

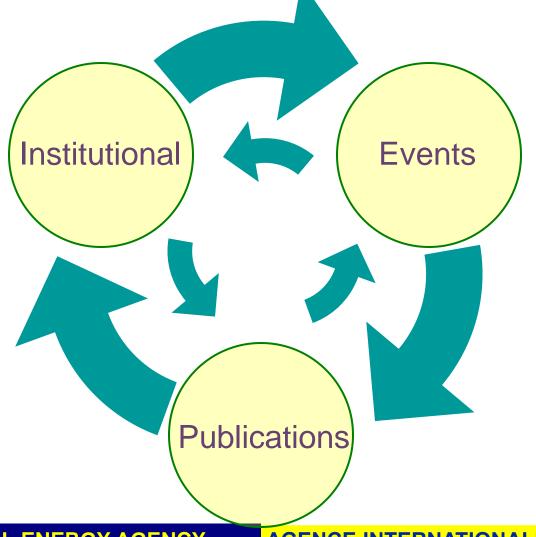
Carbon Sequestration Leadership Forum Cape Town, 14-17 April 2008

IEA/CSLF/G8 Cooperation Review and Perspectives

Dr. Antonio Pflüger
Head, Energy Technology Collaboration Division
International Energy Agency



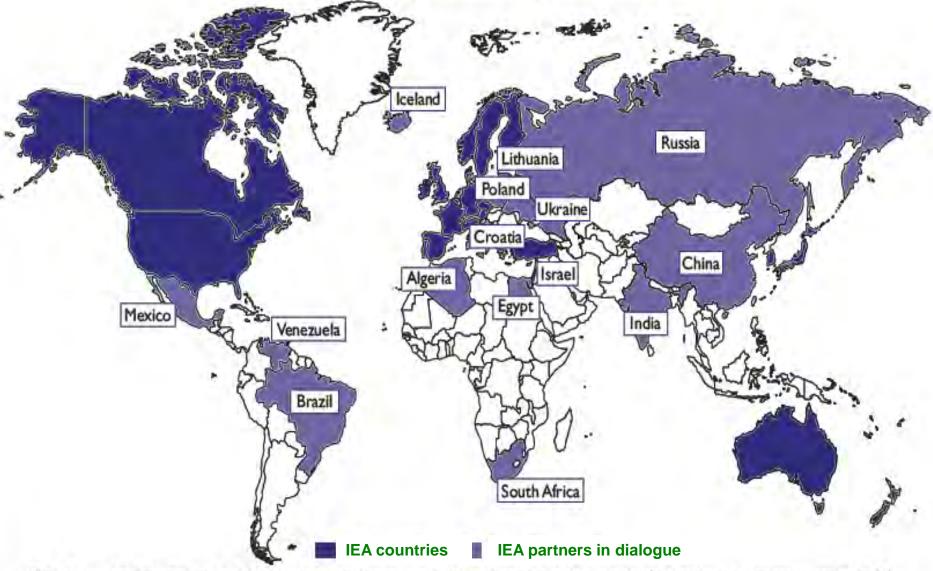
IEA/CSLF Cooperation Modes



INTERNATIONAL ENERGY AGENCY

AGENCE INTERNATIONALE DE L'ENERGIE

IEA Global Energy Technology Network



The boundaries and names shown and the designations used on maps included in this publication do not imply official endorsement or acceptance by the IEA.



IEA - CSLF Links

IEA GOVERNING BOARD

CERT - Committee on Energy Research and Technology

Fusion Power Co-ordinating Committee

IMPLEMENTING AGREEMENTS

- Env., Safety, Economy
- **■** Fusion Materials
- Large Tokamaks
- NuclearTechnology
- Plasma Wall

Interaction TEXTOR

- Reversed Field Pinches
- Spherical Tori
- Stellarator Concept
- Tokamaks Poloidal

Field Divertors

Working Party on Fossil Fuels

IMPLEMENTING AGREEMENTS

- Clean Coal Centre
- Clean Coal Science
- Enhanced Oil Recovery
- Fluidised Bed Conversion
- Greenhouse Gas R&D
- Mutiphase Flow Science

Advisory Group on Oil & Gas Technology Working Party on Renewable Energy Technologies

MPLEMENTING AGREEMENTS

- Bioenergy
- **Deployment**
- Geothermal
- Hydrogen
- Hydropower
- Ocean Energy
- Photovoltaic Power
- Solar Heating/Cooling
- SolarPACES
- Wind Turbines

Working Party on Energy End-Use Technologies

IMPLEMENTING AGREEMENTS

- Advanced Fuel Cells
- Advanced Materials Transp.
- Advanced Motor Fuels
- Buildings/Communities
- Emissons Reduction

Combustions

- Demand Side Management
- District Heating/Cooling
- **Electricity Networks**
- **Energy Storage**
- Heat Pumps
- Hybrid/Electric VehiclesIndustrial Technologies/
- Systems
- Superconductivity

Hydrogen Co-ordination Group

Experts Group on R&D Priority-Setting and Evaluation

Ad Hoc Group on Science and Energy Technologies

CROSS-CUTTING IMPLEMENTING AGREEMENTS

- Climate Technology Initiative
- Energy Technology Systems Analysis Programme
- Energy Technology Data Exchange

33 years of collaboration

AGENCE INTERNATIONALE DE L'ENERGIE



IEA's Gleaneagles Programme (Final Report to G8 Hokkaido, 2008)

- Alternative energy scenarios and strategies
- promoting energy efficiencies in buildings, appliances, transport and industry
- Cleaner fossil fuels increasing efficiency
- CO₂ capture and storage
- Renewable energy
- Enhanced international co-operation



IEA Ministerial Conclusions May 2007

 We will promote clean coal and press ahead through the IEA and the CSLF with the full scale demonstration and early deployment of CCS, paying due regard to regulatory and safety issues.



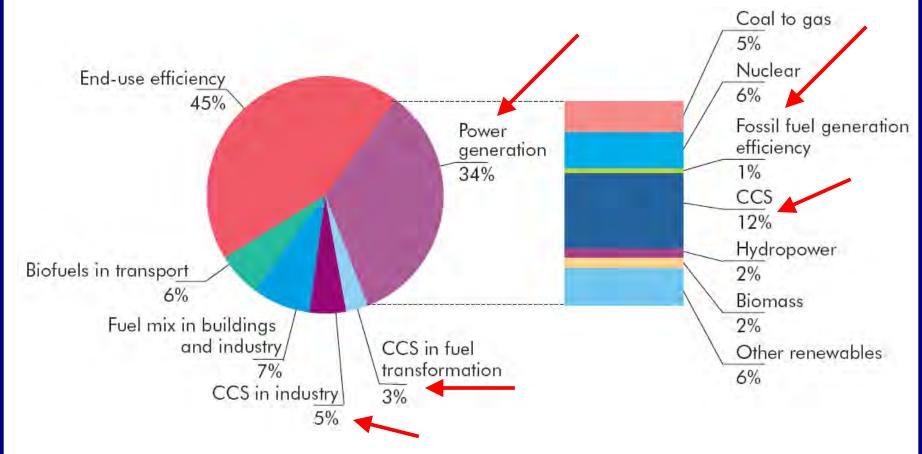
G8 Summit in Heiligendamm 2007

Accelerating Development and Deployment of CCS

- reinforcing (...) commitment made under the Gleneagles and St. Petersburg Plans of Action to support the initiatives taken by the IEA and CSLF
- encouraging (...) governments to design mechanisms to stimulate the construction and operation of a growing number of largescale demonstrations of sustainable fossil fuels technologies in commercial power generation
- encouraging industry to consider the concept of capture ready when developing new fossil fuel power plant



Role of CCS in Mitigating CO₂ Emissions in 2050 – IEA's ETP Map Scenario 2006

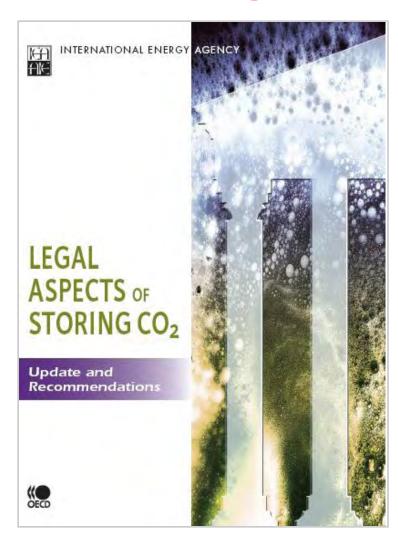


CCS in all scenarios 20 – 28% emissions reduction compared to Basis scenario



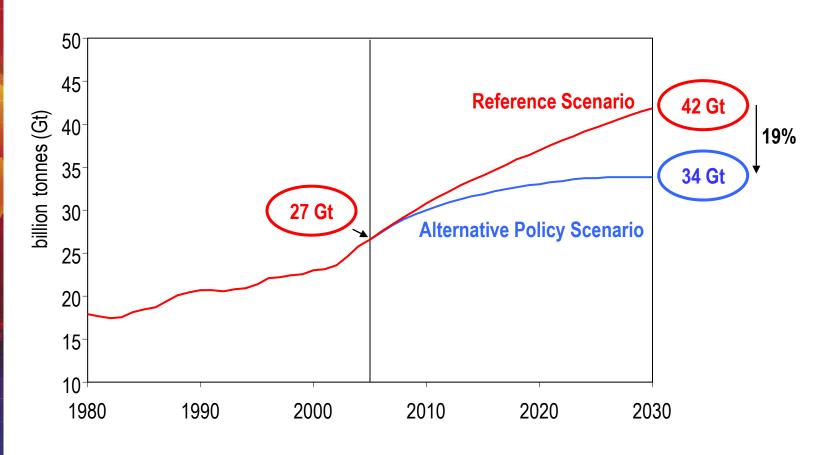
Legal Aspects of Storing CO2

Launched22 June 2007in Oslo





Global Energy-Related CO₂ Emissions



Global emissions will increase by 57% in the Reference Scenario, but they level off in the Alternative Policy Scenario



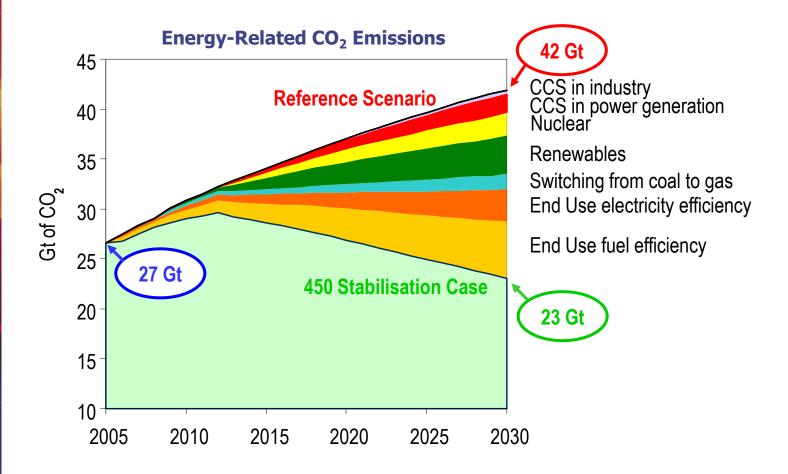
China and India Insights



WORLD ENERGY OUTLOOK 2007

China and India Insights

CO₂ Emissions 450ppm Stabilisation Case

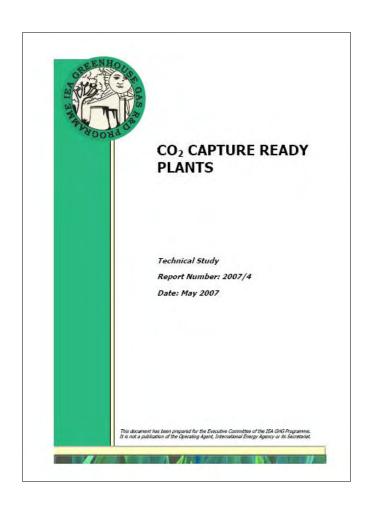


By 2030, emissions are reduced to some 23 Gt, a reduction of 19 Gt compared with the Reference Scenario



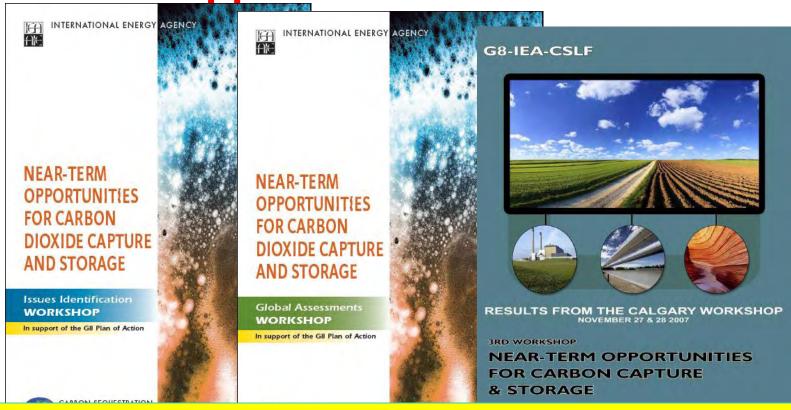
Technical Study on CO₂ Capture Ready Plants

- In support of the G8 Plan of Action
- Report describes research sponsored by the IEA Greenhouse Gas R&D Programme
- Prepared by leading manufacturers and academia in UK
- Reviewed by technology holders in US, UK, NL and IEA Secretariat
- Assist to avoid the risk that it is impossible to retrofit CO₂ capture in future
- Five leading power generation and CO2 capture processes
- Further discussion needed on what is "capture readiness"





3 IEA/CSLF Workshops on Near-Term Opportunities for CCS

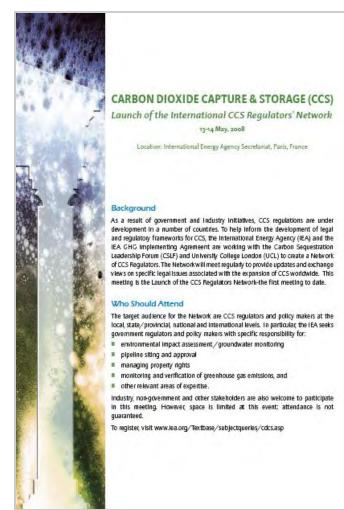


- For 50% CO2 reduction, virtually all coal plant must have CCS by 2050
- Comprehensive set of policy recommendations



Launch of International CCS Regulators Network

- 13-14 May 2008, Paris
- Presentations from
 - IEA Greenhouse Gas R&D Programme
 - Countries: EU-Commission, USA, UK, Canada, Norway, Australia, Japan, Brazil, India, China
 - Academia: University College London
 - British Geological Survey
- Register at www.iea.org/Textbase/subjectqueries/cdcs.asp



Energy Technology Perspectives 2008

- Release at G8 Energy Ministers meeting, Aomori, Japan 7-8 June 2008
- ACT Map Scenario
 energy related CO2 emissions in 2050 back to the
 level of 2005
- Blue Map Scenario
 50% energy related CO2 emissions in 2050, compared to 2005
- Technology Roadmaps including CCS
 - Power production
 - Industry





New IEA Study CO2 Capture and Storage: A Key CO2 Abatement Option

- Launch scheduled September 2008
- Comprehensive overview
- Content:
 - Technical status
 - Detailed national programmes overview
 - Storage maps
 - CCS scenario details from ETP 2008



Thank you!

Find more at

- www.iea.org/G8
- www.iea.org/neet
- IEA OPEN Bulletin www.iea.org/impagr/cip/index.htm