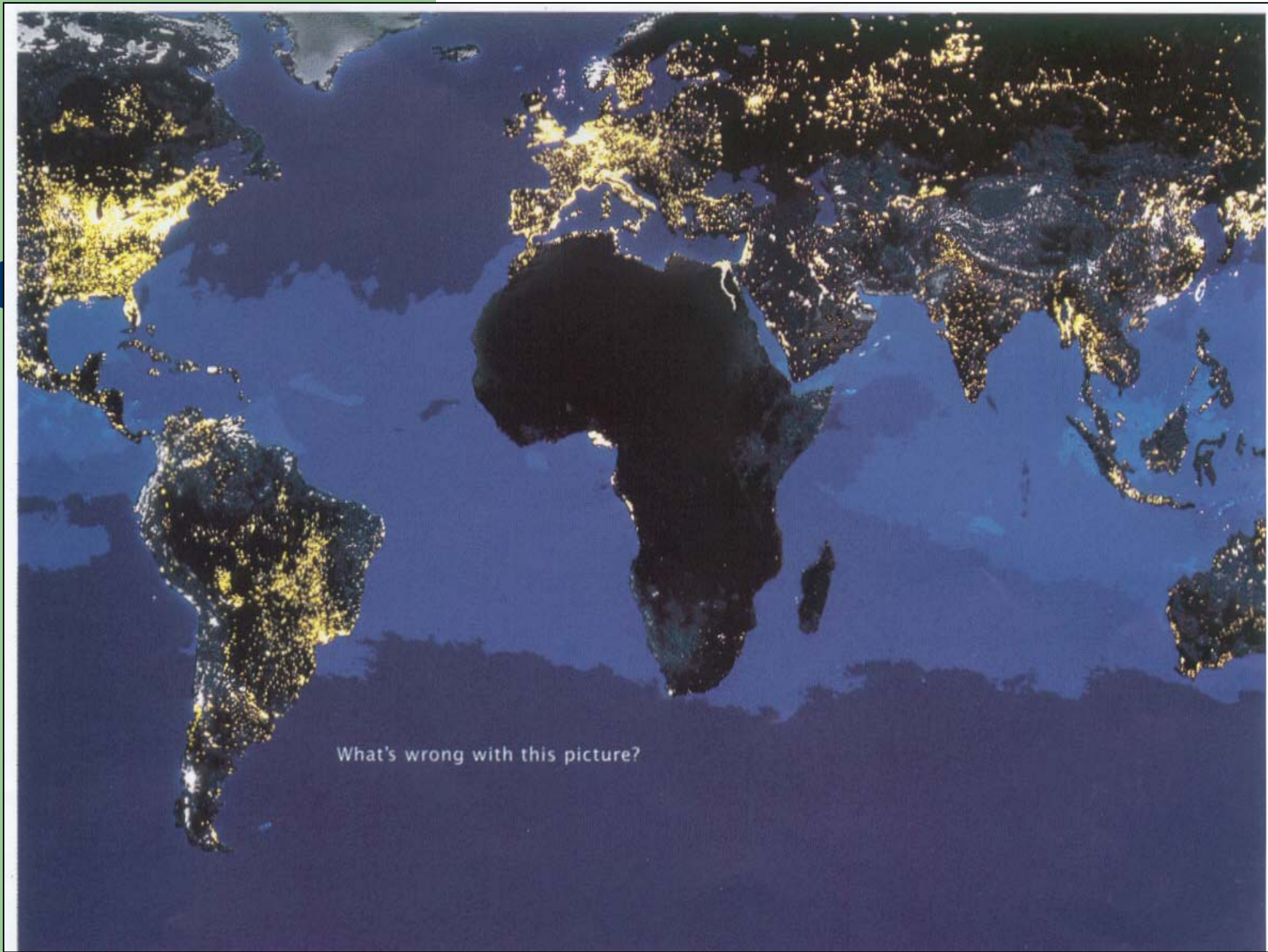




ENERGY FOR SUSTAINABLE DEVELOPMENT



By: Mohamed T. El-Ashry

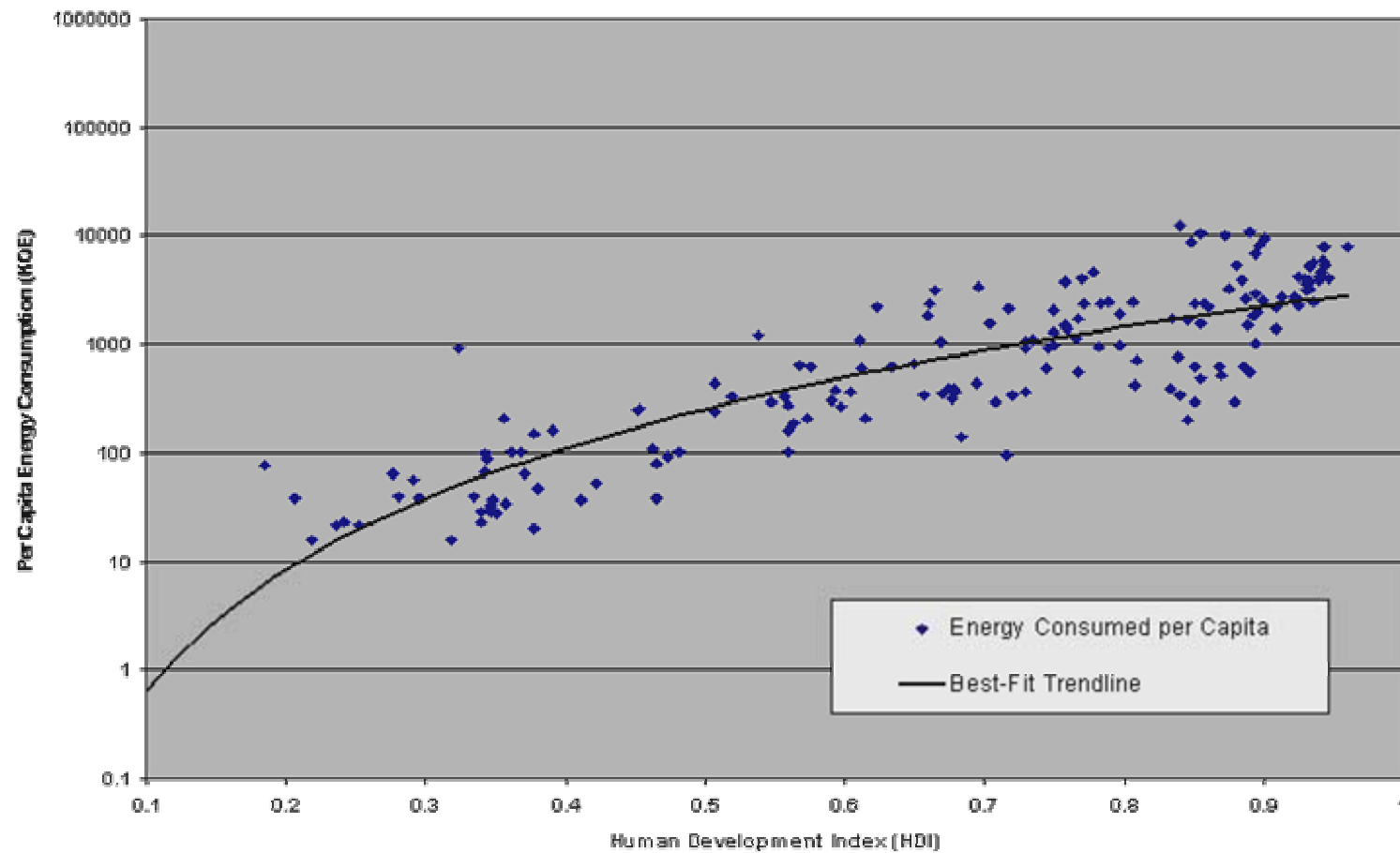


What's wrong with this picture?

ENERGY AND THE MDGs

- Clean energy is a key element for achieving all of the MDGs—poverty, hunger, education, gender equality, health, communicable diseases, and environmental sustainability.

Energy and Human Development



Productive Use of Energy

- In rural areas, helps raise incomes and improve health, pumping water for irrigation, power for drying crops, energy for cottage industries, and lighting in schools and hospitals.

WSSD

- WSSD called for a substantial increase “with a sense of urgency” of the global share of renewable energy in the total energy supply.

Renewable Energy

- A win-win proposition for developed and developing countries alike;
- Provides opportunities for poverty eradication and for satisfying the energy needs in rural and remote regions;
- Helps generate employment and local economic development opportunities;

Renewable Energy (cont'd)

- Helps curb global warming and contributes to the protection of human health caused by air pollution; and
- Enhances energy security through reliance on domestic energy sources.

Sustainable Energy?

- “No matter how we define sustainable development, current systems of energy supply and use are clearly not sustainable in economic, environmental, or social terms.”

- IEA

Figure 2.1: World Primary Energy Demand by Fuel in the Reference Scenario

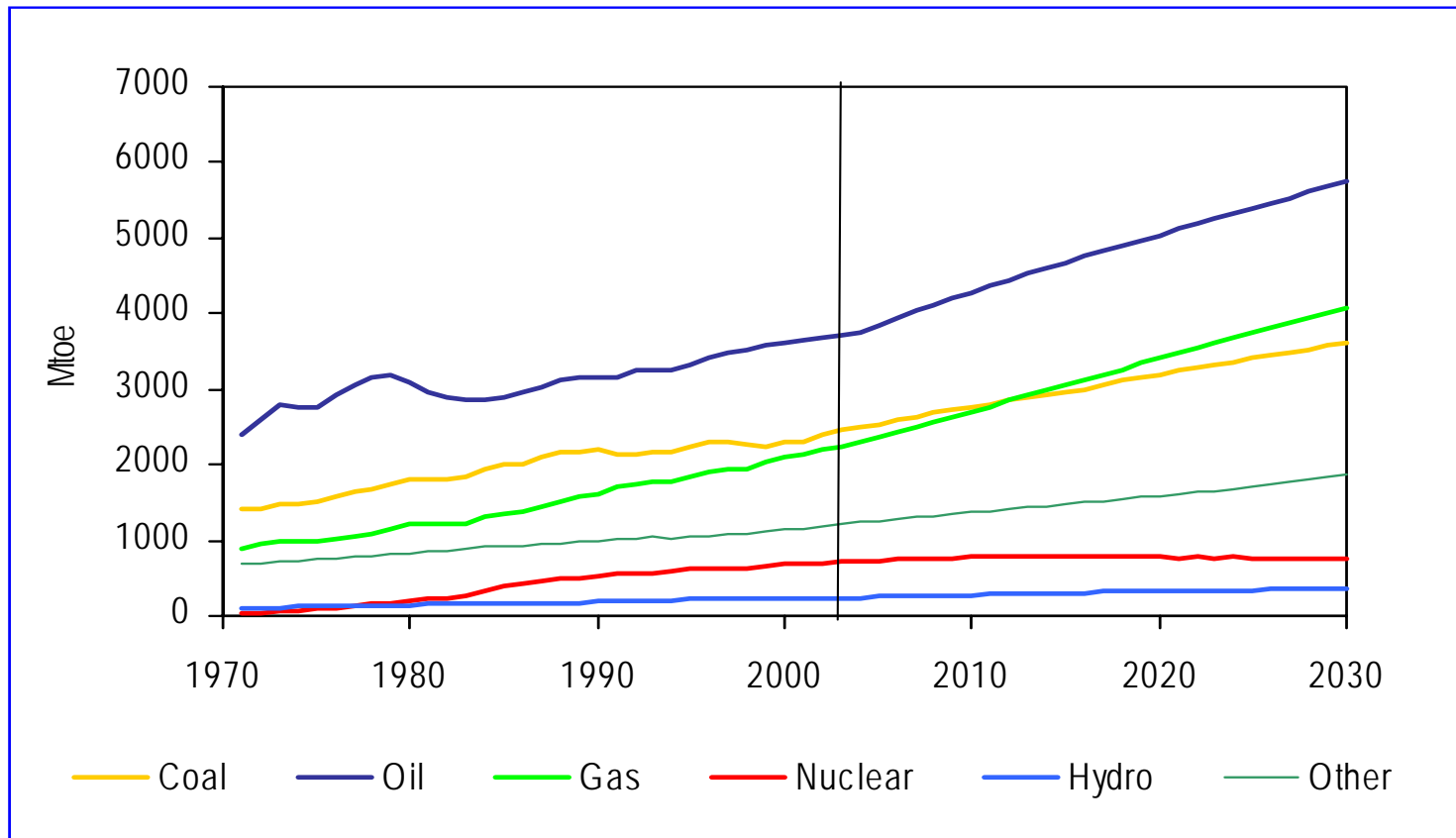
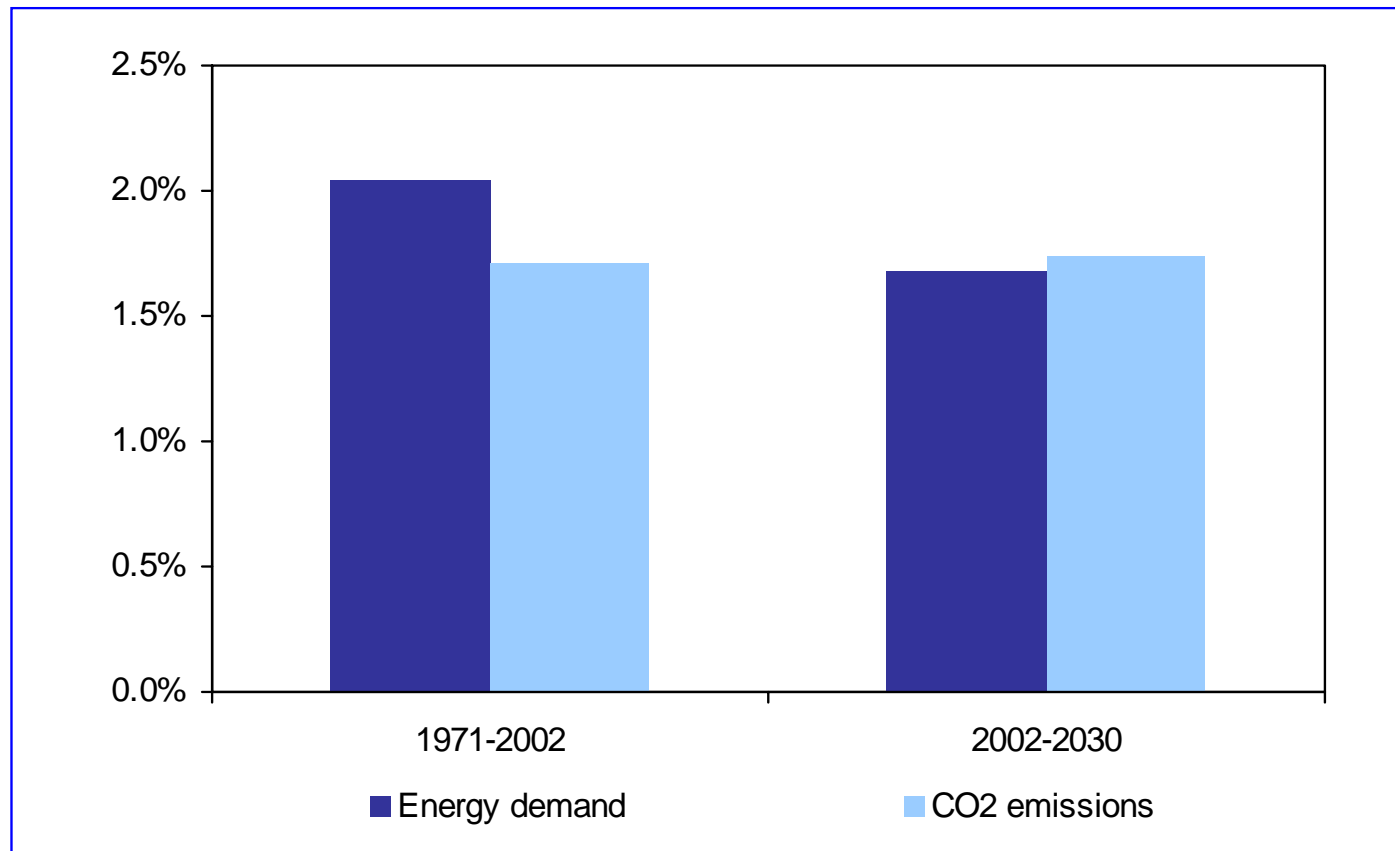
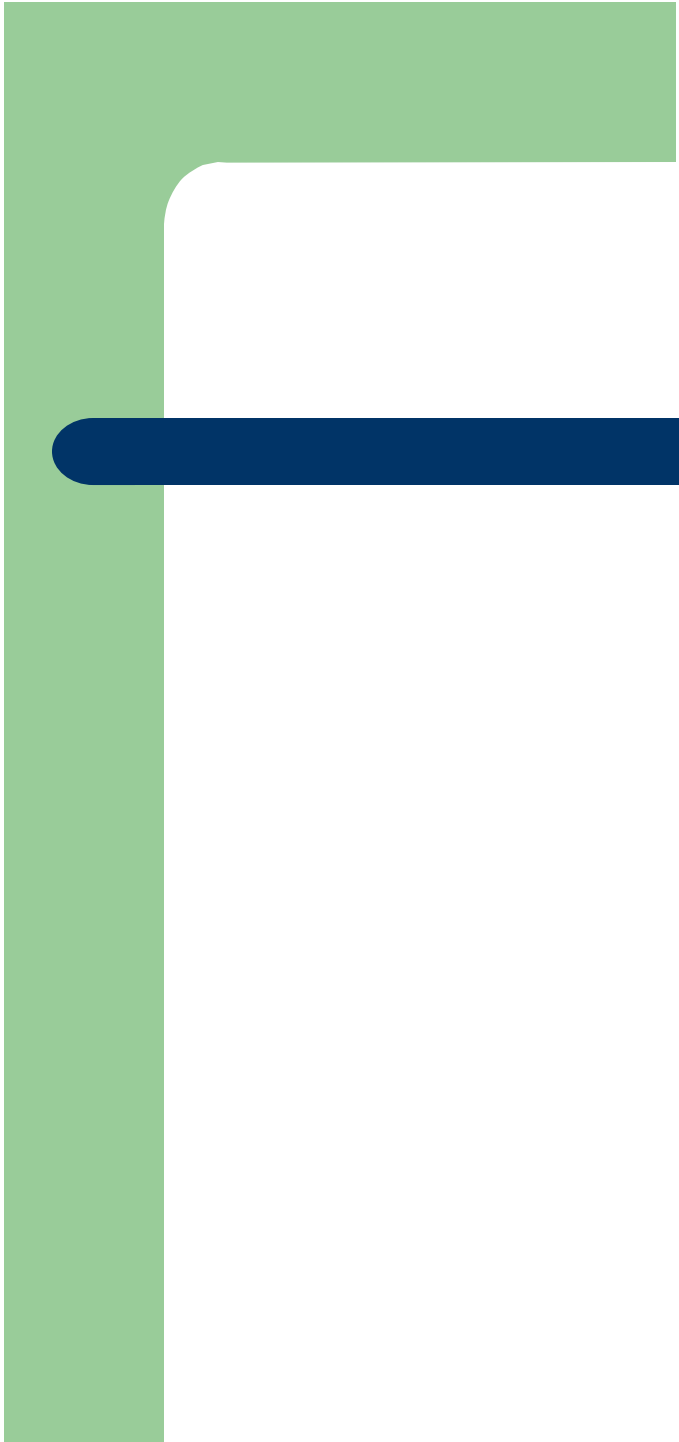


Figure 2.7: Average Annual Growth in World Primary Energy Demand and Energy-Related CO₂ Emission in the Reference Scenario



Climate Change

- Sustainability means that we get serious about dealing effectively with climate change.
- New measurements from world's oceans show that man-made climate change is underway.





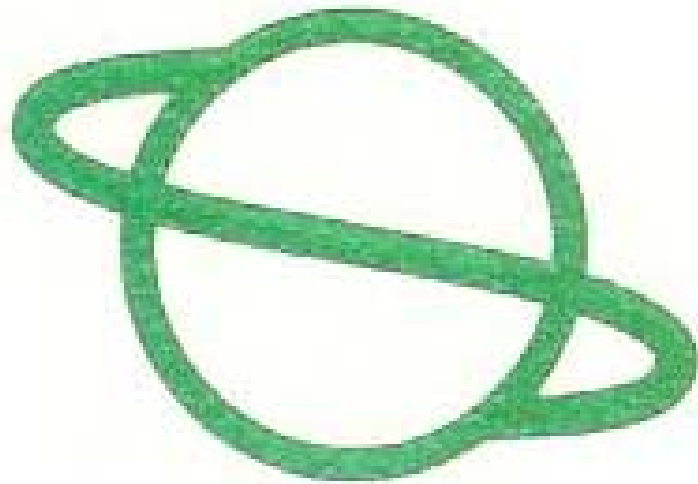
Institutional Investor Summit on Climate Risk

May 10, 2005 ♦ United Nations Headquarters, New York City



BARRIERS TO ENERGY ACCESS

- Most developing countries have major regulatory and institutional barriers to enhancing access to energy services.
- Finance is also a major barrier. Gap between needs and resources has widened since Rio. Both ODA and FDI have declined in the last decade.



GEF

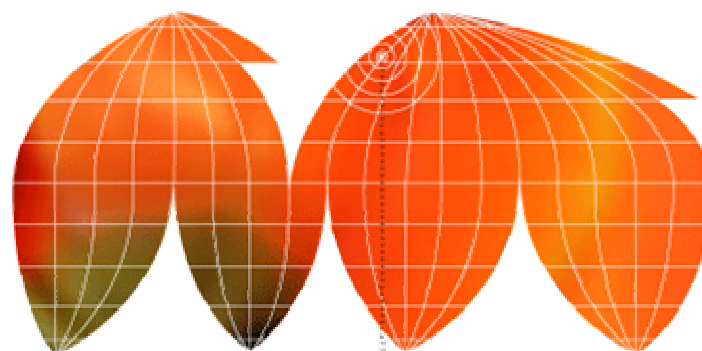
renewables 2004 –
International Conference for Renewable Energies
1–4 June 2004, Bonn, Germany

Conference Issue Paper





E₄ D ENERGY FOR
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Policy Recommendations

- Develop coherent policies that support the development of markets for clean energy technologies;
- Remove barriers and level the playing field for renewables;
- Establish regulatory and legal frameworks and reduce regulatory uncertainties;

Policy Recommendations (cont'd)

- Strengthen the human and institutional capacity required to transform energy markets in developing countries;
- Establish in developing countries the conditions for attracting private investments for clean energy;
- Channel micro-finance to support the extension of access to energy for the rural poor.

Energy Efficiency

- IEA estimates the overall potential of cost-effective energy efficiency gains in developing countries at 30-45%.

Sustainable Energy



- The challenge is to change course towards a sustainable energy future—one that simultaneously meets the energy needs of a growing global population, enhances people's quality of life, and addresses environmental concerns, especially climate change.

Sustainable Energy (cont'd)

- Large increases in renewable energy use, including bio-energy, combined with higher levels of energy efficiency, and the development of carbon sequestration technologies, can go a long way towards a more secure and globally sustainable energy path.

BIOFUELS

- Biofuels can make important contributions in Asia from an energy security and development perspective. The preferred path for bioenergy use in transportation has been the conversion of traditional crops, such as sugar cane and corn, to ethanol. New technological advances now focus on the conversion of feed stocks rich in cellulose such as crop residues and dedicated crops like grasses and trees.

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- We need to act now because developing new ideas and major shifts in technologies requires time scales on the order of 20 - 30 years or more.

GLOBAL SUSTAINABILITY

- With a gross world product exceeding \$30 trillion the world can pursue sustainability to great advantage if it wants to.
- Sustainable energy is the main driver of sustainable economic development.
- A sustainable energy future requires bold policy actions, enhanced investments, and international cooperation. And political will.