

Carbon Dioxide Capture and Geological Storage: *Contributing to Climate Change Solutions*

IPIECA's Potential Role(s) in Capacity Building and Communications to Policy Makers

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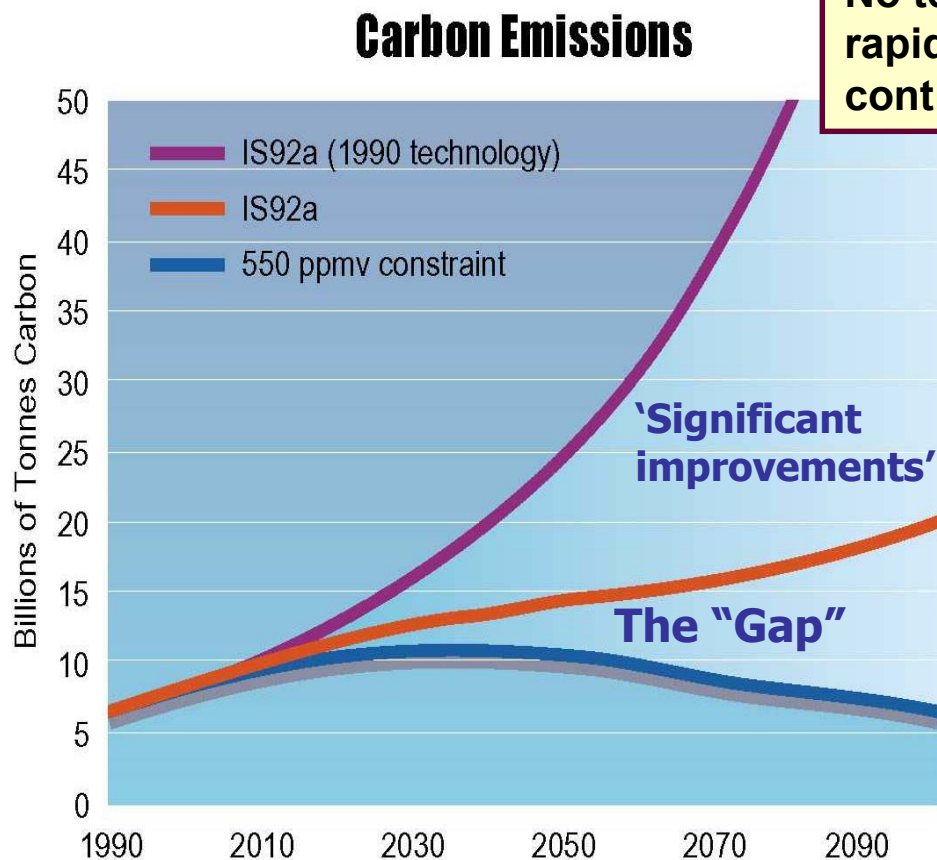
The Development-Climate Challenge



- Development
 - By 2030 energy use forecast to grow by 60%
 - A key to meeting development objectives
 - 1.6 billion currently lack access to electricity
 - Fossil fuels projected to remain dominant source
 - Availability, affordability
- Climate
 - Concerns over impacts of increased GHG emissions

Improved technology will be needed to meet the development-climate challenge.

Future GHG Levels and Potential Technology Impacts



No technology improvement – rapid growth in GHG levels to continue economic growth

With significant technology improvement, development still drives GHG levels up.

- Fossil fuels improvements
- Energy intensity
- Nuclear
- Renewables

New technologies will be needed if stabilization is desired, for example:

- H2 and Adv. Transportation
- Biotechnologies (Soils, Bioenergy)
- Carbon capture & storage

Edmonds, PNNL, 2003

The Road Ahead



- CCS being advanced by a diverse set of initiatives
 - Governments, academia, industry and partnerships
 - Accumulating commercial experience
 - Reducing costs
 - Better risk definition and management
 - Form sound basis for evaluation of CCS potential and comparison to other carbon management options.

Continued, long-term RD&D investment will be key to improving CCS's ability to deliver energy for development while managing carbon risk

Purpose of the IPIECA Policy Roundtable 2006



Building consensus across the oil and gas industry was important.

- Role of policies and regulations in CCS and analogous operations (i.e. EOR and Acid Gas Injection)
- Existing regulations
- Permitting
- Liability
- Monitoring and verification

Key Messages: Priority Issues



Participants of the Roundtable identified and prioritized the following issues.

1. Legal/Regulatory Issues

- Potential classification of CO₂ as a waste in pre-existing regulations
- Long-term liability
- Monitoring

2. Industry Strategies

- Relationship to power industry CO₂ sources
- Potential business model
- Role of IPIECA (e.g, best practices, facilitate gov't. interaction)
- Impact on current operations

Key Messages: Priority Issues



Participants of the Roundtable identified and prioritized the following issues:

3. Incentives (e.g., importance of CCS in CDM, crediting, R&D incentives)
4. Transfer knowledge of CCS to policy makers in climate change policy
 - What are industry's goals? How does CCS fit into business portfolio?
 - G8 Glenneagles Plan of Action -- Role of CO₂ EOR: Early Opportunities
5. Public acceptance

Key Messages

IPIECA's Current and Potential Roles



- IPIECA is not an advocacy organization. IPIECA's key strength is in the educational and communication roles for member companies, which include:
 - Share of best practices from projects to build expertise
 - Facilitate alignment between companies
 - Leverage expertise in industry-wide efforts
 - Communicate IPIECA information to the UNFCCC, IPCC and other multi-lateral processes
- Other roles that IPIECA may consider:
 - Engage with other industries, e.g., coal-fired generators
 - Facilitate identification of business models that can offset the costs of CCS.

Key Messages

IPIECA's Current and Potential Roles



- When governments do not have the information to produce adequate regulations, IPIECA can compile industry data and best practices to assist policy makers.
- In the CCS priority issues, IPIECA can facilitate input to:
 - SBSTA (COP process)
 - G8 (CSLF and IEA Workshop)
 - National Governments
 - EU ETS
 - CCS in CDM (Host Countries)
 - European Commission, European Union research programmes, and ad hoc groups
 - OPEC
 - International Emissions Trading Association

Key Messages

IPIECA's Role to Advance Understanding



Potential Conundrum for Industry and Governments

Industry is perhaps waiting for the development of regulations before implementing CCS activities, *while government is perhaps waiting for industry experience and best practices before it will produce regulations.*

IPIECA can advance governments' understanding of industry's experiences and best practices in current and future projects.

The Challenge



- Carbon Capture and Storage (CCS) may become critical to our industries.
 - As a cost-effective way to reduce CO2 emissions.
 - As the technology is developing
- But:
 - Commercial readiness with widespread deployment is a way off
 - A favorable business climate needs to be in place
 - For example, significant CO2 infrastructure needs to be put in place achieve widespread deployment (e.g., role of integrated regional CO2 transport networks; role of companies and governments to build and operate these networks will need policy developments)

How can a favorable business environment be created?