An IEA *OPEN Energy Technology Bulletin* [1] Interview
Issue No. 66, March 2010

Multi-Sector Action for Low-Carbon Energy

A massive concerted effort by governments, private companies and many other stakeholders will be needed if a low-carbon technology revolution is to transform the energy sector globally. Important groundwork on how to advance together has been laid by two Chief Energy Technology Officers' Roundtables[2], organised by the International Energy Agency (IEA) and the World Business Council for Sustainable Development (WBCSD). Pointers for concrete action on transitioning to a low-carbon energy future emerged from the 2 February roundtable in Paris, where technology chiefs from 30 companies compared notes with senior IEA officials. The *OPEN Bulletin* explored the issues with IEA's Deputy Executive Director, Ambassador Richard H. Jones.

Ambassador Richard, H. Jones, Deputy Executive Director, IEA

OPEN Bulletin. *Why is more dynamic dialogue between the private and public sectors on low-carbon technology so important?*

Richard H. Jones. As we know, low-carbon technology can open many doors to a cleaner, more secure energy future. Wider deployment of such technologies in countries at different stages of development is the focus of many international efforts, including the proposed technology mechanism that was discussed at last December's meetings in Copenhagen. Other United Nations organisations such as UNDP, UNEP and UNIDO all work in this area, as do multinational development organisations such as the World Bank with its Clean Technology Fund. Nonetheless, at their July summit in Italy, leaders of the G8 nations asked the IEA to explore creating a low-carbon energy technology platform. So, in spite of everything that's going on in this area, G8 leaders still believed there was a need for another initiative. In

[1] The IEA OPEN Energy Technology Bulletin is a free, web-based periodical newsletter published by the International Energy Agency (IEA). Views expressed in *OPEN Bulletin* articles or interviews do not necessarily reflect the views or policies of the IA Secretariat or of all its individual member countries.

[2] Readers can download the document on concrete action established at the 2 February IEA/WBCSD Chief Technology Officers' Roundtable.

considering this tasking we thought that one thing that was missing from many of the efforts was the active participation of the private sector. Since so much of the resources that need to be mobilised for investment in innovative technologies will come from the private sector, it made eminent sense to us to involve the private sector in the international planning process from the very beginning. So we conceived the Platform as an initiative that will enable high-level people from both public and private sectors in nations all around the world to brainstorm on tackling the challenges each country faces in activating its most suitable mix of low-carbon technologies for secure and sustainable energy systems.

If we are to advance meaningfully towards low-carbon energy systems for the world's populations, an ongoing process of technical innovation must be fuelled by responsive government policies to spark technological creativity and boost demand to pull such technologies into the marketplace.

It is all about confidence in the face of risk. Industry needs assurance that its investments in developing and deploying low-carbon technology will be counter-balanced by government policies that facilitate the technology's market uptake. Industry must consider its markets, its shareholders, its most economical manufacturing locations and a host of other factors that contribute to the bottom line. Governments, for their part, have to consider their constituencies, their bilateral relations with other countries, their RD&D funding capacities and the need to fit energy policies harmoniously into coherent national strategies. They also want a least-cost solution; our analysis generally tells us that such a solution will almost always feature a variety of different technologies, starting with technologies that promote greater energy efficiency, at home and in the workplace.

To provide for more secure and sustainable energy systems, the private and public sectors must mobilise together within a multi-stakeholder energy technology offensive, which must also include stakeholders at regional and local levels. There is no lack of will to advance with the technologies and to collaborate on their wider deployment; but we need answers now on exactly how to choose the proper mix of technologies that should feature in a least-cost solution and then on how to overcome the obstacles to moving forward with concrete projects to deploy those technologies. That is the primary mission of the Platform.

OPEN Bulletin. *Why has the IEA taken such a dynamic role in facilitating the public-private dialogue on clean energy technology?*

Richard H. Jones. Initially, we came into this area through our work in support of the UNFCCC negotiating process. Right now, energy accounts for 84% of manmade global CO_2 emissions, which are believed to be the major contributor to global warming. Our analysis showed that the least-cost way to keep the rise in global temperature below 2°C above pre-industrial levels is through major investments in research development and deployment (RD&D) of technologies to enhance energy efficiency and decarbonise the power and transport sectors, or as we often refer to them, low-carbon technologies. In fact, this must be an enormous worldwide initiative costing more than ten trillion US dollars between now and 2030, and each year of delay will add another half a trillion US dollars to the bill. The good news is that we also found that there will be a whole host of ancillary benefits countries can

realise by going this route, including more robust security, reduced pollution and enhanced economic development.

Why is the IEA so well placed to bring the key players together around one table to promote an actionable dialogue on how to promote low-carbon technologies? The first reason is quite simply that the Agency's mission, since its creation in 1974, has been to advise governments on energy policy, and that includes technology policy. We therefore have fast-track channels of communication with senior policy makers in our 28 member countries. But we also work increasingly with their counterparts in many other nations whose economies and energy consumption are growing very fast. Brazil, China, India, Mexico, Russia and South Africa are some examples. The IEA also has dynamic ongoing dialogues with many other countries as well as a variety of international organisations, within and outside of the UN family of agencies. We expect that we will find willing partners in the Platform from among all these stakeholder groups.

The second reason is that the IEA is in close touch with international teams of experts working on energy technologies that can meet a whole range of energy security and sustainability objectives. Our technology policy messages – known for their impartiality – incorporate insight from hands-on research within 42 international collaborative RD&D programmes spanning technologies for all the major forms of energy. The private sector is strongly represented in these RD&D programmes, so we have good relationships with industry in a multitude of different technology areas, ranging from clean fossil fuels through renewables and energy efficiency to fusion-reactor electricity. This sharing of resources and risks within international teams up-scales projects, accelerates results and adds to the credibility of findings. It fosters networking and can facilitate harmonisation of standards.

Through these and many other channels, we have established increasingly fruitful links with different sectors of industry and with industry groups. For IEA publications, this has proved invaluable in terms of quality of data input and peer review capability, notably for our flagship *Energy Technology Perspectives* studies, which show in detail how different technologies can help improve our energy security and economic outlook while meeting our climate-change goals for 2050. As demonstrated by the success of our Chief Technology Officers' Roundtables in January 2008 and in February of this year, we enjoy a particularly fruitful partnership with the World Business Council for Sustainable Development, whose spans of membership and activities are vast.

So the IEA has privileged channels of communication with both public- and private-sector decision makers, but also with wide-ranging technology expertise at RD&D level. I therefore consider that the IEA has a natural role as an "honest broker" in bringing together the key stakeholders to dialogue on the best ways to address low-carbon energy technology challenges; and to do so in partnerships that promise mutual benefits.

Needless to say, those partnerships with the private sector take many forms, aside from RD&D projects, workshops or data input and verification. Secondment of industry experts to IEA Headquarters has proved extremely fruitful for all concerned. We also enjoy a steady flow of funding contributions for deepening our analysis on chosen topics and combining our expertise to everybody's advantage.

OPEN Bulletin. *Could you describe some other key projects where the IEA is working with the private sector on getting cleaner energy technologies developed and into the market?*

Richard H. Jones. I have already mentioned the Low-Carbon Energy Technology Platform project, which G8 leaders asked us last July to carry forward. We are of course very proud to have been entrusted with the leadership on what is now a centre-piece in the IEA's portfolio of global projects with private-sector partners. A major, high-level Technology Platform gathering is scheduled for October this year in Paris. It will provide an important opportunity for senior decision makers from governments around the world and from the private sector to talk openly about what they consider to be the exact nature and magnitude of the technology challenges we need to address if we are to get onto a viable path towards reducing emissions and preventing global warming by mid-century. Our projections show that even a 50% reduction in global emissions is entirely possible from a technical point of view. What we need to nurture, however, is the right combination of political will and industrial muscle to make it happen. The overriding themes of the event will be: a focus on individual countries and on their specific needs; how they can best choose the most suitable mix of energy technologies for themselves; and how the international community can best support their efforts to deploy these technologies. We are placing great faith in this Low-Carbon Energy Technology Platform project.

One of the important points made at the recent Chief Technology Officers' Roundtable was that a set of global low-carbon roadmaps should be developed to show what action is needed to reach energy security, economic and environmental objectives. Roundtable participants also recognised that national roadmaps for emerging and developing economies are urgently needed.

An existing IEA project has already produced a series of roadmaps, which show how the technology transitions advocated by our IEA *Energy Technology Perspectives* analysis can become reality. Drawing on the findings of workshops with industry and other key stakeholders, we recently launched our first Energy Technology Roadmaps, which chart the journey of individual technologies to their optimum role in clean energy systems. These roadmaps look at the technical, policy, legal, financial, market and organisation requirements that our partners have pinpointed as necessary to foster the earliest possible uptake of the most promising technologies. So far, we have roadmaps on carbon capture and storage, wind energy, electric/plug-in hybrid vehicles and efficient cement-industry processes. In the pipeline for publication this year we have roadmaps on biofuels, concentrating solar power, energy-efficient, low-carbon buildings, nuclear power, smart grids and solar photovoltaic power. A key ongoing input to those roadmaps will be better data on private-sector spending on clean energy RD&D, as well as public-sector spending. The private sector has much to tell us about which policies work best to catalyse innovation and speed cleaner, more efficient technologies into the marketplace. We shall be working increasingly closely with our private-sector partners on these roadmaps.

We are also working closely with the private sector on transport technology, where another important initiative, the Mobility Model or the "MoMo", is making major contributions. Here, we have partnered with multinational oil companies, major automobile manufacturers and a research institute to characterise and project activity, efficiency and energy use in the

transport sector around the globe. Also involving transport, the IEA is very proud to have joined forces with the FIA Foundation, the UN Environment Programme, and the International Transport Forum in carrying forward the " 50by50: Global Fuel Economy Initiative", which was launched at the Geneva Motor Show on 4 March 2009.

It would be fair to say that partnering with the private sector is a thread that runs consistently through much of the IEA's work. How otherwise, for example, would we have been able to publish a book with this title: *Energy Technology Transitions for Industry*? This study, which came out last September, looks at likely future trends in energy use and CO_2 emissions in five major energy-consuming industries, identifying the technologies that could improve their energy efficiency and burnish their sustainability credentials. We worked hand-in-hand with industry on this book, as we do on very many others. Another example is our ongoing "energy indicators" analysis, which monitors the impact of factors like demography, economic structure, income, lifestyle and climate trends on global energy use and CO_2 emissions.

These are just some of the IEA projects where we collaborate closely with the private sector and other stakeholders. In our drive to develop policies to help obtain secure, sustainable and affordable energy for all the world's populations, we need more partners to contribute more to our body of knowledge. The better our information, the better our analysis and the advice we provide to governments will be.