

CHIEF TECHNOLOGY OFFICERS' OUTLINE

CONCRETE ACTION FOR TRANSITION TO LOW-CARBON ECONOMY

The Chief Technology Officers (CTOs) of over 30 major companies with leading energy technology programmes have come together under the auspices of the International Energy Agency (IEA) and the World Business Council for Sustainable Development (WBCSD) to discuss how technology business leaders and government can work together to turn political statements and analytical work into concrete action.

The context for the meeting

COP15 in Copenhagen underlined that climate change is an economic, development and environmental issue of importance for all. Although COP15 fell short in providing the certainty and clarity that business had been demanding, it demonstrated a resolve by the world's major economies to address climate change by limiting global temperature increase to less than 2 degrees Celsius. Dramatic greenhouse gas emission cuts are required. IEA studies have shown that halving current global CO₂ emissions by 2050 is technically within our reach.

To achieve this requires a stronger focus on energy efficiency measures and substantially decarbonised power and transport sectors by 2050. This means a revolution in the way modern society uses and produces energy. The global energy system must be transformed to a low-carbon system. This will require a dramatic ramp up of our annual investment in a portfolio of low-carbon energy technology solutions within the next decade bearing in mind technology shifts take decades to create material impacts. National emission pledges and, more importantly, how they are implemented on the ground, will prove critical to triggering private sector action. This will include a greater integration in the energy chain, from optimization of the energy mix, to increasing the efficiency in the energy chain to systems optimization.

At L'Aquila in 2008, G8 leaders asked the IEA to develop proposals for an international low-carbon energy technology platform to enhance and progress common understanding of key energy technology challenges. This responds to a demand for deepened cooperative partnership arrangements between the public- and private-sectors and other actors on international, regional and local levels. The platform will enable discussion on how best to encourage the spread of clean energy technologies.

Business is ready and willing to support governments to increase international collaboration and best-practice sharing to accelerate energy technology research, development, demonstration, and deployment (RDD&D). A commitment exists to the development of technologies which will enable the transition to a low carbon economy. The challenge for both business and government is how to move forward with concrete activities.

What business can do

To realize the revolution in energy technologies that the world desperately needs, governments and business from developed and developing countries will need to work together closely. This CTO roundtable provides a welcome opportunity to bring government and industry together to explore new forms of partnerships and collaboration.

The IEA and the WBCSD commit to work with the wider business community on:

Technology roadmaps

- Developing a set of global low-carbon energy technology roadmaps that identify priority actions and milestones from today through 2050, discussing the different development phases, potential deployment scenarios and related costs;
- Exploring opportunities for the implementation of these roadmaps;

- Increasing investment in low-carbon technology deployment in the emerging and developing economies guided by national technology roadmaps; and
- Supporting increased technology coordination with emerging and developing economies via a low-carbon energy technology platform, including consideration of technology-specific sub-platforms.

Overcoming barriers to technology diffusion

- Sharing best-practice on government policies and on identifying and overcoming national and international barriers for the development, deployment, and diffusion of key technologies;
- Helping countries and their private sectors to design and implement innovative and market-based energy technology development, deployment, and diffusion plans appropriate for them;
- Recommending, as appropriate, actions that may be necessary to promote technology development, deployment, and diffusion in order to enable action on mitigation and adaptation.

Technology financing

- Gathering and publishing data on public and private sector investment in clean energy RDD&D, together with best-practice policies for accelerating energy technology innovation, with the aim of providing guidance to government energy technology policy;
- Identifying means to match technology with finance for its demonstration and deployment; and
- Assessing public and private financing mechanisms aimed at supporting technology innovation to gain a better understanding of how governments can work with companies to accelerate commercialisation of new technologies.

The role for governments

The need for government support is essential especially for accelerating the development and implementation of low-carbon energy technologies. The private sector is ready to take on greater risk in investing in such technologies if they see a positive return on their investment, however, implementation of low carbon break-through technologies cannot happen unless governments introduce significant funding packages. The rules need to be clear and the operating framework more certain:

- There is a need for greater public sector energy technology support and policy frameworks. Thanks to the stimulus packages enacted to spur economic recovery, 2008-09 saw a strong increase in governmental spending on low-carbon technologies for the first time in many years. This increase will need to be sustained and expanded by a clear and stable long-term framework in which low-carbon technologies can stay competitive to achieve our shared climate change and economic development goals.
- Governments and business should create new, more effective partnerships to increase energy efficiency and educate consumers on their role in energy technology innovation. Consumers need to be enabled to make smarter choices about energy use in homes and personal vehicles. Governments should develop an appropriate, consistent incentive structure and assist private consumers in overcoming barriers for often higher upfront investments needed for energy efficiency measures.
- Governments can replicate or adapt successful examples of public-private efforts that today encourage hundreds of new companies to invest in pre-market clean energy technologies. They also need to spur international collaboration on clean-energy technologies. The private sector can be encouraged to take on appropriate risk in new, innovative low-carbon technologies in exchange for the promise of greater reward. Mutual efforts are needed to develop and spread promising low-carbon technologies.

Companies supporting the Joint Statement are:

ABB, Air Liquide, Alstom Power, Ansaldo Energia, Areva, Dow Chemical, DuPont, Electrolux, ENEL, General Electric, HeidelbergCement, Hitachi, Hydro-Québec, Iberdrola, Norsk Hydro, Philips Lighting, Renault, Sasol, Shell, Schlumberger, Siemens, TEPCO, Total, Toyota Motor Europe, United Technologies Corporation, Vestas Wind Systems, Volkswagen AG.