

An IEA *OPEN Energy Technology Bulletin*¹ Interview

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Energy Technology, Policy and Climate

An interview with Bo Diczfalusy

Director for Sustainable Energy Policy and Technology, IEA

Since December 2009, Bo Diczfalusy of Sweden has been the IEA's Director for Sustainable Energy Policy and Technology. The *OPEN Bulletin* put some questions to him about energy technology's role in meeting today's energy challenges. Before joining the IEA Secretariat, Bo Diczfalusy held senior positions in Swedish administrations and representations to international bodies, including the IEA.



Bo Diczfalusy
Director for Sustainable Energy Policy
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OPEN Bulletin. *You took up your new post as the IEA's Director of Sustainable Energy Policy and Technology in December. What were your reasons for accepting this key job within the IEA Secretariat?*

Bo Diczfalusy. In two words, enormous motivation! My six years as Sweden's representative on the IEA Governing Board, and long acquaintance with the IEA before that, had given me a ring-side view of the IEA Secretariat's strong role in helping governments to address increasingly hefty energy challenges. The IEA's leadership, its authoritative analysis and its firmly stated policy recommendations are making major contributions to the global drive for low-carbon energy systems that can deliver adequate, reliable, affordable energy for the world's populations. I was naturally very keen to seize this opportunity to play a dynamic role in taking that effort forward. Energy accounts for 84% of global CO₂ emissions. Without the right combination of technologies and policies, we shall never be able to realise the "450 scenario". This scenario means limiting greenhouse

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 IEA Secretariat or of all its individual member countries.

gases in the atmosphere to 450 parts per million of CO₂ equivalent in order to keep the rise in global temperature to around 2°C above pre-industrial levels. A huge effort on technology research, development and demonstration (RD&D), and deployment will be needed. And that means large-scale investment without delay. Each year of waiting to act adds half a trillion US dollars to the cost of climate-change mitigation.

OPEN Bulletin. Your Directorate has teams working on clean energy technology RD&D, on energy efficiency approaches and on climate change policy analysis. How do the technology and the policy aspects mesh?

Bo Diczfalusy. They go hand in hand. If energy is the life-blood of our economies, then technological innovation is the pulse enabling energy supply to keep pace with both galloping demand and tighter climate-protection constraints. But the pulse of technological innovation and deployment cannot function without the stimulus of well shaped government policies. And new energy policies are needed urgently.

In all areas of energy production, transportation, transformation and use, IEA's energy policy specialists are constantly fine-tuning the Agency's scenarios and identifying best-practice policies and strategies that can optimise market forces and accelerate the global transition to durably clean energy systems. I am really impressed by the expertise of our analysts and that of our huge global network.

The IEA works hard to foster liaison between policy makers, the scientific community, researchers, industry, civil society, interest groups and many other stakeholders to spark creativity, spearhead RD&D and give traction to market uptake. If new technologies are to move fast from the laboratory to the marketplace and if clean, efficient equipment and processes are to be adopted in industry, homes and the workplace, policy impetus is needed at each phase in the development chain.

Energy-saving policies are especially urgent. The IEA has produced 25 recommendations for policies that can potentially reduce global CO₂ emissions by 8.2 gigatonnes per year by 2030. All these recommendations need to be fully implemented if we are to turn the 450 scenario into reality.

On the technology side, we have a vast network of groups focusing on advancing RD&D for cleaner, more efficient technologies. At the network's heart are 42 international collaborative RD&D programmes² bringing together thousands of experts from public and private sectors around the globe. They work side-by-side on technologies for renewables, clean fossil-fuel energy production and use, smart electricity systems, end-use in buildings, industry and transport, and the science of fusion power.

These programmes, known as "Implementing Agreements", provide structures for accelerating RD&D, sharing risks and scaling up projects. Each is a vital forum for exchanging experience, expertise and data on technology development and deployment. They feed this into the IEA Secretariat's policy analysis and scenarios. So there is

² IEA international [energy technology R&D collaborations](http://www.iea.org/techno/index.asp): <http://www.iea.org/techno/index.asp>

excellent synergy between the IEA's collaborative energy technology RD&D network and the Agency's various technology policy support functions.

OPEN Bulletin. How are the IEA energy technology messages conveyed to the decision takers who can make things happen?

We need to make things happen quickly. Fortunately, through member-country representatives on the IEA's Governing Board, committees and working parties, we have permanent "hot-lines" to national policy makers. We also produce many studies, papers and statistical tools, as well as organising events where technology specialists can brainstorm with policy strategists from both government and the private sector to develop common perspectives on breaking through barriers to progress.

Our flagship technology publications are the IEA *Energy Technology Perspectives*³ (ETP) studies. ETP analysis shows that rapid deployment of the right mix of technologies and policies could reduce energy-related CO₂ emissions by 50% by 2050, as opposed to the doubling of emissions expected under current trends. To explain how that can be achieved, our recently launched *Energy Technology Roadmaps*⁴ present technology development and deployment pathways, technology-by-technology and in different sectors. Based on consultation between experts from the IEA's technology network, government and industry around the world, they show that fuel switching and efficiency, notably in transport vehicles, will play a large role, as will carbon capture and storage at power stations and industrial plants. Radically different government policy approaches and corporate strategies will be needed to catalyse the necessary transitions. The term "technology revolution" is now part of our daily language.

To promote IEA messages, we obviously secure high-profile presence at major events where we can reach the important decision-takers. The IEA is an active partner in the climate-change debate and provides input to UNFCCC experts groups. At December's Copenhagen Climate Change Conference, we presented views and analysis at an IEA Day, a press conference and through bilateral meetings with officials, industry and experts.

OPEN Bulletin. What is your view of the outcome from the December UNFCCC climate talks in Copenhagen?

Bo Diczfalusy. The Copenhagen Accord certainly takes us in the right direction. It contains the foundation for supporting partner developing countries' steps beyond their unilateral action to mitigate and adapt to climate change. We estimate that they will need some 200 billion US dollars each year; the pledge of half that sum from industrialised countries is an important contribution. In that context, it was especially encouraging to hear about the creation within the UNFCCC framework of the Technology Mechanism on technology development, transfer and capacity building.

³ *IEA Energy Technology Perspectives*: <http://www.iea.org/techno/etp/index.asp>

⁴ *IEA Energy Technology Roadmaps*: http://www.iea.org/subjectqueries/keyresult.asp?KEYWORD_ID=4156

But we feel that emissions reduction pledges to date fall short of requirements to arrive at the 450 scenario. Much work is needed before the UNFCCC parties re-convene in Mexico later this year. As we emerge from the global economic downturn, renewed surges of investment must favour climate-friendly, efficient technologies. We cannot afford to miss what could be the last major opportunity to avoid locking inefficient, dirty energy systems into national economies for decades to come.

We have known for long that the climate challenge will not be met without everybody on board. It is heartening to see that so many countries showed willingness in Copenhagen to promise action of some sort. That is a basis for moving forward together.

OPEN Bulletin. Where technology is concerned, how will the IEA be taking the effort forward?

Bo Diczfalusy. Energy demand is set to grow by 40% by 2030, driven notably by greater affluence in more nations. It has been estimated that some two billion people will join the global middle-class of high energy consumers by 2030, largely in the Brics countries (Brazil, Russia, India, China). We hope that eradicating poverty and improving standards of living will accelerate around the globe, notably in nations deprived of modern energy supplies. Meanwhile, projections like these are useful reminders that global energy-sector game plans need to include all the major energy consuming nations at the highest level. We must act fast, but the action must be global.

IEA collaborative RD&D programmes and bilateral initiatives already maintain ongoing dialogues with non-IEA countries at various levels. Engagement with IEA's 'dialogue partner' major energy-consuming nations is an essential part of the Agency's mission to promote sustainable, green growth. That is why the IEA Ministerial Meeting in October 2009 asked the Agency to organise two international gatherings during 2010.

Technology will be the theme of one, a gathering of senior officials scheduled for October to launch an "International Low-Carbon Energy Technology Platform". With a view to doubling RD&D investments by 2015, this initiative⁵ is designed to develop closer common understandings of key energy technology challenges and to build promising strategies for addressing them. Technology experts, business representatives and policy makers will discuss policy blueprints for national energy systems transitions to the combinations of emerging technologies best suited to local specificities. Participants will share policy-making best-practice on tackling barriers to technology development, transfer and deployment, possibly including financing mechanisms. Also on the agenda will be national roadmaps based on the IEA's international technology roadmaps, along with design and implementation of innovative, market-based energy technology development and deployment plans for individual countries. It is a great privilege to be organising this event on low-carbon technologies, which are a major focus of the G8 leaders and the Major Economies Forum on energy and climate change (MEF).

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Also in October, we shall be holding another large high-level event, this time under the banner "Partnership for Energy and Sustainability". This one-day meeting⁶ will enable senior officials from IEA member states and dialogue partner countries who are active energy market players to meet on an equal footing and look at ways of co-operating in the future to address global energy and sustainability challenges. This broad remit will include approaches to strengthening co-operation in areas like the functioning of energy markets, policies to promote energy efficiency and steps to address energy poverty.

We hope that these two events will be landmarks in our very broad portfolio of IEA initiatives to promote low-carbon technology and involve non-IEA countries, the private sector and other key stakeholders in our projects.

OPEN Bulletin. What do you see as the priority goals for your teams over the coming year?

Bo Diczfalusy. Outreach is a major ongoing objective in our technology efforts. I shall be encouraging my staff to exploit to the full the IEA's convening power to engage non-IEA countries and private-sector partners. We need their co-operation today to address today's urgent energy challenges and we need their input to our analysis so that our advice to policy makers is based on down-to-earth realities. We also need to reinforce our co-operation with other partner organisations.

In general, we must be warning the global energy community against complacency. The financial crisis has checked the rise in global fossil-energy use, but the long-term path remains upwards. Delays will add half a trillion US dollars each year to the cost of curbing climate-change.

So we must advocate bolder investment - in both private-sector and government-funded RD&D - in order to bridge the gaps created by cost-cutting triggered by the recent economic downturn. We must continue to emphasise the importance of a CO₂ price and a wider carbon market to orientate investment waiting in the wings for good opportunities. As investment banks and fund managers repeatedly remind us, there is a lot of money out there waiting to find a home in the clean energy business. Again, there is no time to lose. We need to attract that investment now.

OPEN Bulletin. Thank you so much for your time.

Bo Diczfalusy. It was my pleasure. My New Year's wishes to all *OPEN Bulletin* readers.

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