

# **EnergyPlus for Empowerment and Sustainability**

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**Dr. P. Balachandra**

Department of Management Studies and Centre for Sustainable Technologies  
Indian Institute of Science, Bangalore, India

**Thiyagarajan Velumail**

EnergyPlus Sustainability Consulting, Kuala Lumpur, Malaysia

[p.balachandra@gmail.com](mailto:p.balachandra@gmail.com)

# The Challenge



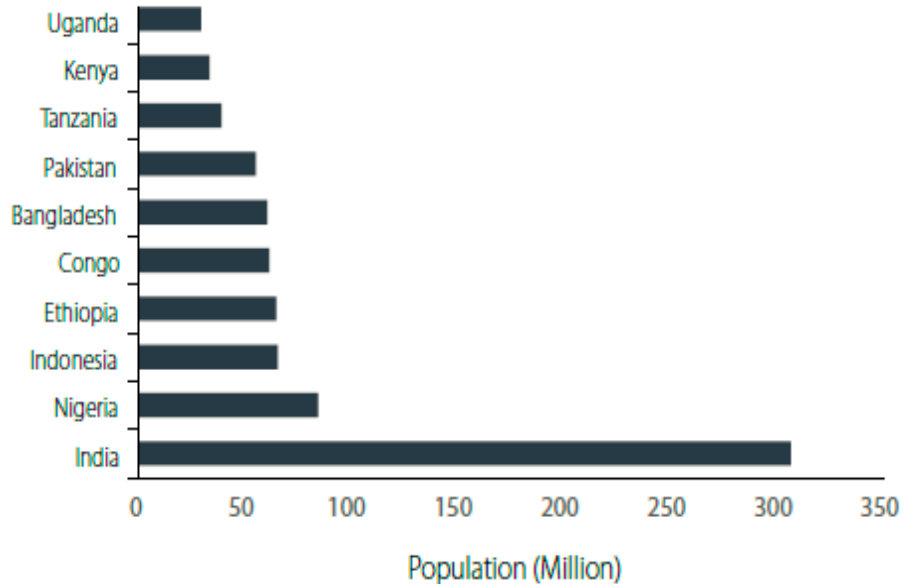
**1.3 billion  
people lack access to  
electricity**



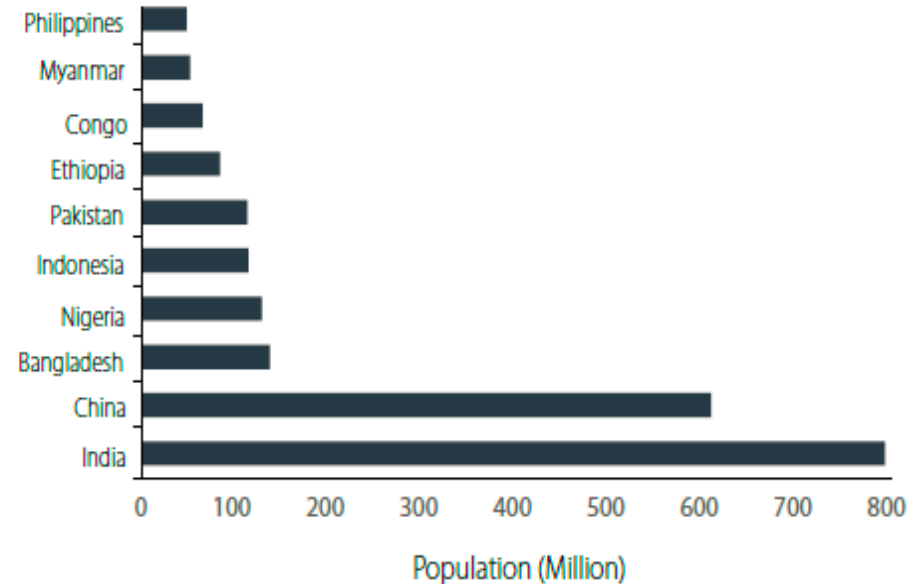
**2.6 billion  
people lack access to  
improved cooking facilities**

Top 10 countries...

...with people lacking access to electricity



...with people lacking access to clean cooking facilities



# Beyond Basic Energy Needs

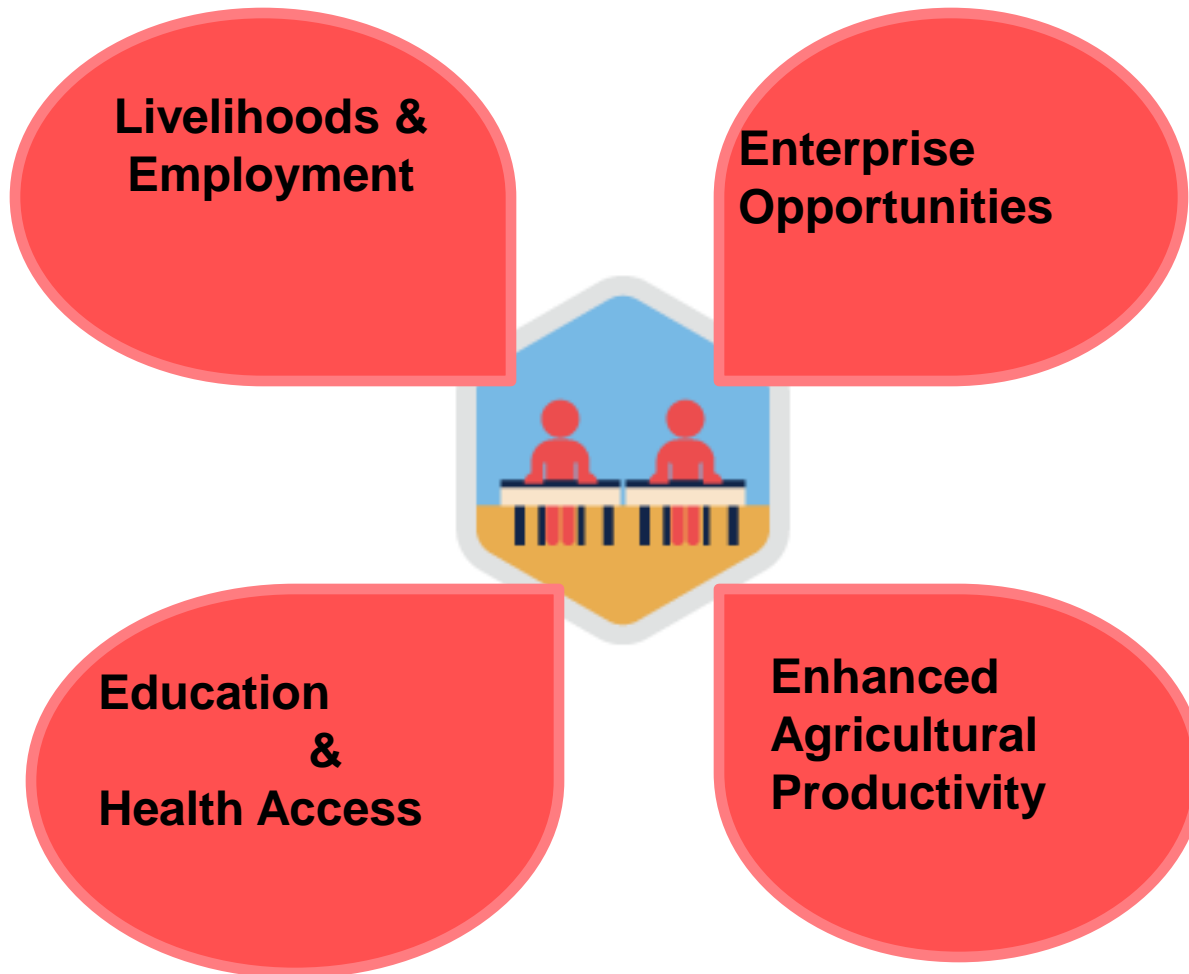
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## Interventions to:

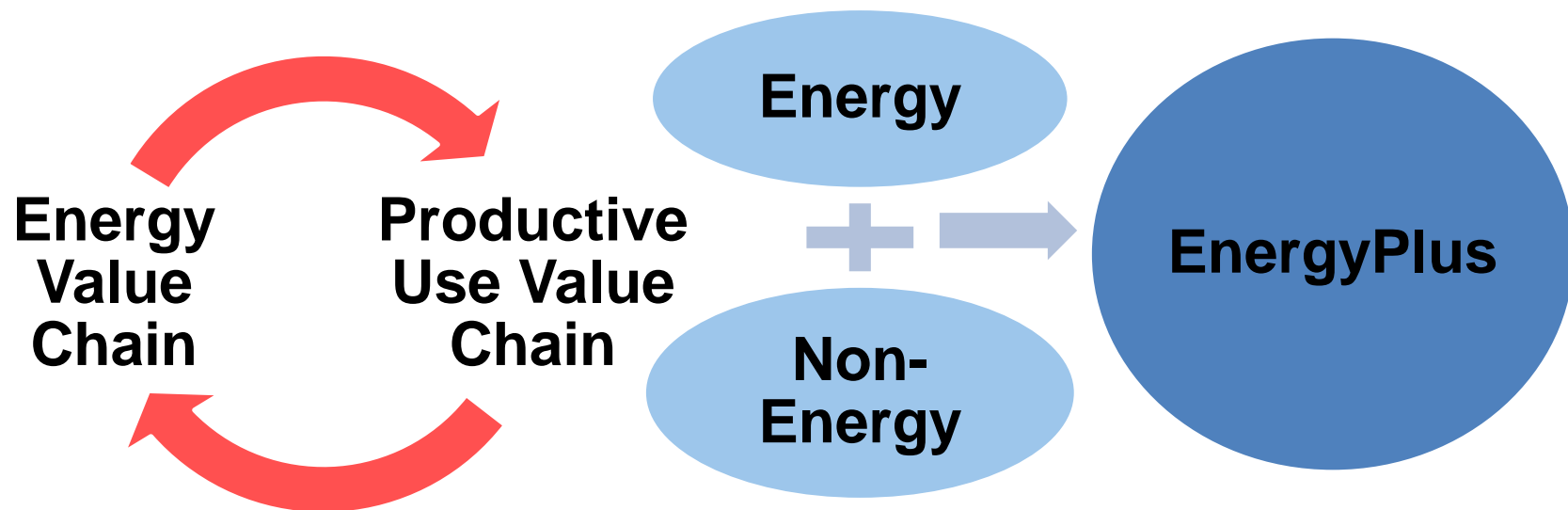
- Expand livelihood capacities
- Generate employment opportunities
- Ensure productive uses at all levels

# UNDP's EnergyPlus Approach



# UNDP's EnergyPlus Approach

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[http://www.eurasia.undp.org/content/dam/rbec/docs/EnergyPlus\\_Guidelines.pdf](http://www.eurasia.undp.org/content/dam/rbec/docs/EnergyPlus_Guidelines.pdf)

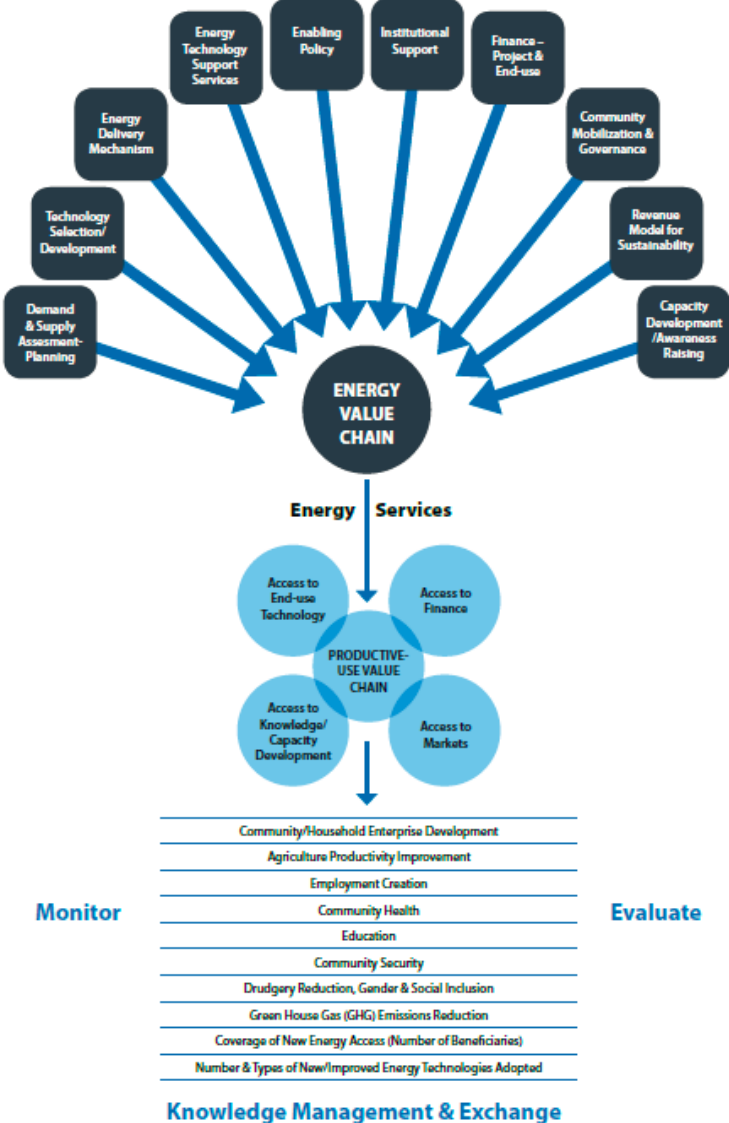
# EnergyPlus – The GAPS needs to filled

1. **A wholistic Approach - Guidelines**
2. **Effective and Functioning Local institutions**
3. **Productive end-uses: Enterprises, value-addition, enhancing productivity and incomes (increasing load factor)**
4. **Capacity building and training**
5. **Financing and de-risking investments**

# Seven Components

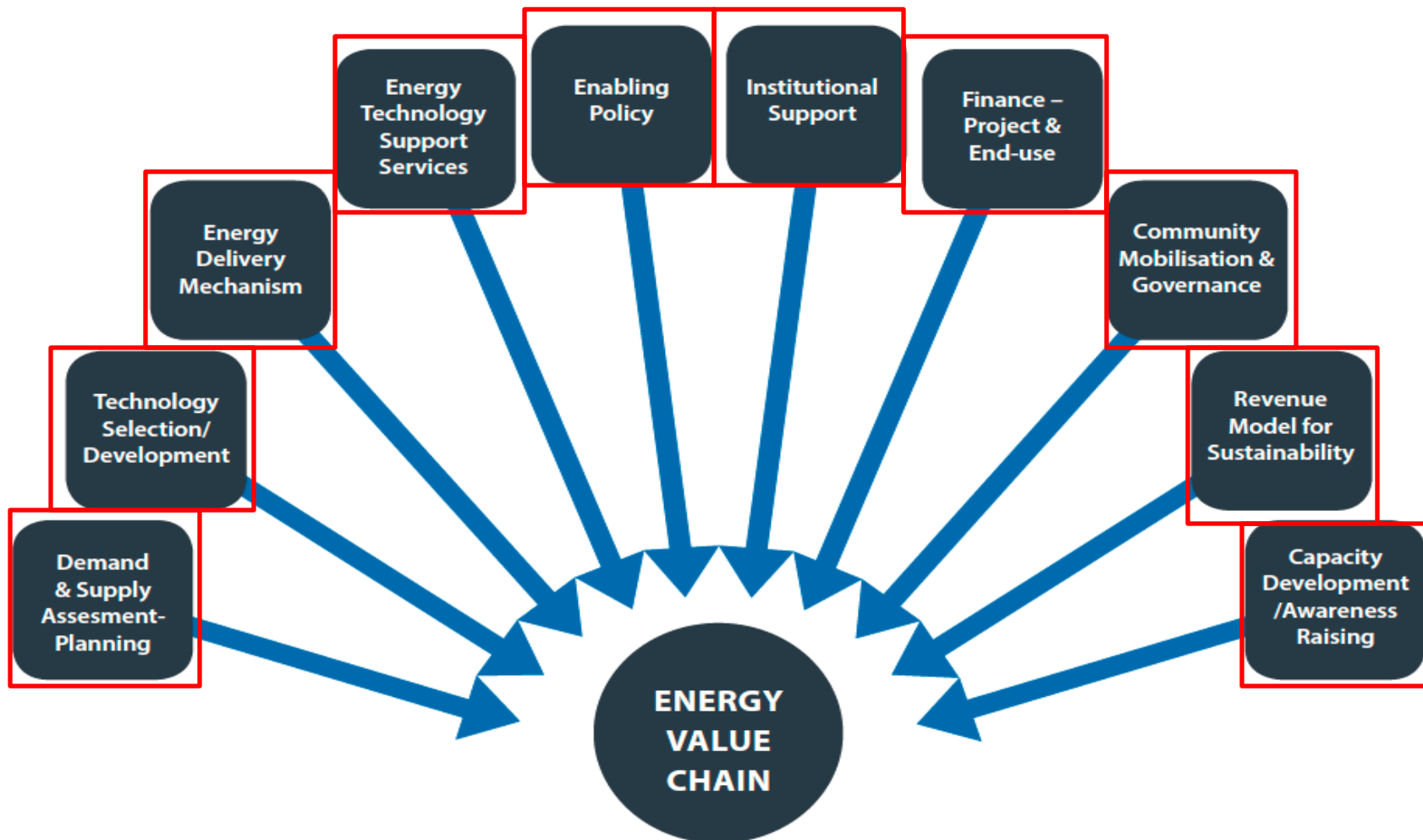


# EnergyPlus Approach



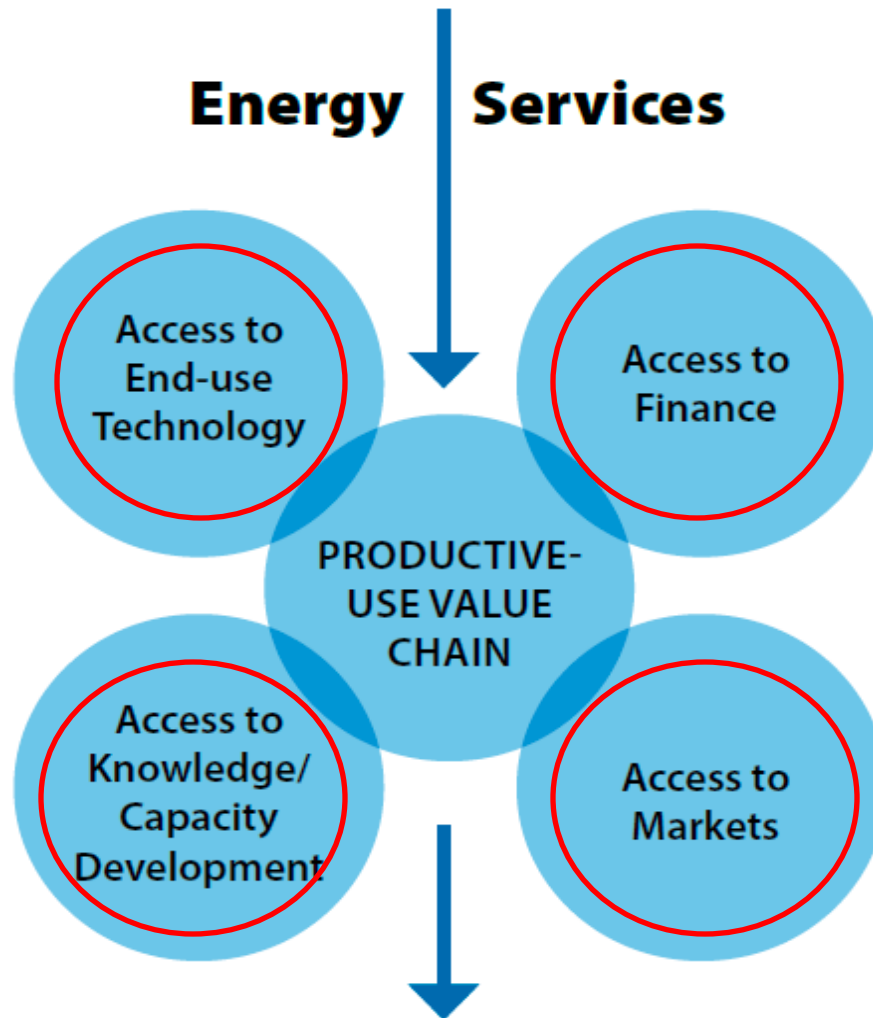


# Energy Value Chain



# Productive Use Value Chain

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# Outcomes and Knowledge Creation

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**Monitor**

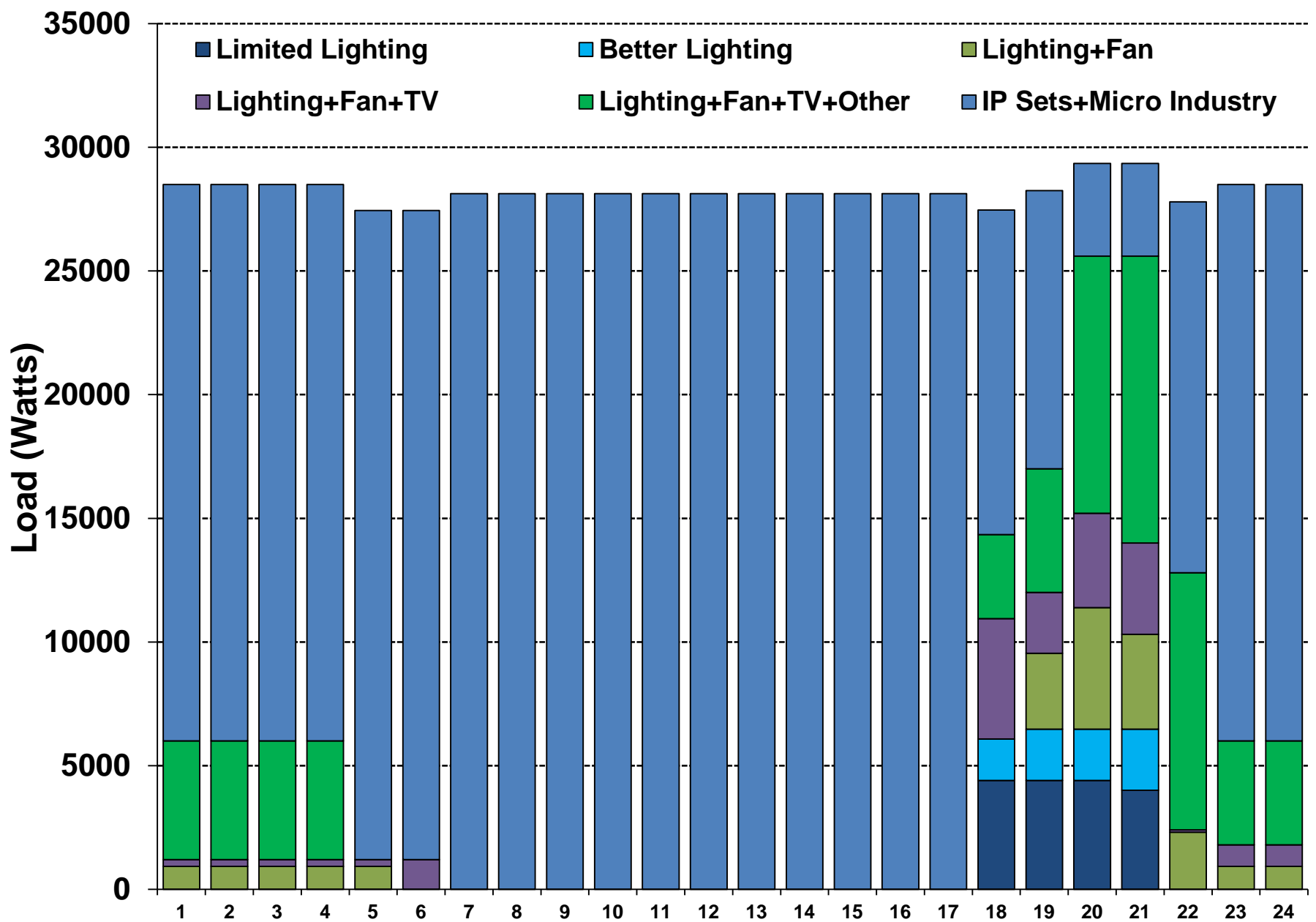
**Evaluate**

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Community/Household Enterprise Development
Agriculture Productivity Improvement
Employment Creation
Community Health
Education
Community Security
Drudgery Reduction, Gender & Social Inclusion
Green House Gas (GHG) Emissions Reduction
Coverage of New Energy Access (Number of Beneficiaries)
Number & Types of New/Improved Energy Technologies Adopted

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**Knowledge Management & Exchange**



**Electricity Loads → Survival to Empowered  
(Villages with 100 households)**

**Hours of the day**

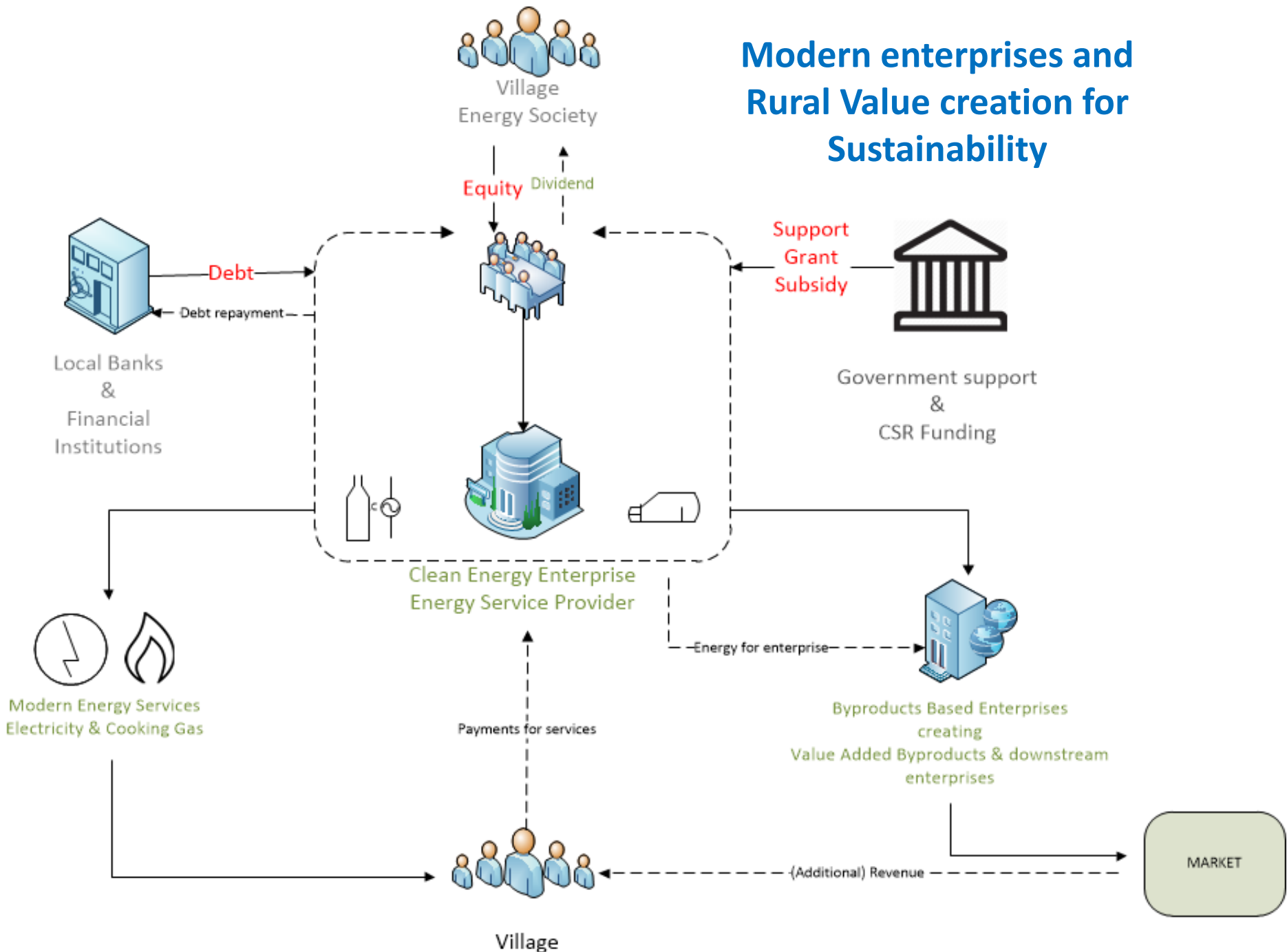
# EnergyPlus Access - Needs

1. **Basic energy services** – Lighting, Cooking/heating
2. **Lifestyle energy services** – Cooling/heating, TV, mobile charging
3. **Social energy services** – Education, health, public services
4. **Productive energy services** – Mechanical energy (motors), Agro-processing (dryers, mills), Irrigation, Value-added products (VAPS)
5. **Livelihood services** – By-products based livelihoods

# EnergyPlus Enterprises

- 1. Energy enterprises**
  - Biogas and Electricity production/distribution
- 2. Livelihood enterprises**
  - By-product based enterprises (e.g., mushroom, fiber, aquaculture)
  - Value-added products
- 3. Micro-enterprises**
  - Grain mills, dryers, agro-processing
  - Branded fertilizer (Vermi-compost)
  - Electricity-based rural industries
  - Watering service through irrigation pumping
- 4. Employment generation**
  - Energy supply chain
  - Enterprises

# Modern enterprises and Rural Value creation for Sustainability



*Thank you*



**Department of Management Studies & Centre for Sustainable Technologies**

**Indian Institute of Science**

BANGALORE 560012

India