Energy Services and MDGs

(No Energy, No MDGs)

Kamal

Energy and Climate Change: Major Development Challenge of 21st Century

- More than 2 billion people do not have access to modern energy services.
- About half of humanity meets their cooking needs using biomass fuels.
- Use of traditional fuels leads to poor health and drudgery for women and children.
- Deforestration (& associated problems) is a major challenge facing developing world (equity on environmental services, e.g., upstream versus downstream).
- Environmental problems exist at all scales from provision and use of energy.

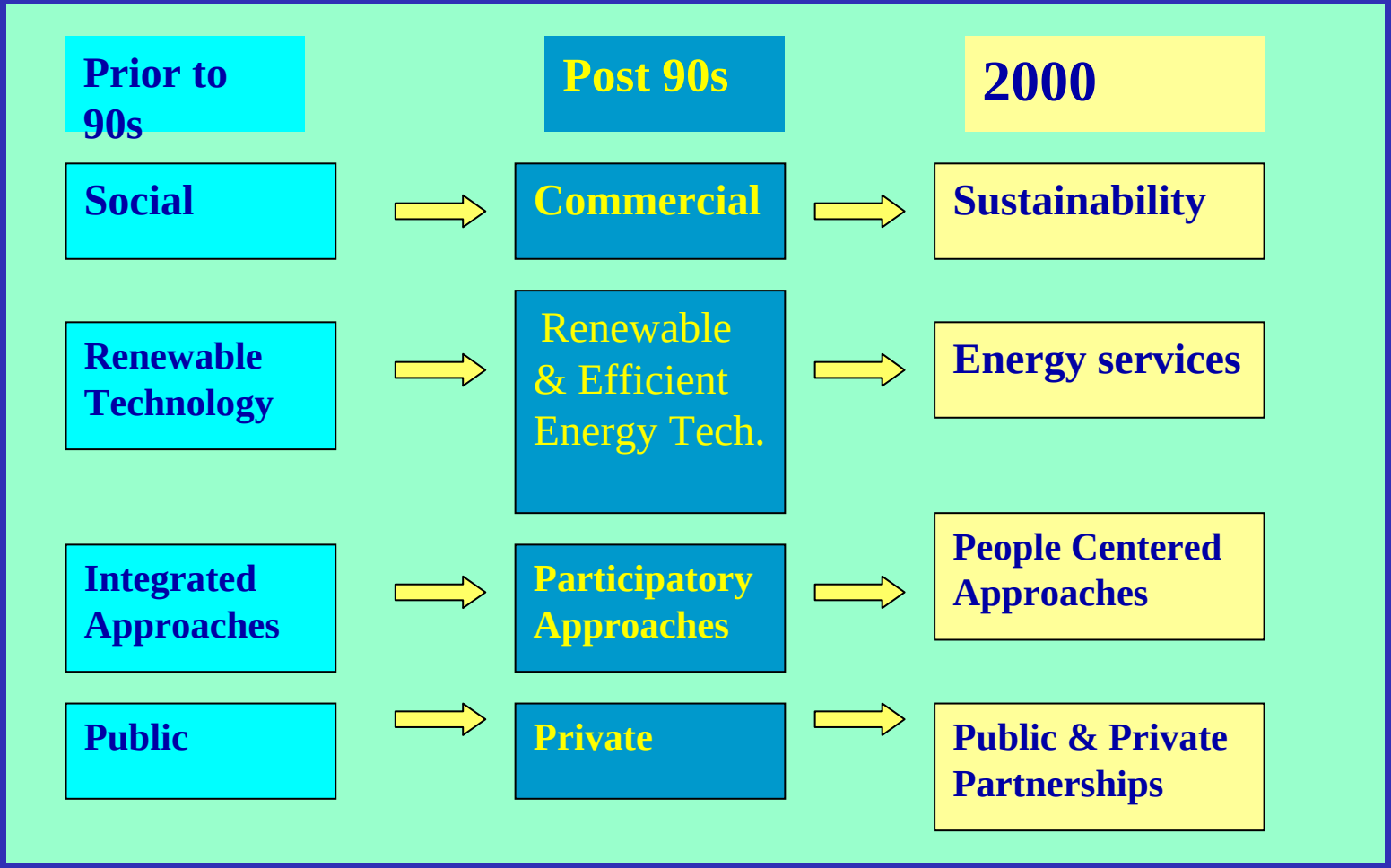
Why Access to Energy Services?

- To meet basic energy needs of the poor (right-based approach to A2E)
- To increase economic efficiency of resources and products so as to reduce pressure on natural resources.
- To increase income and employment for the reduction of poverty and sustainable livelihood.
- To reduce human drudgery and indoor air pollution particularly of women and children for improving quality of life (animal drudgery ???).
- To support, sustain and supplement physical and social infrastructure development.

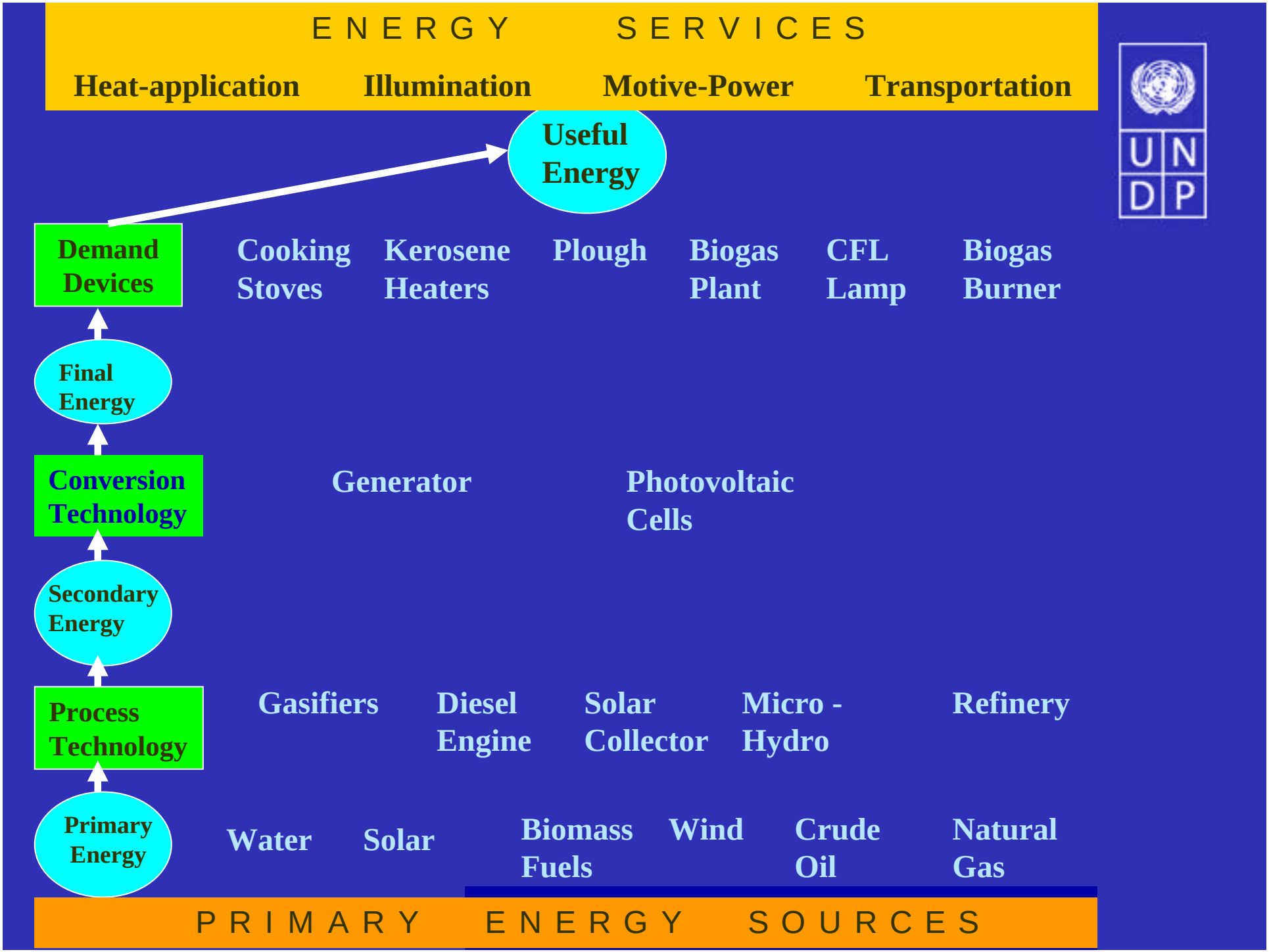
WSSD Main Messages

- Energy is essential for poverty reduction, jobs, livelihoods and opportunities expansion.
- Energy is not just electricity; cleaner fuels are essential.
- Focus must be on energy services not energy supplies.
- Sustainability concept is broader than environment especially regarding energy.
- All technologies and fuel options must be open.
- **Energy is a means not an end.**

Paradigm Shifts in Access to Energy Services



- Prior to 90's energy was viewed as environmental bad…
- After MDGs, Access to Energy Services viewed as a major contributor to poverty reduction


ENERGY SERVICES
Heat-application
Illumination
Motive-Power
Transportation
Useful Energy
Demand Devices
Cooking Stoves
Kerosene Heaters
Plough
Biogas Plant
CFL Lamp
Biogas Burner
Final Energy
Conversion Technology
Generator
Photovoltaic Cells
Secondary Energy
Process Technology
Gasifiers
Diesel Engine
Solar Collector
Micro - Hydro
Refinery
Primary Energy
Water
Solar
Biomass Fuels
Wind
Crude Oil
Natural Gas
PRIMARY ENERGY SOURCES

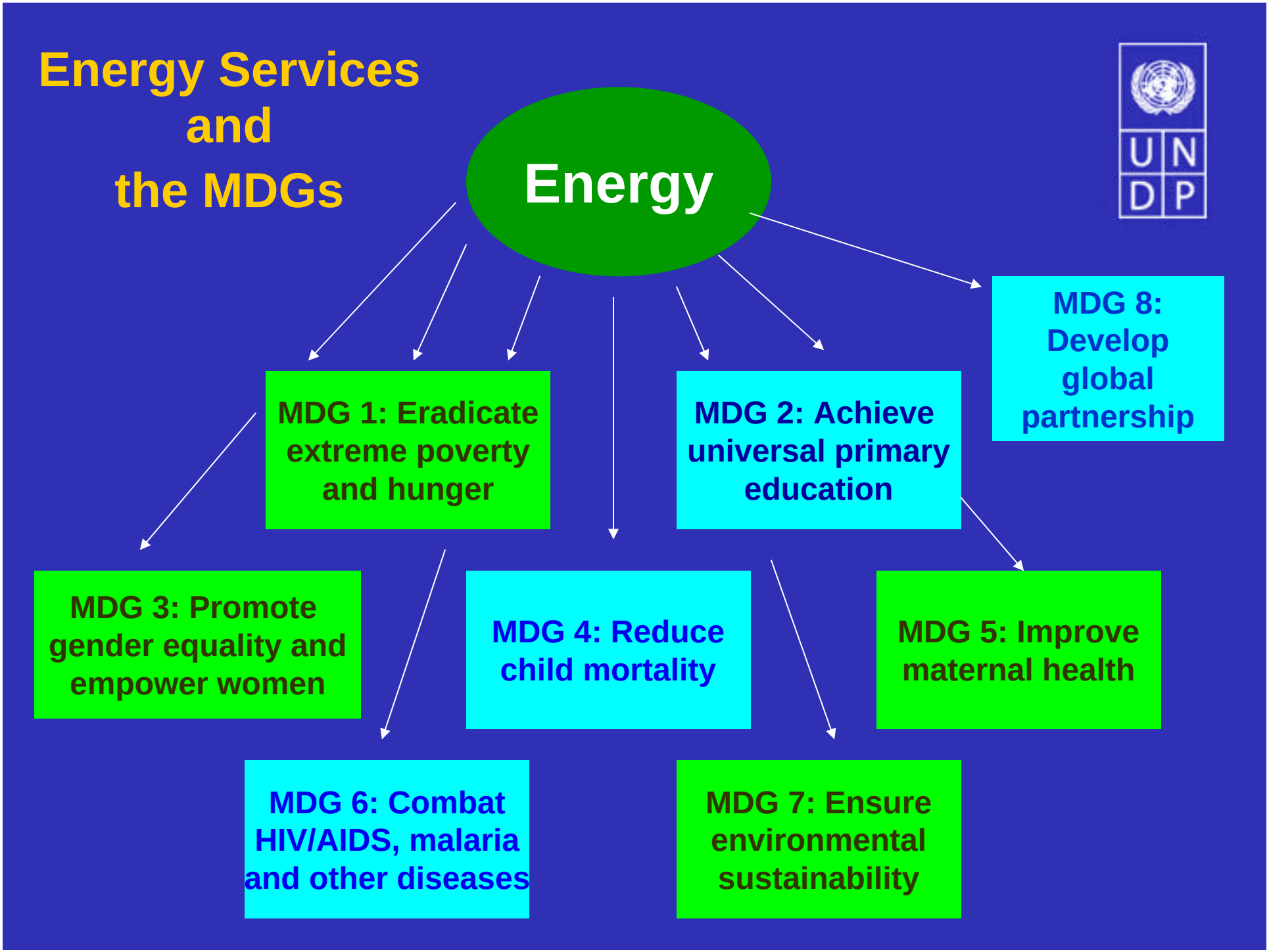
Energy and the MDGs

- The Millenium Development Goals (MDGs) are series of quantified development targets agreed at the UN General Assembly in 2000.

  No Energy, No MDGs.... No Gender, No Energy...

- Energy services can be met both from renewable or conventional energy.
- The quality, reliability and affordability of the energy **services** are what matter in human development terms.
- Rural areas generally have both the lowest levels of modern energy services and greatest poverty. Focus on urban poor is very important.

Energy Services and the MDGs



MDG 1:
Eradicate extreme poverty and hunger

Halve proportion of people whose earning > $1 a day:

- By providing energy to support small and medium enterprises and to equipments & machinery.
- By providing lighting to facilitate income generation.
- By providing business opportunities for energy service providers.
- By releasing time spent gathering fuel for productive use.
- By facilitating communications by powering ICT, phones, TV & Radio.

MDG 1: Continue……..

Halve the proportion of people who suffer from Hunger:

- **Energy services can improve access to pumped drinking water and 95% of staple foods need cooking before they can be eaten.**
- **Improved crop yields and agricultural productivity with the provision of energy services.**
- **Better transportation systems allow market access to fetch good price.**
- **Less wastage in storage – storage systems require access to energy services.**

Selected examples of MDG 1 related Indicators

- Quantity of energy services to run enterprises, lighting, machinery and equipments.
- Quality of energy services to run enterprises, lighting, machinery and equipments.
- Cost of energy services and share of energy cost in household income.
- Energy cost related to food and food production.
- Change in household income.
- No. of people employed.

MDG 2 & 3:
Achieve universal primary education &
Promote gender equality and empower women

- Energy services reduce the time spent by women and children (especially girls) on basic survival activities (gathering firewood, fetching water, cooking, etc.)
- Improved street lighting helps to increase mobility of women; including better security.
- Improved lighting extends the study time, including at home.
- Children collecting fuel don't go to school (more so in case of girl-child).
- Provides power for educational aids in teacher training centres.
- Facilitates use of ICT to support adult-learning.
- Provides better quality of life to retain teachers in remote areas.

Selected examples of MDG 2 & 3 related Indicators

- School enrollment rates.
- Time spent on education.
- Quantity and quality of energy services for lighting and electronic media for education at home and school.
- Free time for girls and young women.

MDG 4 & 5:
Reduce child mortality and
Improve maternal health

- MDG 4 & 5 provides an opportunity to address 'The Missing Health Link'.

  For example:

  - Malnutrition contributes 42% of the global burden of disease.
  - 112.9 million disability-adjusted life years lost to lower respiratory infection.
  - 11.9 million disability-adjusted life years lost to burns.
  - 11.2 million disability-adjusted life years lost to HIV/AIDS.

MDG 4 & 5: Continue …..

- Deaths at birth reduced by:
  → proper lighting for night delivery and clean/boiled water
- Deaths from water-borne disease reduced by:
  → clean/boiled water, which must be both extracted and heated
- Deaths from indoor air pollution reduced by:
  → cleaner burning fuels and modern technology applications
- Deaths from hunger reduced by:
  →access to fuels needed to cook 95% of staple foods.

Energy plays a critical role in each of these solutions!

MDG 6:
Combat HIV/AIDS, malaria and other diseases

Halt and Reverse the Spread of Major Diseases:

- Provides electricity for light and equipment including storage of vaccines and life-saving drugs at the treatment centre.
- ICT for both information on primary health and updating knowledge of doctors and health workers.

Examples of MDG 4, 5 & 6 related Indicators

- No. of health clinics with access to energy services (in terns of quantity & quality).
- Mortality rates.
- Level and extent of indoor air pollution.
- Health impacts (no of people with respiratory, water-borne diseases).
- Cooling capacity for vaccine preservation.

MDG 7:

Ensure Environmental Sustainability

Improved energy efficiency and use of clean fuels help, e.g.:

- Improve indoor environment in the household.
- Reduce land degradation from unsustainable fuel gathering.
- Reduce local ambient pollution, especially in cities.
- Reduce global warming.
- Need to balance between development and environmental objectives.

Environmental impacts varies with energy resources, technological process, end-use applications and quality and quantity of energy services required.

Selected examples of MDG 7 related Indicators

- Deforested area
- Quantity of resources used relative to stock
- GHG emissions
- Energy intensity per unit of HDI and/or GDP (PPP)
- ??????

MDG 8:

Develop a global partnership for development

Energy services can be an entry point for addressing development challenges through:

- global cooperation
- regional cooperation
- partnership with stakeholders

to promote sustainable energy solutions.

Energy & Development Puzzle

Energy Services Remoteness Availability Affordability GVEP Social mobilization Site-specific Lending Air Pollution Financing facilitation Village Power Human poverty Funds Cost of Capital Primary Energy Knowledge Management Subsidy Long-term Income Poverty Renewable Energy Clean Energy World Bank CARD DBP Risk ADB Bottom-up Capacity development Inter-connected Right Policies Mature CARD Credit Equity Solar Micro-hydro Poor People's need Top-down Product Smart subsidies Access Financing Consumers Poorest-of-Poor Development Public sector Government Transparency Rent-seeking Governance Enterprise Micro-financing Multi-functional Platforms Rural Energy Policy mainstreaming e-Sustainability Urban KITE Fund Development Wind Biogas Heat GEF Process heat Biomass Trans-national Trans-generational Energy Policies Corporate Dairy farmer Federation Line of Credit Business Business-as-usual Vision Mission Future Past Environment projection debt serving venture capital eco-tourism energy-generator Who is doing what? What risks are associated? Need-based approach People-centred approach UNEP Target group Networking demand device conversion technology social aspect culture Energy chain Market-risk Equity-financing Credit Unions Consumer preference Institutions ……..

Must Read ….

- Energy Services for the Poor, Commissioned paper for the Millennium Project Task Force, Prof. Vijay Modi, Columbia University (2005)
- World Energy Outlook 2004, IEA (2005)
- Energy Indicators for Sustainable Development: Guidelines & Methodologies, UNDESA, IEA, et. al. (2005)
- The Energy Challenge for Achieving the MDGs, UN Energy (2005)
- CDM Sustainable Development Impacts, UNEP (2005)
- Reducing Rural Poverty through Increased Access to Energy Services, UNDP (2004)
- World Energy Assessment Overview: 2004 Update, UNDP (2004)
- Achieving the Millennium Development Goals: The Role of Energy Services (2004)

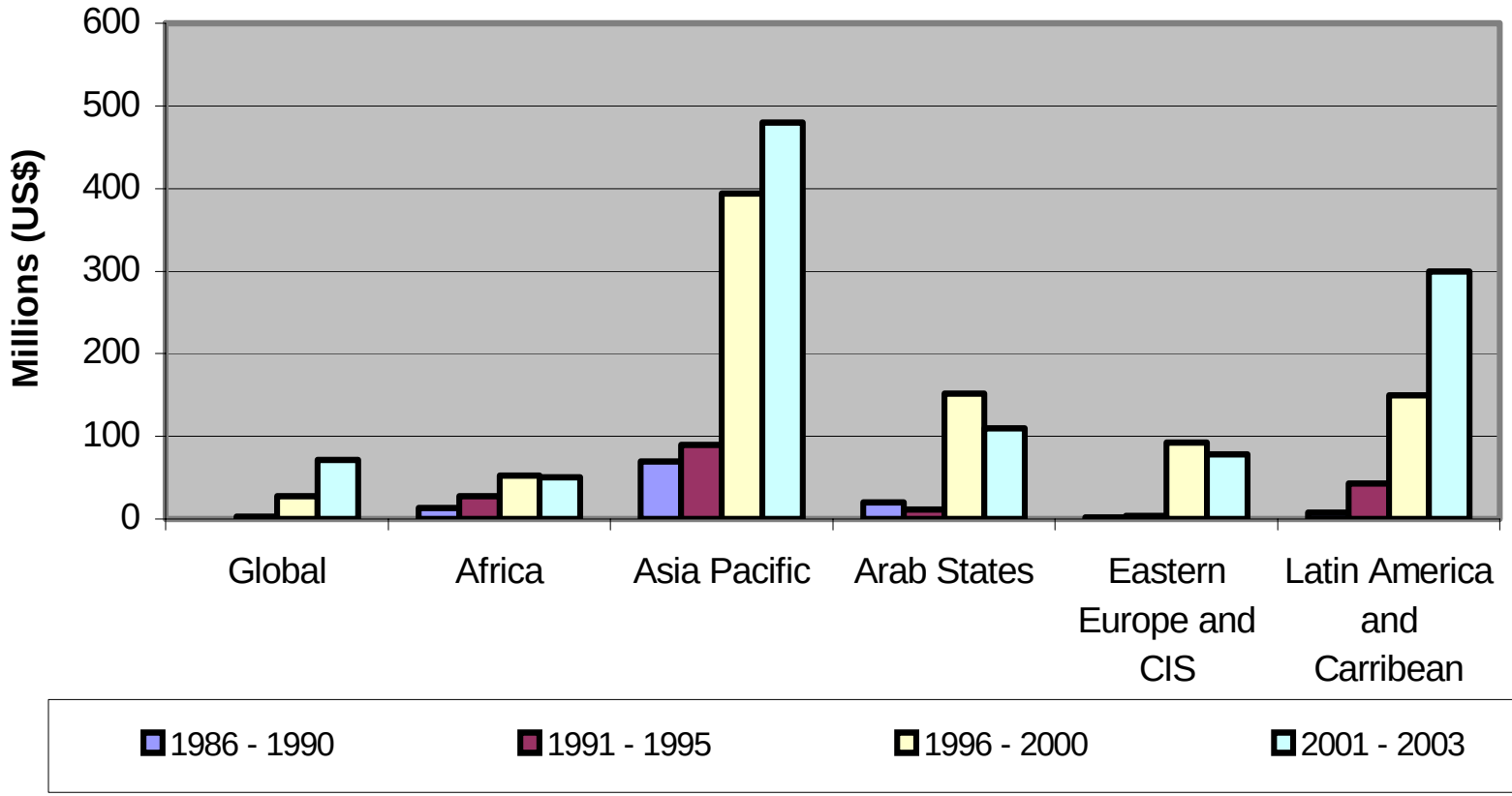
Thank you very much

UNDP's Energy Portfolio

- UNDP has by far the largest energy portfolio among all UN agencies, and energy portfolio is growing rapidly since 1996.
- Over 374 energy projects established in 159 countries worth $1.96 billion since 1996.
- UNDP GEF Small Grants Programme: 820 energy related projects.
- Network of 136 country offices and over 300 UNDP staff working on energy issues.

UNDP energy portfolio (1986-2003)

Figure 3: Regional Growth in Funding for Energy Projects - 1986 - 2003



UNDP and Type 2 Partnerships (Post WSSD)

- **Global Village Energy Partnerships (GVEP)**
  (UNDP & World Bank + 500++)
- **LPG Challenge**
  (UNDP & World LP Gas Association)
- **Global Network on Energy for Sustainable Development (GNSED)**
  (UNEP & UNDP)

Integrating Energy, Poverty and Gender Issues
Need to Adopt Holistic Approach

- Taking a People-centred Approach.
- Ensuring greater participation by beneficiaries (primarily women).
- Ensuring that Communities have a voice in Decision Making Process.
- Integrating Energy into Rural Development Process.
- Building a deeper understanding of the Links between, Energy, Poverty, and Gender.