



*PARTNER FOR PROSPERITY*

# **Energy Access: Time for Action**

Pradeep Monga  
Director, Energy and Climate Change  
UNIDO

**IGU – Gas side event**  
**4 Dec 2011 - Durban**



# CONTENTS

- **Global Context**
- **Incremental Levels of Energy Access**
- **Filling the Energy Access Gap**
- **Way Forward: Public Private Partnership**



*PARTNER FOR PROSPERITY*

## GLOBAL CONTEXT

- **Energy Poverty**
- **Energy Security**
- **Climate Change**



- **Access to Energy is a pre-requisite for poverty reduction and achievements of MDGs**
- **Global Energy Goals 2030 - SE4ALL**



## Defining Energy Access

- AGECC 2010 report defined Energy Access as “Access to clean, reliable and affordable energy services for cooking and heating, lighting, communications and productive uses.”
- Energy Access can be broadly defined as the level of energy access needed to improve livelihoods and drive local economic development on a sustainable basis.



# Incremental levels of access to energy services

## Level 3

### Modern society needs

## Level 2

### Productive uses

## Level 1

### Basic human needs

Electricity for **lighting, health, education, communication and community services** (50-100 kWh per person per year)  
 Modern fuels and technologies for cooking and heating (50-100 kgoe of modern fuel or improved biomass cook stove)

Electricity, modern fuels and other energy services to improve productivity e.g.

- **Agriculture:** water pumping for irrigation, fertilizer, mechanized tilling
- **Commercial:** agricultural processing, cottage industry
- **Transport:** fuel

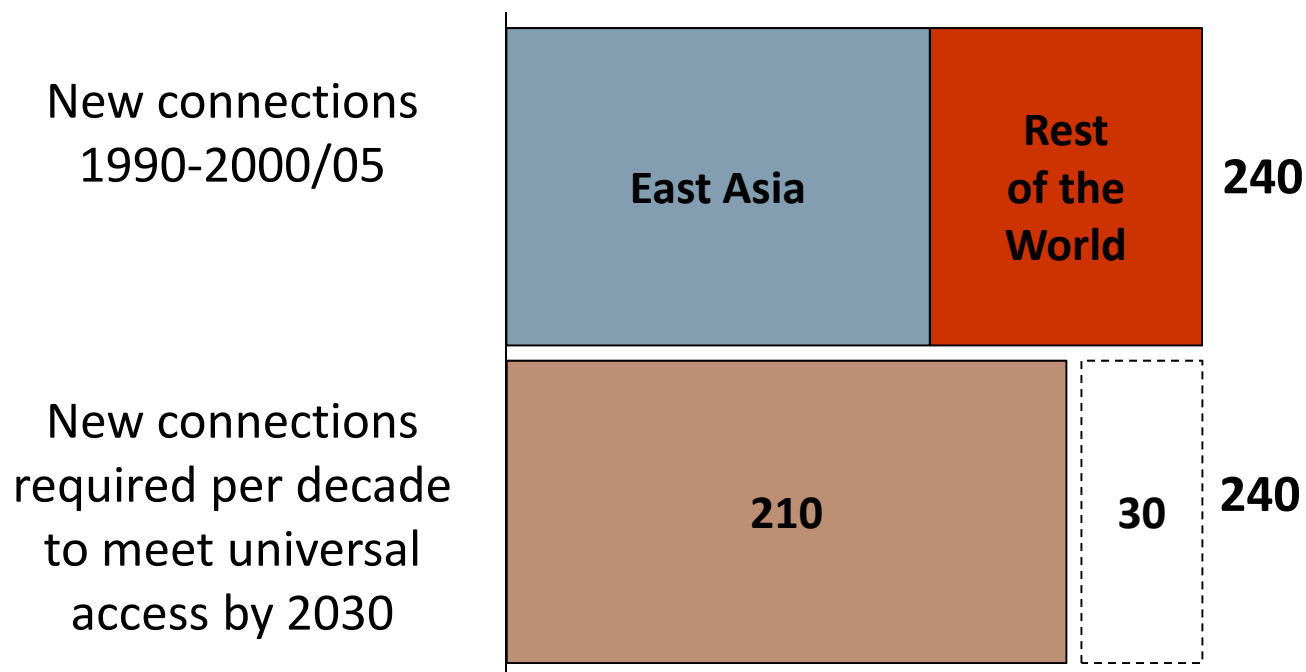
Modern energy services for **many more domestic appliances**, increased requirements for **cooling and heating (space and water), private transportation** (electricity usage is around 2000 kWh per person per year)

SOURCE: IEA Report; AGECC Report2010



## Lessons from the 1990s indicate that the scale of universal electricity access challenge is not insurmountable

Average number of households gaining access to electricity IN MILLIONS



SOURCE: IEA WEOs; Eskom; World Bank working papers, AGECC Report; UN Publications etc.



## Filling the Energy Access Gap

### MENU OF APPROACHES AND OPTIONS

Different Resource / Technological Options (RE, EE, Natural Gas etc.)

#### Grid Extension



#### Mini-grid Access



#### Off-grid Access





**Public Private Partnerships**



**Government Policies for RE and EE**



**UD\$35 - 45 Billion/year needed**



**RE Sources / Natural Gas/ LPG / Hydrogen and other options**





## **WAY FORWARD: What is required to achieve Universal Access to Energy by 2030?**

- **Targeted Policies for enhancing access to energy, and for linking accessibility, affordability and sustainability issues**
- **Investments from US \$ 35-45 Billion needed per year for next two decades (innovative financial mechanisms)**
- **Expansion of national grids, mini-grid and off-grid options – linking energy with productive uses**
- **Institutional Strengthening and Capacity Building**
- **Promoting Public Private Partnerships**

# PPP between UNIDO and Statoil (work in progress)

## Natural Gas to Increase Access to Sustainable Energy in Rural Areas

Methanol

Stranded Natural Gas



Oil & Gas Production



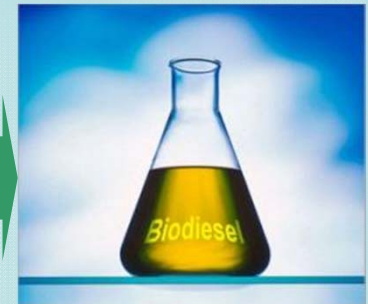
Resins



Building Materials



Bio Diesel



Renewable Fuel



Fuel Retail



Clean Cooking Stoves



CHP



*PARTNER FOR PROSPERITY*

# Energy for Development

Thank You

[www.unido.org/energy](http://www.unido.org/energy)

