

**The IEA's G8 Gleneagles Programme: Towards a Clean, Clever  
and Competitive Energy Future**

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**SLIDE 1**

Distinguished Ministers, it is a great honour to have been invited to participate in this event, and I would like to thank the Japanese Government for the opportunity.

**SLIDE 2**

In recent years attention has been focused on negotiations to set a greenhouse gas emissions reductions target. But a target alone will not miraculously solve the problem. What is needed is practical action to transform our energy system. With this in mind, during the Gleneagles Summit in 2005 the G8 asked the IEA to "advise on alternative energy scenarios and strategies aimed at a clean, clever, competitive, energy future". Today I will share with you the key findings of the 3-year work program we launched in response to this request.

### SLIDE 3

Let's start with our work on energy scenarios and strategies.

This chart, from *Energy Technology Perspectives 2008*, describes how we can address our energy challenges using today's technology and tomorrow's innovation. It demonstrates that cutting emissions by 50% by 2050 is achievable but tough. We would need to achieve very large improvements in efficiency. We would need to substantially de-carbonise power generation. And we would need to make an eightfold reduction in the carbon intensity of transport. Of course, if we can succeed in this we could also make a big contribution to energy security.

### SLIDE 4

In terms of energy efficiency, we have developed a set of 25 recommendations across seven priority areas. If implemented globally, they could save around 8.2 Gt of CO<sub>2</sub> per year by 2030. This is greater than the current energy related CO<sub>2</sub> emissions from the USA and Japan combined. They would also reduce global energy demand by an amount comparable to the total current energy consumption of the USA.

## **SLIDE 5**

The triple-win potential of energy efficiency -- higher economic performance, higher energy security and less climate change -- leads to three recommendations: implement, implement, implement.

With this in mind, in time for the Summit, the IEA will prepare scorecards to monitor the progress that countries are making against the efficiency recommendations. It is already clear that everyone has areas for improvement.

## **SLIDE 6**

We have also developed energy indicators which are used in setting efficiency standards and to identify policy best-practices. This work has shown that significant energy efficiency improvements have already been made but a lot of potential remains. For example, if all newly built coal-fired units were state of the art it would be possible to reduce up to 1.7 billion tonnes per year of CO<sub>2</sub> emissions.

## **SLIDE 7**

This slide gives another example, this time for the iron and steel industry, where the global adoption of best practices could save up to 3.2 Gt of CO<sub>2</sub> per year.

To continue this work on energy indicators we need to improve data quality and availability. I am therefore calling upon all countries gathered here to commit to improving and sharing the necessary energy efficiency data with the IEA.

### **SLIDE 8**

As I mentioned, decarbonising the power sector will also be essential. This can be achieved through renewables, nuclear power, and the capture and storage of CO<sub>2</sub> emissions from coal or gas plants. There is a degree of choice, for each country, as to the balance of these technologies that you chose. But action is needed urgently, and the costs are substantial. For instance, just as part of efforts to meet a 50% cut in emissions, we would need to build 14,000 large wind turbines and 32 nuclear power plants every year between now and 2050.

### **SLIDE 9**

Some of the technologies that will be needed are not yet available, and others require further refinement and cost reductions. A huge

effort of research, development, and demonstration will therefore be needed.

To guide this process, we have made a first attempt on 17 energy technology roadmaps which outline the steps needed to bring the technologies through to commercialisation. This slide shows the example of the Carbon Capture and Storage. It calls for the construction of at least 20 demonstration plants over the course of the next twelve years, at a cost of US\$1.5 billion per plant. Such a program should be seen as one 'litmus test' of our seriousness of combating global warming. Commitment to fund CCS, including through the clean development mechanism, could serve as a trigger for the deployment of this critical new technology. Continuing this work on technology roadmaps must be viewed as a priority.

### **SLIDE 10**

Please allow me to conclude by emphasising that the IEA was extremely proud to have been involved in the *Gleneagles Plan of Action*.

Our work has demonstrated that we must treat energy security and climate policy as two sides of the same coin. To solve these challenges we will need a global energy revolution to transform the way we produce and use energy. Policy makers must set the policy

framework within which industry can respond to the climate change challenge without detriment to their competitive position. We will therefore need to put an appropriate cost on carbon and draw upon the full range of mechanisms including sectoral approaches. Decisions have to be taken now and implementation has to begin now. The primary scarcity facing the planet is not of natural resources nor money, but time.

Thank you