
Global Environmental Policy Making on Technology Class Work

20th December, 2016

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Outline

- Role play for planning and implementation of CCS in Japan
- Objective is to encourage students to investigate some issues covered by today's lecture further and to use what they have learnt proactively.
- Participants are supposed to act as one of the following;
 - 'Government',
 - 'Electric utilities and implementation body of CCS',
 - 'Environmental NGO against use of fossil fuels',
 - 'Public'.
- Each category consists of a quarter of the class.

Group A: 'Government'

■ Objectives

- Reduce emission of GHG to achieve the goals defined in Paris agreement without
 - Posing excessive burden to the industry in Japan,
 - Losing international competence of Japanese exports,
 - Increasing electric charge to an unacceptable level.

■ Actions for enabling CCS to achieve the reduction goals

- Promotion policy;
 - Feed-in tariff (FIT),
 - FIT CfD and other variants.
- Regulations;
 - Emission regulation,
 - Cap and Trade,
 - Performance standard, etc.
- Taxation
 - Carbon tax,
 - CCS tax reduction, etc.
- Management of long-term liabilities for CO2 storage

Homework and presentation

- Students belonging to this group should study the following issues and make a presentation at the class work on 10th January;
 - GHG emission reduction goals,
 - Role of CCS and why it is needed,
 - Comparison of policy options,
 - Proposal of a policy enabling CCS in Japan.

Group B :‘Electric utilities and implementation body of CCS’

■ Objectives

- Secure supply of electricity in a cost efficient manner achieving the goals for emission reduction at the same time.

■ Actions towards implementation of CCS

- Planning of CCS projects;
 - Capture of CO₂ at a coal-fired power plant,
 - Transport of CO₂ by pipe lines and/or ships,
 - Injection of CO₂ into a depleted oil field, an aquifer, etc.
- Public outreach and communication,
- Financing,
- Construction, operation, maintenance and monitoring.

Homework and presentation

- Students belonging to this group should study the following issues and make a presentation at the class work on 10th January;
 - Project definition of the first commercial-scale CCS in Japan, planning for capture, transport, and storage,
 - Cost estimation,
 - Risks and safety measures.

Group C: 'Environmental NGO against use of fossil fuels'

■ Objectives

- Achieve the emission reduction goals by increasing capacity of renewable energies and demonstrate feasibility of 'Carbon-free society'.

■ Actions

- Proposal of alternative scenarios towards achieving the emission reduction goals without implementing CCS;
 - Wind power,
 - Hydro power and tidal power,
 - Solar power,
 - Biomass.
- Criticisms against prolonged use of fossil fuels and CCS,
- Public outreach and communication.

Homework and presentation

- Students belonging to this group should study the following issues and make a presentation at the class work on 10th January;
 - Proposal of alternative scenarios towards achieving the emission reduction goals without implementing CCS,
 - Criticisms against prolonged use of fossil fuels and CCS.

Group D: 'Public'

■ Actions

- Express their opinions to the proposals from the 'Government', 'Electric utilities and implementation body of CCS', and 'Environmental NGO',
- Vote for the option that suits their preference best.

Homework and presentation

- Students belonging to this group should collate and read information relating to the issues to be discussed by the other groups so that they can be prepared for the discussion.
- Each student should make a brief presentation on the following at the class work on 10th January;
 - Comments to presentation from the other groups
 - Voting for or against CCS with reasoning

Time Table

- Introduction 5 min.
- Presentation from the ‘Government’ group 25 min.
 - GHG emission reduction goals,
 - Role of CCS and why it is needed,
 - Comparison of policy options,
 - Proposal of a policy enabling CCS in Japan.
- Discussion 15 min.
- Presentation from the ‘Electric utilities and implementation body of CCS’ group 25 min.
 - Project definition of the first commercial-scale CCS in Japan, planning for capture, transport, and storage,
 - Cost estimation,
 - Risks and safety measures.
- Discussion 15 min.
- Presentation from the ‘Environmental NGO’ group 25 min.
 - Proposal of alternative scenarios towards achieving the emission reduction goals without implementing CCS
 - Criticisms against prolonged use of fossil fuels and CCS
- Discussion 15 min.
- Presentation from each member of the ‘Public’ group 25 min.
 - Comments to presentation from the other groups
 - Voting for or against CCS with reasoning
- Discussion 15 min.