



**Third OPEC Summit**  
**"Energy and the Environment: Complementarities and Opportunities"**

**Riyadh, Saudi Arabia, 15 November 2007**

**Address by Yvo de Boer, Executive Secretary**  
**United Nations Framework Convention on Climate Change**

Honourable Ministers, distinguished guests, ladies and gentlemen, it is an honour for me to address you on climate change action in the context of energy and the environment. This year has seen a **remarkable build-up of political awareness** for what the Secretary-General of the UN has termed “**the defining issue of our era**”.

***Signal flares from climate change science***

This year, the Intergovernmental Panel on Climate Change (IPCC) put out its latest comprehensive progress reports on the state of climate change science. The first instalment of the report showed us that **climate change is unequivocal and can now be firmly attributed to human activity**. For example, according to the first part of the IPCC Fourth Assessment Report, the world faces an average temperature rise of around 3°C this century, if greenhouse gas emissions continue to rise at their current pace and are allowed to double from their pre-industrial level. Warming during the past 100 years was 0.74C, with most of the warming occurring in the past 50 years. Between 1970 and 2004 alone, emissions of the greenhouse gases covered by the Kyoto Protocol have increased by 70%. **CO<sub>2</sub>, being by far the largest source, has grown by about 80%.**

The IPCC’s projected impacts include **extreme weather events**, including droughts, floods and storms, reduced water availability and decreased food security. The **poorest and most vulnerable across the globe will be the hardest hit** by climate change impacts, given their limited resources to cope and to adapt. Across the globe, the impacts of **unmitigated climate change will disrupt economic activity**, much more so than this year’s extreme weather events, including the recent floods in Africa, or the cyclone that hit Oman in June.

The UN panel, which whilst I speak is presenting its synthesis report to delegates in Valencia, has clearly indicated that **costs of inaction will far outweigh the costs of action**. The news coming from the scientific community is not all bad. **Speedy and concerted international action can still avoid some of the most catastrophic projections**. But this does mean that political answers commensurate with the IPCC’s findings have to be urgently provided.

## ***Political signals during the course of 2007***

There have been encouraging signals as to **growing political momentum** over the past year.

Moving backwards through 2007, I will name a few:

As announced by President Bush at the G8 summit in Heiligendamm, the **Major Economies Meeting on Climate Change and Energy Security** was convened on 27 and 28 September 2007. It intends to make a detailed contribution to the multilateral climate change process under the UNFCCC.

A key political signal was provided by the **Secretary-General's High Level Event on Climate Change**, held on 24 September 2007. The event concluded with a clear call from 80 Heads of State and Government for a breakthrough at the United Nations Climate Change Conference to be held in Bali in December this year. World leaders called for a comprehensive and inclusive process on the future to be launched in Bali and for a new framework to be in place by 2009.

The Communiqué of the **G8 Summit at Heiligendamm** constitutes another important political signal. G8 leaders called for an ambitious work-plan and tight time-line for negotiations on a future climate change deal to conclude by 2009. The means to address climate change, particularly the carbon market and its role in creating economic incentives for developing countries, were especially highlighted.

Earlier this year, climate change was discussed in the **General Assembly** and the **Security Council** held a special one-day event to discuss the security implications of climate change impacts.

The UN Climate Change Conference to be held in December in **Bali** has to constitute the starting point for the appropriate political response to the IPCC's findings. In order to avoid a gap between the end of the Kyoto Protocol's first commitment period in 2012 and the entry into force of a new framework, negotiations need to conclude in 2009 to allow enough time for ratification. The conference will thus have to set in motion the negotiating agenda for the next two years.

Thus far, four **building blocks for a future climate change regime** have been identified: adaptation, mitigation, technology cooperation at the heart of the response and financing the response to climate change. The challenge lies in putting them together to create a solid foundation for future global action that is fair, flexible and inclusive, as well as commensurate with the latest science. An expanded carbon market could provide necessary finances for both adaptation and concerns surrounding mitigation.

An enhanced post-2012 climate change regime needs to increase the fight against emissions, not the fight against oil.

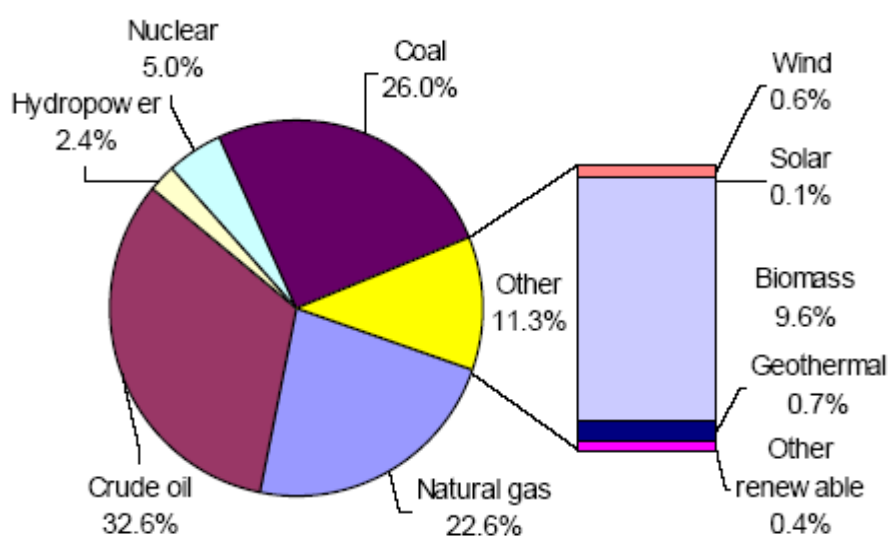
## *For the coming decades -possibly longer- oil is here to stay*

The IEA, in its recently released World Energy Outlook for 2007,<sup>1</sup> estimates that the world primary energy demand in the **Reference Scenario** grows by more than half between 2005 and 2030, at an average annual rate of **1.7% per year**.<sup>2</sup>

Under the **IEA's reference scenario, fossil fuels are projected to remain the dominant sources of primary energy globally**. Their share of global primary energy mix is projected to rise slightly under the reference scenario from 80 per cent in 2004 to 81 per cent in 2030. Global primary energy demand under the reference scenario is projected to increase by 1.6 per cent per year between 2004 and 2030, reaching 17.1 billion tonne of oil equivalent (Btoe), 53 per cent (6 Btoe) more than in 2004.

Over 70 per cent of the increase in global primary energy demand between 2004 and 2030 comes from the developing countries. The increase in the demand of developing countries results from their rapid economic and population growth. Industrialization and urbanization boost demand for commercial fuels.

### **Global primary energy mix in 2030 under the reference scenario**



*Source: IEA, 2006.*

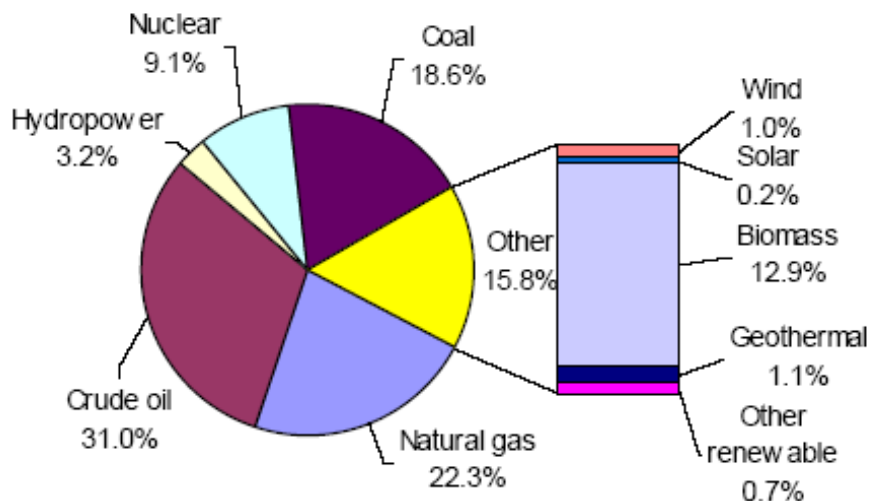
Global energy-related CO<sub>2</sub> emissions increase by 1.7 per cent per year between 2004 and 2030 under the reference scenario. They reach 40.4 Gt CO<sub>2</sub> in 2030, an increase of 14.3 Gt CO<sub>2</sub> or 55 per cent from 2004 levels.

<sup>1</sup> To be released to international press in London on 7 November 2007 (one week before the conference).

<sup>2</sup> Demand reaches 17.6 billion tonnes of oil equivalent (a rise of more than 54% compared with 2005).

Under the **IEA's mitigation scenario** strong policies increase energy efficiency significantly to provide the same services with 15 per cent less energy and shift the energy supply to more climate friendly technologies. Global primary energy demand rises from 11.1 Btoe in 2004 to 14.6 Btoe in 2030, 2.5 Btoe lower than in the reference scenario. Energy demand still grows fastest in developing countries, but increased energy efficiency moderates the growth in their demand to 2.7 Btoe. **Fossil fuels still play the dominant roles in primary energy supply.** Their share decreases to 72 per cent in 2030 from 81 per cent under the reference scenario in 2030 and 80 per cent in 2004.

**Global primary energy mix in 2030 under the mitigation scenario**



Global energy-related CO<sub>2</sub> emissions peak at 30 Gt CO<sub>2</sub> between 2015 and 2020 and decrease to the current level by 2030, which is part of what the IPCC's findings indicate is needed.

### ***Turning a threat into an opportunity***

Given the latest science, it is increasingly clear that business-as-usual is not a development path that is sustainable. **Emissions have to be reduced to secure our survival.** With world energy demand expected to double by 2050, and renewables energy only constituting a third of the energy mix, the challenge is enormous.

**The IPCC has identified carbon dioxide capture and storage (CCS) as the most promising technology for the rapid reduction of global emissions:** up to 55% by 2100. As part of a portfolio of solutions, CCS is an important bridge to a more sustainable energy system, and therefore a key solution for combating climate change.

If CCS is to be employed at a large scale it requires stable, market-based funding mechanisms that close the cost-gap between energy production with and without CCS. A continuation of the carbon market post-2012, i.e. beyond the first commitment period of the Kyoto Protocol, could enable **CCS to be included in the Clean Development Mechanism (CDM)**. This can be further enhanced by strengthening the use of the CDM and the development of new market mechanisms under a future climate change regime, and by promoting emission intensity criteria in a future green box (WTO).

Moreover, a continuation of a **stringent emission reduction targets post-2012 and rapid implementation towards this end will drive a more rapid transition to climate-friendly technologies**, including CCS, **and in this way continue to provide space for oil**.

**With appropriate technology development and deployment and non-fuel uses, essential fossil fuels can and will continue to play their role.** Non-fuel uses include the production of lubricants, sulphur, plastics or paraffin wax. The global climate change regime we are all seeking is not about reducing carbon intensity but about reducing emission intensity.

OPEC has an important role to play in investing in research and development of clean technologies. Such collaboration between the climate change regime and OPEC could yield win-win solutions, both for the environment and the global economy.

### ***Economic transitions create economic opportunities***

There is no historic case of losers having been compensated when technology turns a corner, e.g. stone to bronze or steam to oil. The last major energy transition occurred in the late 19th century when coal replaced wood as the dominant fuel. This **energy transition** that powered the Industrial Revolution **helped create a new economic and social class** by raising the incomes and changing the occupations of a large fraction of society who were then employed in rural, agrarian economies.

While difficult for some, **major transitions can open up larger economic opportunities**, provided there is constructive involvement in the new era. Constructive involvement can give groups a powerful place in designing the transformation, and at the same time enable them to simultaneously manage the environmental, economic and strategic risks of the transition. **Climate change is opening up economic opportunities across the globe.**

**This train can be slowed down, but it cannot be stopped** given that it is paramount to our survival that climate change remains manageable. Your opportunity lies in becoming key to the solution, rather than being perceived as part of the problem. Several options that could make the oil and gas industry part of the solution could include:

- Scaled-up research into clean fossil fuel production.
- Further deployment and dissemination of CCS with EOR, including by using existing sources of carbon dioxide such as ammonia plants and natural gas processing facilities;
- Reducing emissions from oil based power plants by transforming them into cogeneration plants (combined heat and power);

- Further disseminating flare reduction technologies;
- Energy efficiency improvements, including enhancing process efficiency and improving efficiency of equipment;

These are constructive options that would allow you to **use the efforts to address climate change to drive a global transformation away from carbon-based development** in your economies. I encourage OPEC to contribute to climate change abatement and to play an important role in history to drive forward sound solutions to a global problem.

**Climate change is a societal responsibility with the solution to be led by government.** All sectors of the economy must contribute to that solution. From the industry perspective, focus should be added on Energy Efficiency, CCS and alternative energies. A suite of climate change policies can support a combination of energy efficiency, renewable energies, and carbon capture and storage initiatives. All options will be needed to serve as an important bridging role while the world moves towards a sustainable energy system.

**Progress lies not in enhancing what is, but in advancing toward what will be.**  
(Khalil Gibran)

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