

# A CDM Methodology for CCS in Aquifers

## - Project Boundary -

*Workshop on CDM Methodological Issues  
in regard to CCS*

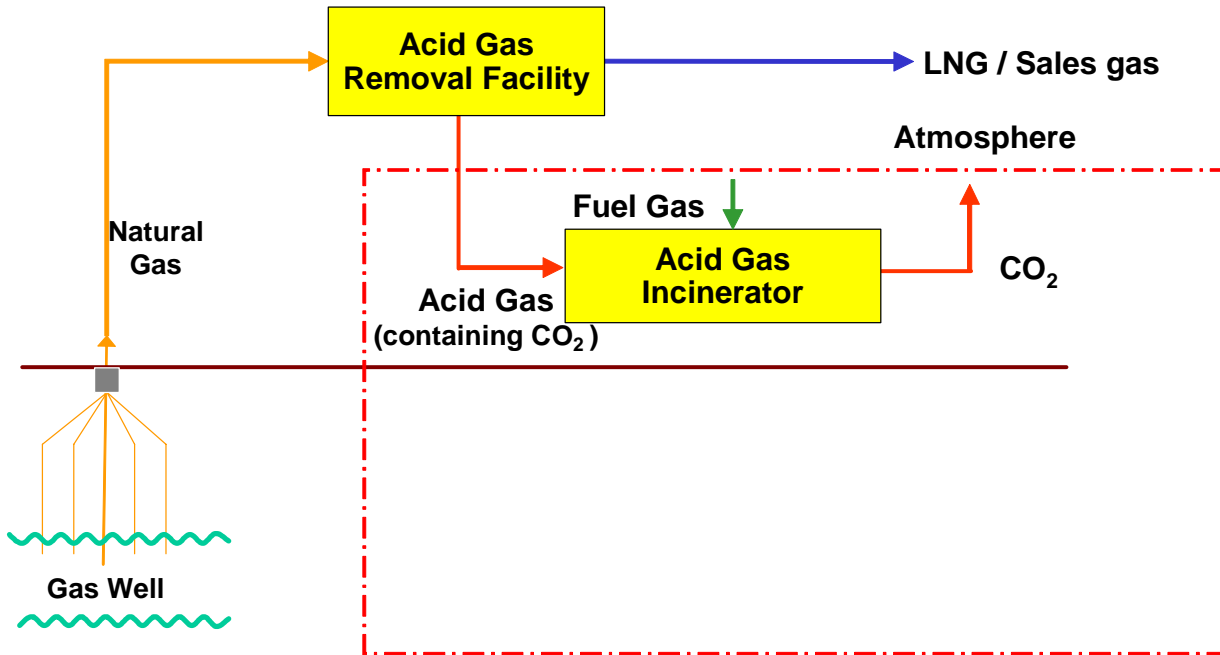
Paris, France

April 21, 2006

 MITSUBISHI RESEARCH INSTITUTE, INC.

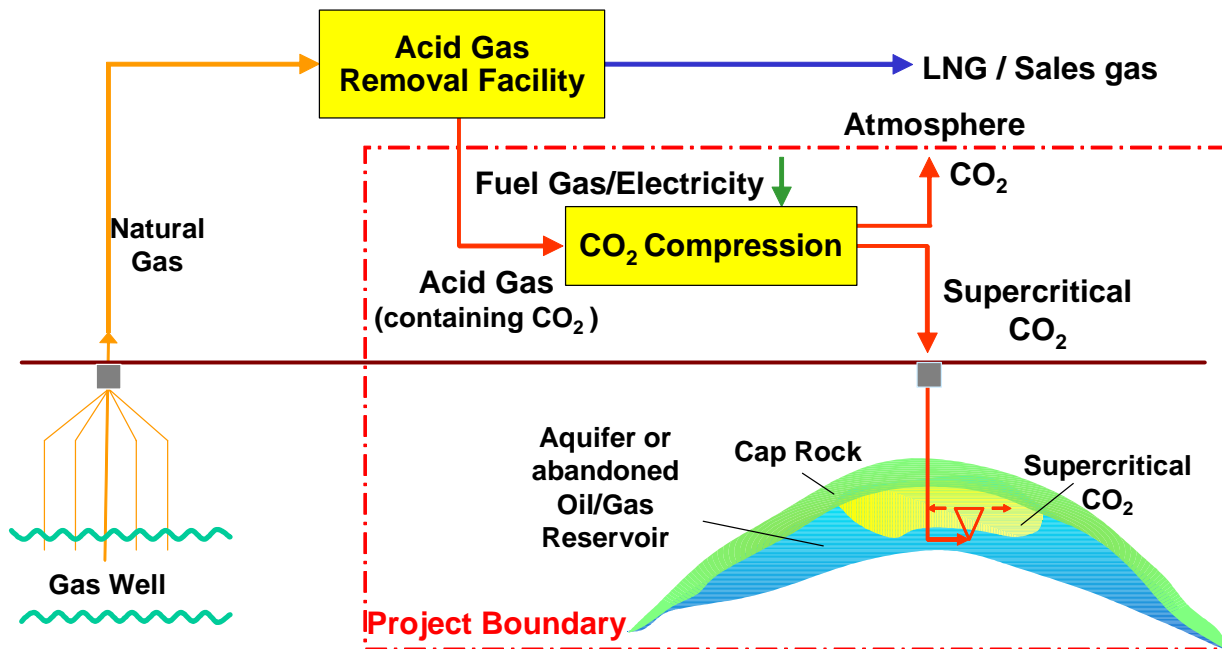
 **JGC CORPORATION** (Japanese Name) **NIKKI K.K.**

# Baseline Scenario



Source	Gas		Remarks
Emissions from the acid gas removal facility	CO <sub>2</sub>	Yes	CO <sub>2</sub> separated from natural gas
	CH <sub>4</sub>	No	Negligibly small and conservativeness
Emissions from the acid gas incinerator	CO <sub>2</sub>	Yes	Use of fossil fuel for incineration
	N <sub>2</sub> O	No	Negligibly small and conservativeness.

# CDM Project Scenario



- Issues
1. Involvement of multi countries?
  2. What is the extent?

Source	Gas		Remarks
Energy use for CO <sub>2</sub> storage	CO <sub>2</sub>	Yes	Use of fossil fuel/ electricity
	N <sub>2</sub> O	No	Negligibly small and conservativeness
Escape from pipeline and injection well	CO <sub>2</sub>	Yes	CO <sub>2</sub> escape during transportation
	CH <sub>4</sub>	No	Negligibly small
Escape from the reservoir	CO <sub>2</sub>	Yes	CO <sub>2</sub> escape after storage
	CH <sub>4</sub>	No	Negligibly small

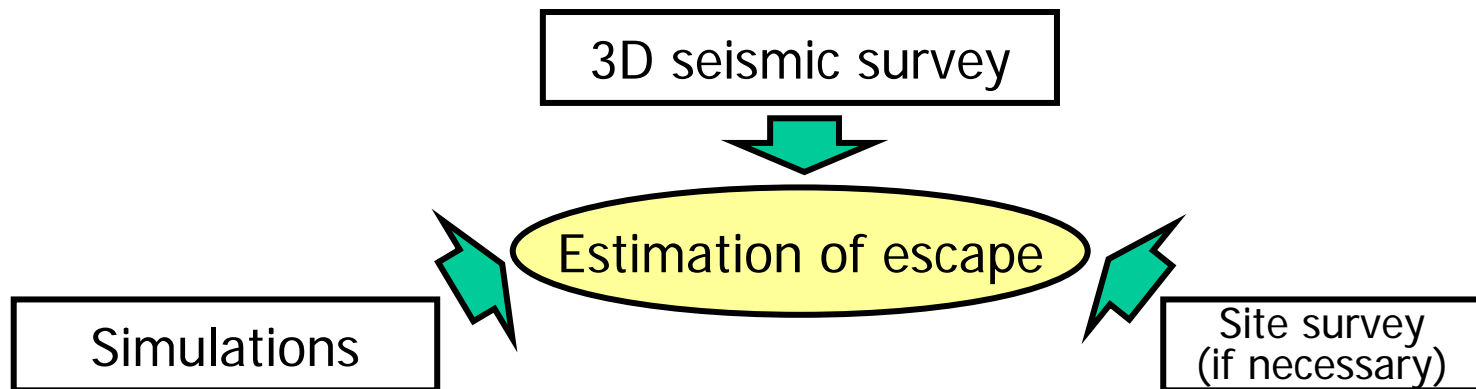
## Involvement of Multi Countries?

Only projects that source and store CO<sub>2</sub> in the same host country, are applicable for this methodology.

# What is the extent?

## Monitoring of Injected CO<sub>2</sub>

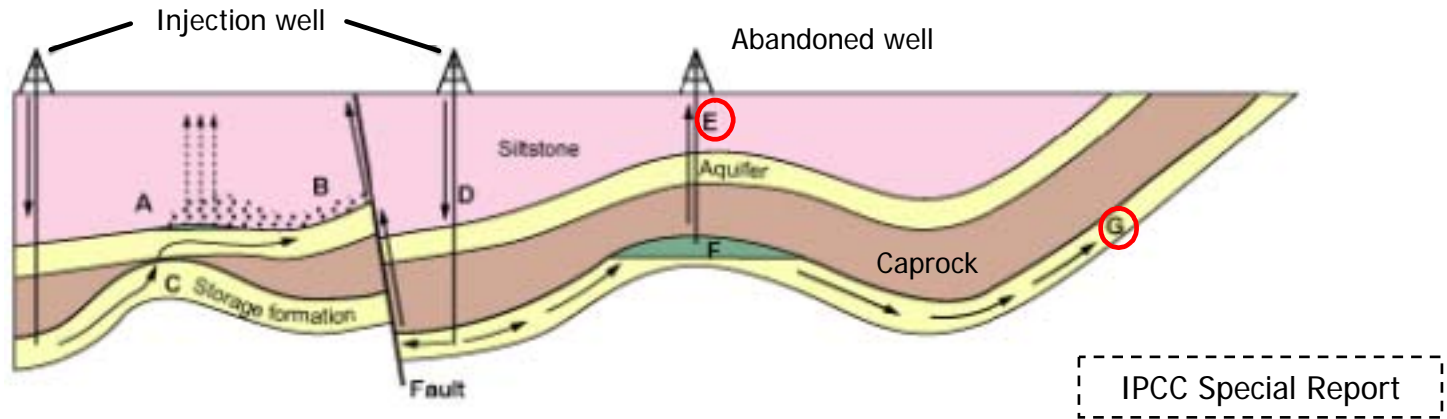
- 3D seismic surveys every 7 years (to the end of the crediting period):
  - To confirm that the injected CO<sub>2</sub> behaves as expected
  - To help determine the volume of escape if it occurs
- Estimation of amount of escape from the reservoir



# What is the extent?

■ Potential escape routes for good reservoirs:

- Dissolution (G) → Simulations
- Abandoned wells (E) → Simulations
- Unpredicted escape routes → 3D seismic & site surveys



# What is the extent?

- Project boundary:
  - Escape from the project boundary is included in the project emissions
  - Region where behavior of CO<sub>2</sub> can be reasonably estimated as well as the geological structure of the reservoir