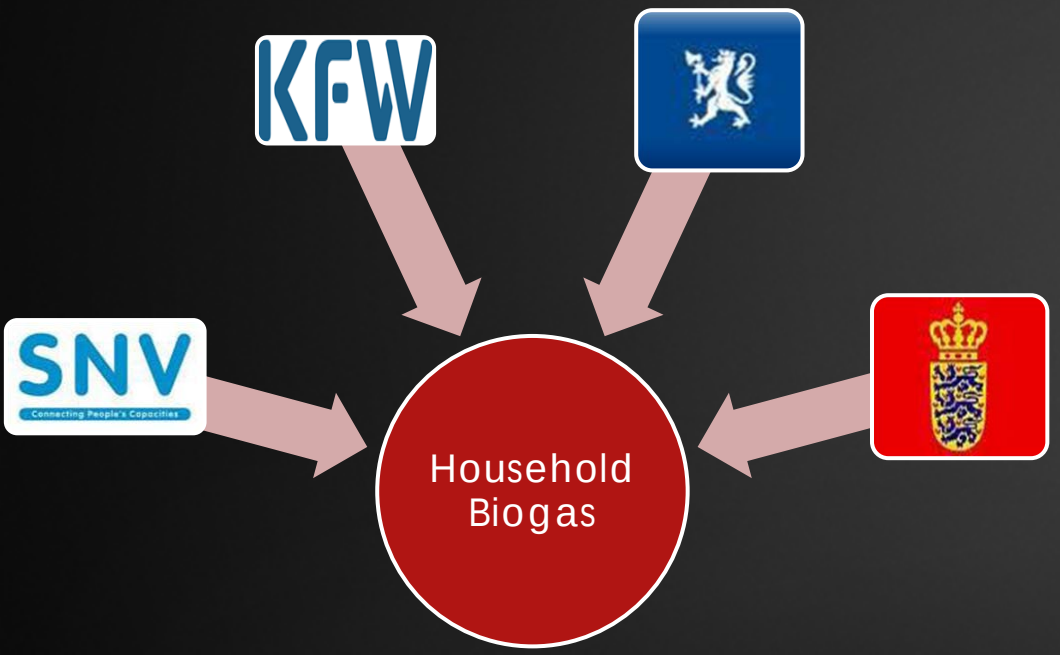
Total Revenue Earned- 15.5 MUSD

Human Resources: 30,000

Biogas Promotion- Top Priority of GoN



Development Partners (Donors) Support



WORLD BANK

7.9 MUSD (95 Crore) : till 2021 August

+

Possibility of new project

IRENA
International Renewable Energy Agency

ABU DHABI FUND FOR DEVELOPMENT

10 MUSD (1 arab 20 crore) for 5 years (Soft loan)

GREEN CLIMATE FUND

43.86 MUSD (5.25 arab)- Proposed for next 8 yrs (including fecal sludge)

UNDP

UKaid
from the British people

जर्मन सहयोग
DEUTSCHE ZUSAMMENARBEIT

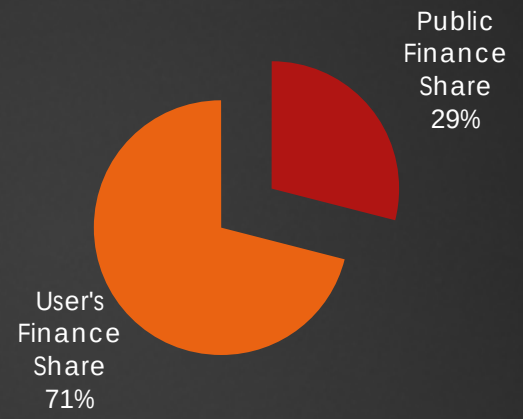
Challenge Fund +TA support

Implementation & Financial Perspectives

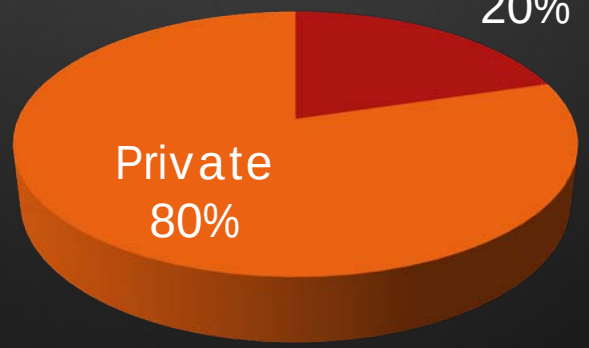
Domestic
Community & Institutional
Commercial
MSW/ W2E

Typical PPP Projects

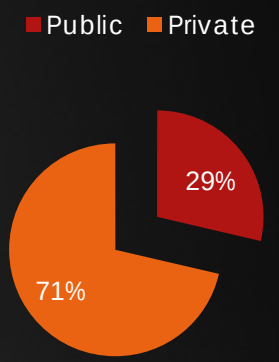
Financing Share by Public Sector and Users (Domestic Biogas)



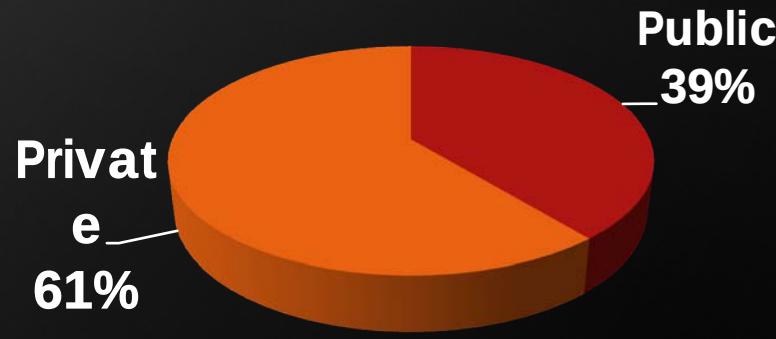
12-100 m3



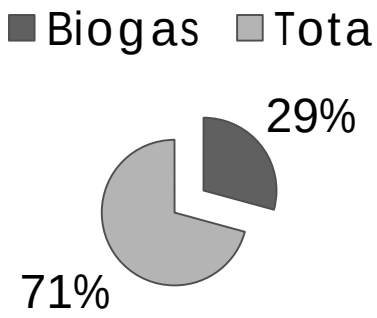
Large Commercial- including land &Infrastructure



Large Biogas- As per eligible cost



Budget Contribution in Biogas Sector (Federal Government Budget)



Leveraging Private/Users Financing is key

Total Investment required- 3 arab NPR annually

Key Issues & Challenges of Biogas Sector

Domestic	Urbanization Cost of the system (in comparison to other cooking solutions Subsidy Level: Ultra Poor
Institutional & Commercial	End Use Applications Feed Stock Management Private Sector Capacity R&D
Large Commercial	Raw materials management End use applications marketing (gas + fertilizers) Safety and Operation(Skilled HR) Technology Providers and Supply chain High Interest Rate + Low R&D
MSW- W2 E	Large Commercial + Waste Segregation Other (except organic) waste management Land Management

Post COVID Opportunities & Way Forward

- **ORGANIC TREND-** Gradual Replacement of Chemical Fertilizer
- 10000 + Biogas Technicians are expected to return from foreign countries due to COVID
- Agriculture sector: most priority sector of all three levels of governments in post COVID situation
- GoN's targets are ambitious
- Opportunities for diversification of supply:
  - Multiple End Use Applications of Biogas
  (Fertilizer: liquid & Solid; gas grid; Bottling, vehicular use, Hydrogen gas, cryogenic industries
- New avenue for consuming raw materials (Agriculture Residues; Fecal Sludge; Sewage Waste, etc)
- HR & Skilled Technicians (Industry- R&D Partnerships)
- Partnership with local and provincial governments

जय बायोग्यास !