

An IEA *OPEN Energy Technology Bulletin*¹ Interview

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Ambassador Richard H. Jones, a career diplomat of the US Senior Foreign Service, recently joined the International Energy Agency (IEA) as its Deputy Executive Director. The *OPEN Bulletin* sought Ambassador Jones' views on some key energy technology issues.



IEA OPEN Bulletin. More than ever, energy price volatility is in the headlines today. How do you view technology's contribution to keeping down energy bills and protecting the global climate?

Richard H. Jones. Energy technology must play a key role in the energy revolution that is needed in the coming decades. A lot of energy-efficiency options can in fact already reduce the energy bill for consumers. But they are not widely applied for a number of reasons, such as lack of information and uneven distribution of costs and benefits (as with building insulation, where interests of landlords and tenants can diverge). In power production and industrial facilities, there are widespread opportunities for more energy-efficient processes.

Some new supply technologies can reduce the energy bill in the long term, provided sufficient investments take place in the short and medium term to reduce costs through so-called technology learning effects. But such learning-effects cost reductions may have to be weighed against possible increases in electricity costs stemming from measures to reduce CO₂ emissions. For instance, CO₂ capture and storage (CCS) will add cost and increase fuel consumption compared to power generation from the same plants without CCS. Crucially, CCS will help mitigate CO₂ emissions and reduce the need to adapt to radically different energy systems. CCS can also reduce local air pollution, bringing important health benefits.

IEA OPEN Bulletin. Can you enlarge a little on the significance of this revolutionary concept of CO₂ capture and storage at power plants and in industry?

Richard H. Jones. CO₂ capture and storage (or CCS) is basically a new gas clean-up technology. In CCS technology, CO₂, a by-product of power generation from fossil fuels, is captured from an exhaust gas stream or a fuel gas stream and transported for long-term storage deep under ground. Our IEA *Energy Technology Perspectives* analysis suggests that

¹ The IEA [OPEN Energy Technology Bulletin](#) is a web-based periodical newsletter published by the International Energy Agency (IEA).

CCS could account for 19% of total emissions reduction in a scenario aimed at halving global emissions by 2050; one-quarter of all power would be generated from CCS-equipped fossil fuelled power plants. On the other hand, our analysis suggests that emissions abatement costs would increase by more than half if the same emissions-cutting policy target had to be reached without CCS.

In the iron and steel, cement, pulp and paper and chemicals industries, CCS can become an important option because few other options exist to achieve deep emissions cuts.

One key challenge is to develop a CO₂ pipeline infrastructure. Understanding the behaviour of CO₂ under ground also needs to be improved. We are now working on the legal and regulatory issues surrounding CCS, such as those concerning liability for long-term storage. The IEA has just published a major study that summarises our latest insights on CCS: [CO₂ Capture and Storage : A Key Carbon Abatement Option](#).

IEA OPEN Bulletin. Producers of road vehicles are competing hard on fuel efficiency and alternatives to oil. Do you have a vision of which technology will be driving the vehicles on tomorrow's roads?

Richard H. Jones. Road vehicles can be split into two categories: light-duty vehicles, which are chiefly conventional cars (LDVs) and heavy-duty vehicles such as large trucks (HDVs). The situation is rather different in each market segment. For LDVs, important efficiency potentials remain, for example based on diesel engine-type technology. Progress in battery technology is also encouraging. Several vehicle producers have announced ambitious plans for a plug-in hybrid vehicle roll-out in the coming years. If these plans are put into practice, this can have a major impact on the LDV market over the coming two to three decades, and it would constitute a welcome addition to biofuels, compressed natural gas and hydrogen fuel cell vehicle alternatives.

For HDVs, however, batteries based on today's available technologies are not a viable option. This market segment poses more of a challenge. Biofuels, optimisation of freight planning and more reliance on rail and sea transport seem the most viable alternatives for the time being.

IEA OPEN Bulletin. IEA membership no longer includes all the world's largest energy consumers. What can the IEA do to promote use of cleaner, more efficient energy technology in non-IEA countries?

Richard H. Jones. We are in a close dialogue with many fast growing energy consumers - notably the Chinese and Indian governments - with a view to promoting closer international energy policy co-operation. Countries that are not IEA members do send observers to our committees and working groups, and they can participate in the collaborative [Implementing Agreement programmes](#), which focus on specific technology topics. Rising energy prices often affect developing countries more dramatically than OECD countries; and it is also developing countries that will bear the brunt of climate change. Everyone agrees that economic development is essential, but it is important that development be based on principles of sustainability. For some time, closer co-operation with non-IEA countries has been a major focus of our attention - notably through the [IEA NEET Initiative](#) - and I am confident that we will make further progress in the coming months and years.