



## **Interactive Thematic Dialogue of the U.N. General Assembly on “Energy Efficiency, Energy Conservation and New and Renewable Sources of Energy”**

**Thursday, 18 June 2009  
Trusteeship Council Chamber**

Energy efficiency and energy conservation, new and renewable sources of energy play a key role in economic and social development and the achievement of the MDGs, as well as in tackling the challenge of energy security and climate change. The development and deployment, as well as the transfer and scale-up of related technologies need to be fostered through international cooperation and partnerships.

### **Panel I: Status and Prospects: Energy Efficiency and New and Renewable Sources of Energy**

Renewable energy sources and energy efficiency can contribute significantly to achieving a sustainable energy future as well as energy security. Renewable energy technologies offer vast technical potential, including the concentration and harnessing of solar power (CSP) and solar photovoltaic (PV), wind power (onshore and offshore), hydro-power, ocean, and geothermal power.<sup>1</sup> Renewable energy contributes in four distinct sectors: electric power generation, hot water and space heating, transport fuels, and rural (off-grid) energy. At present, renewables represent 5 percent of global power generation capacity. Renewable energy technologies are experiencing rapid growth, with grid-connected solar photovoltaic (PV) constituting the fastest growing energy technology in 2006 and 2007. Developing countries as a group have more than 40 percent of installed renewable power capacity, more than 70 percent of existing solar hot water capacity, and 45 percent of biofuels production.<sup>2</sup>

Increased energy efficiency can reduce the required investment in energy infrastructure, cut fuel costs, increase competitiveness and improve consumer welfare in the long term. Consumers and businesses could save as much \$600 billion a year by 2020 just by using existing technologies, whereas investment in higher energy efficiency could amount to \$90 billion annually.<sup>3</sup> Energy efficiency, especially in buildings, is singled out as the most promising near-term mitigation option.

Although renewable energies offer a prospect for low-cost sustainable energy supply, the first investment costs are often high. Therefore, the main obstacle in facing renewable energy remains still cost-competitiveness, so that stimulating private investment has required various forms of support mechanisms. Policy initiatives to support the deployment and scaling-up of renewable energy and energy efficiency technologies are concentrated on research and innovation, market deployment and market-based mechanisms.<sup>4</sup> It is imperative to have a sound combination of policies that address specific barriers and/or complement existing policies, e.g. supporting research, development and deployment (RD&D) investments to

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<sup>1</sup> Ecofys/REN21, 2008

<sup>2</sup> Ren21 Status Report 2007

<sup>3</sup> McKinsey & Company, 2009

<sup>4</sup> Policy targets for renewable energy exist in at least 66 countries worldwide (REN21, 2007).

increase the competitiveness of the technology; support with provision of feed-in tariffs, low-interest loans, capital grants, and for example local support for manufacturing of wind turbines. To encourage private sector involvement/investment, longevity and predictability of policy support are important to overall market success and therefore the possibility for larger deployment (e.g. feed-in tariffs for renewable energy sources mostly have an eight- to twenty-year time frame). Especially newest renewable energy technologies (like offshore wind, including floating; thin-film PV, third generation PV, CSP, enhanced geothermal systems, advanced biomass gasification, advanced biofuel, bio-refinery technology, and ocean energy, as well as nanotechnology) depend on long term research, development and deployment commitments that must be ensured by public policies.<sup>5</sup>

Panelists are invited to address the following key issues or concerns:

- Which renewable and energy efficiency technologies are most promising today and for the future? Which technologies are best suited to be deployed at large scale?
- What are the principle constraints that hinder a wider deployment of renewable and energy efficiency technologies?
- What needs to be done to deploy approved and leading technologies at the necessary scale towards sustainable development? What are the success stories or lessons learned that can help Member States move towards their goal of sustainability?
- How can the United Nations contribute to improving the deployment of these technologies at scale, including overcoming barriers and to foster sharing best practices?
- What is the potential role of renewable energy technologies in addressing the major world challenge of energy access and, in particular, of developing countries?

## **Panel II: Meeting the Challenge: Investment and Policies**

In 2007 global investment in sustainable energy reached \$148.4 billion (60% increase over 2006).<sup>6</sup> Investment in new renewable energy capacity (asset finance) was \$84.5 billion (mainly investment in wind sector with \$50.2 billion, followed by solar sector with \$28.6 billion). The global carbon market is one important way to channel private investment towards low-carbon technology in developing countries, with the portfolio of Clean Development Mechanism (CDM) projects in 2007 valued at almost \$13 billion.<sup>7</sup> If international commitments in sustainable development and reducing greenhouse gas emissions are to be achieved, investment in renewable energy and energy efficiency must continue to grow firmly.<sup>8</sup>

The present financial crisis poses significant new challenges and opportunities for renewable energy and energy efficiency technologies, especially their transfer to developing countries. It is very likely that private investment in these types of technologies will fall both

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<sup>5</sup> International Energy Agency, 2007

<sup>6</sup> Total financial transaction in sustainable energy accounted for \$204.9 billion (including \$7.5 billion of energy efficiency investment).

<sup>7</sup> International Emissions Trading Association Report, 2008.

<sup>8</sup> UNEP SEFI/New Energy Finance, 2008

during and in the immediate aftermath of this crisis. A possible policy response is a significant increase in public investment, at both the national and international level, in large-scale renewables and energy efficiency development. To move forward, both public and private sector investments will be required in infrastructure, technology development and production of renewable energy, and greater energy efficiency. Governments could provide incentives for consumers and utilities to improve their energy efficiency, such as by providing revenue incentives and certification programs, as well as by enforcing standards and encouraging Public-Private Partnerships.

Access to reliable, affordable and clean energy is fundamental for sustainable development. Developing countries face enormous challenges in trying to erase the huge backlog in providing energy services to their populations at affordable prices; it is estimated that nearly 1.6 billion people lack access to modern energy services. Renewable energy can play a role in tackling this challenge, but public policies will be needed in order to bring down their costs.

Panelists are invited to address the following key issues or concerns:

- In the face of the current global financial and economic crisis, what measures and incentives are needed to ensure investment in renewable energy and energy efficiency?
- What policies can stimulate technological innovation? What policies favor the rapid and widespread development, transfer and diffusion of renewable and energy efficiency technologies?
- What needs to be done to create incentives for the promotion of investment, technology development and transfer? What can be done to provide legal and public policy incentives? How do we take into account national and international needs and long-term development goals?
- How can technology transfer and diffusion strategies and frameworks promote access to clean and renewable sources of energy for the world's poor?
- How can an energy transition be an opportunity for economic growth and poverty alleviation in developing countries? What are the implications and tradeoffs in promoting these alternatives? ( e.g. impacts on fossil fuel imports, reconversion of industrial activities).