MINISTRY OF ENERGY AND MINERAL RESOURCES
REPUBLIC OF INDONESIA

WORKSHOP ON DEVELOPMENT OF NATURAL GAS RESOURCES WITH HIGH CO_2 & CARBON CAPTURE AND STORAGE (CCS) IN CCOP

Remarks by

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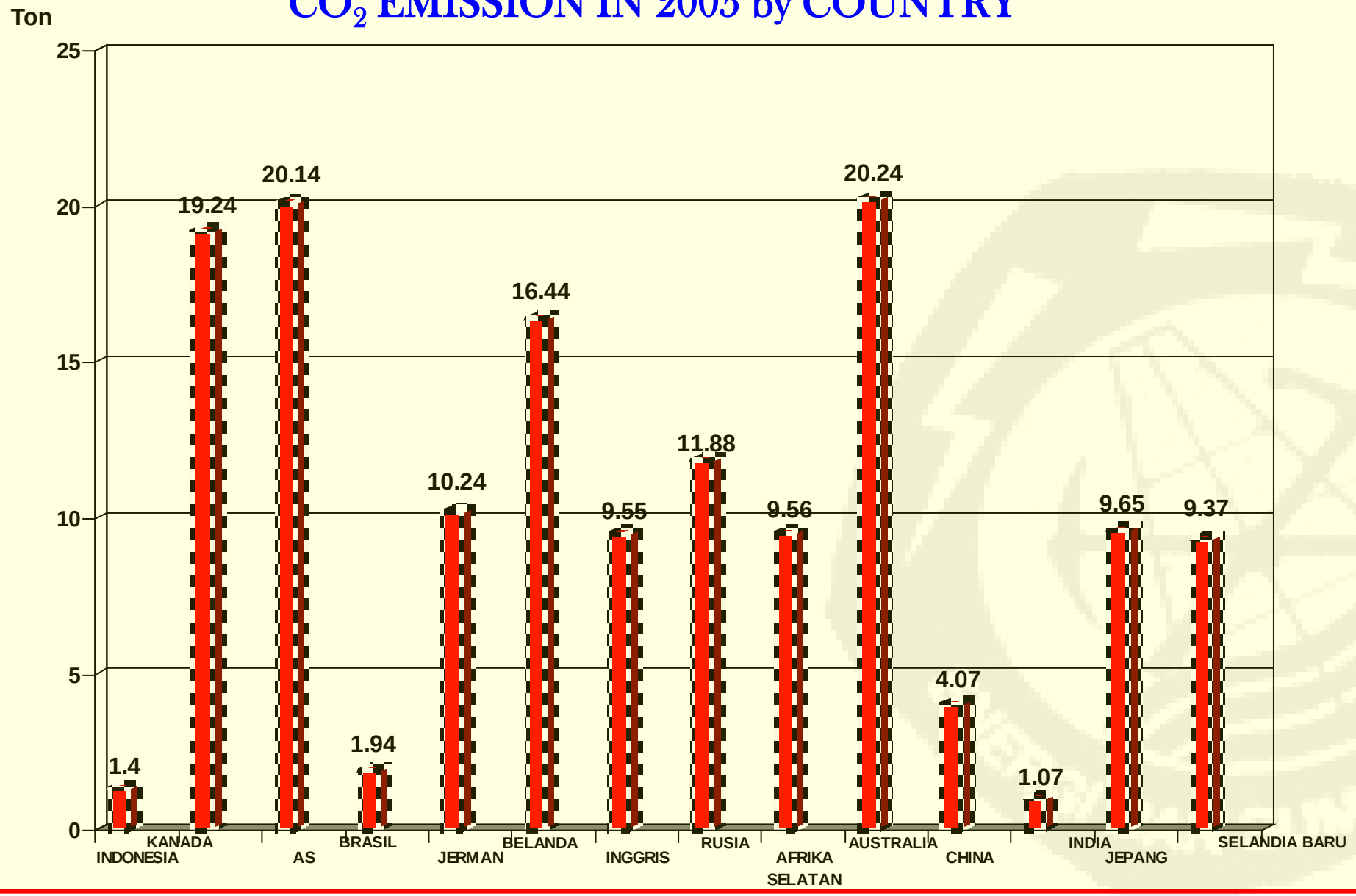
Patra Bali Resort & Villas, Denpasar-Bali, 17-20 March 2009

CO_2 EMISSION IN 2005 by COUNTRY



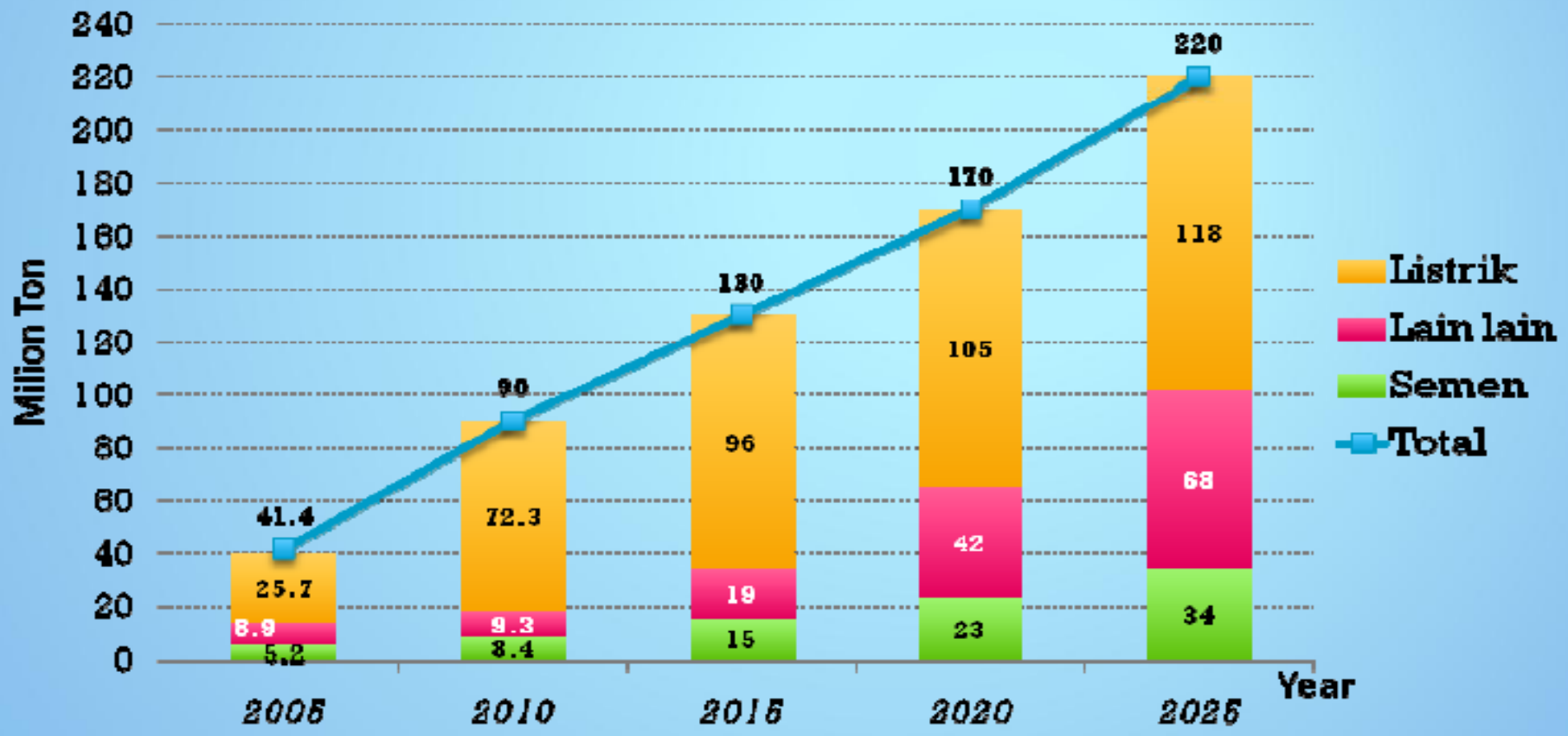
Source : Council on Science and the Environment (Kompas Newspaper 14-12-2007)

Why does Indonesia need CCS technology ?

- Some natural gas fields are rich in CO_2. Thus, the CO2 gas needs to be injected back to the earth, either to prevent CO_2 emission and to enhance recovery of gas production from reservoirs.

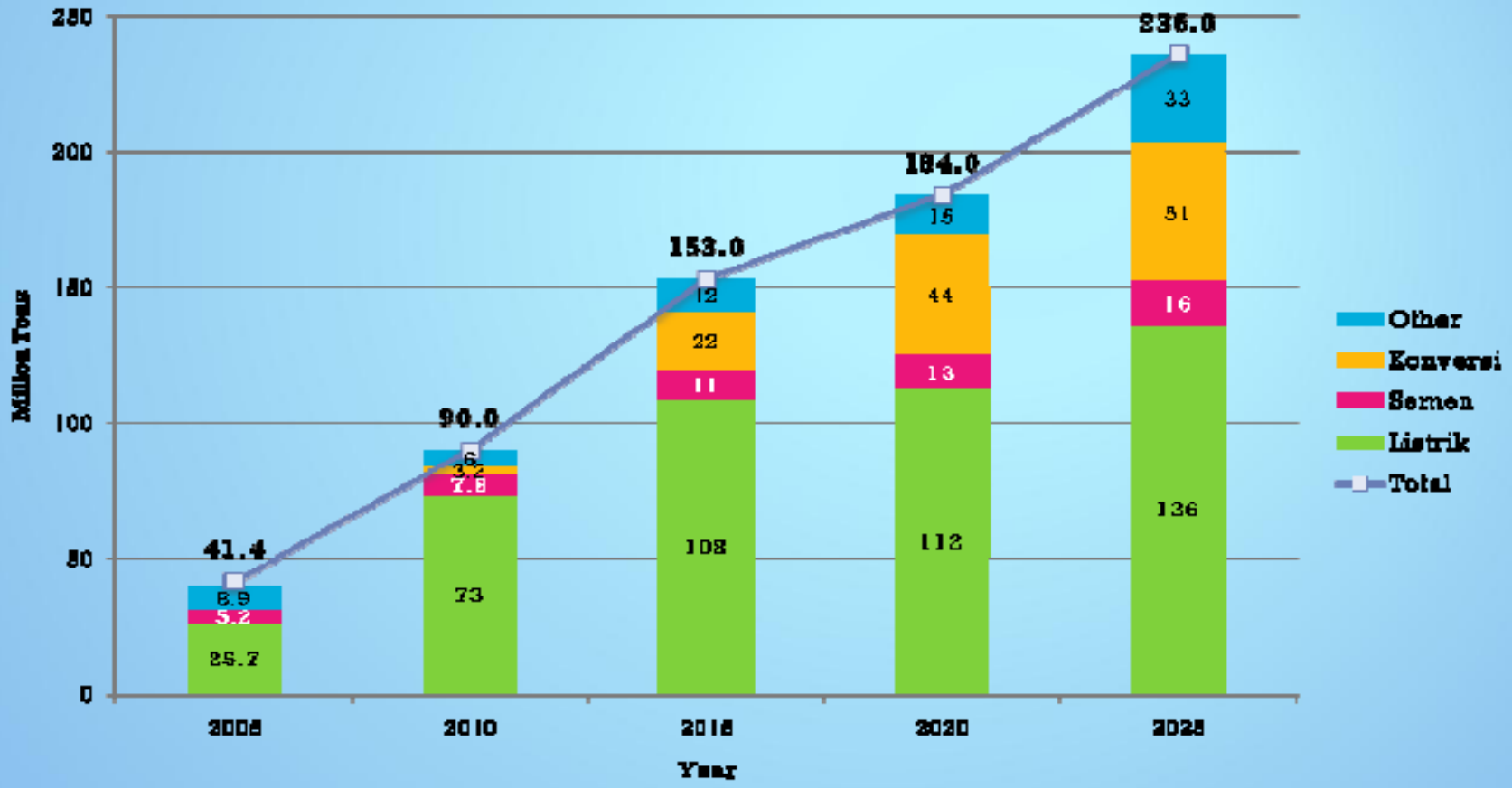
- CCS technology is needed to reduce CO_2 emitted from power plants and other industries. In future the country relies heavily on coal and natural gas.

FUTURE OUTLOOK OF DOMESTIC COAL DEMAND
(Government Version)



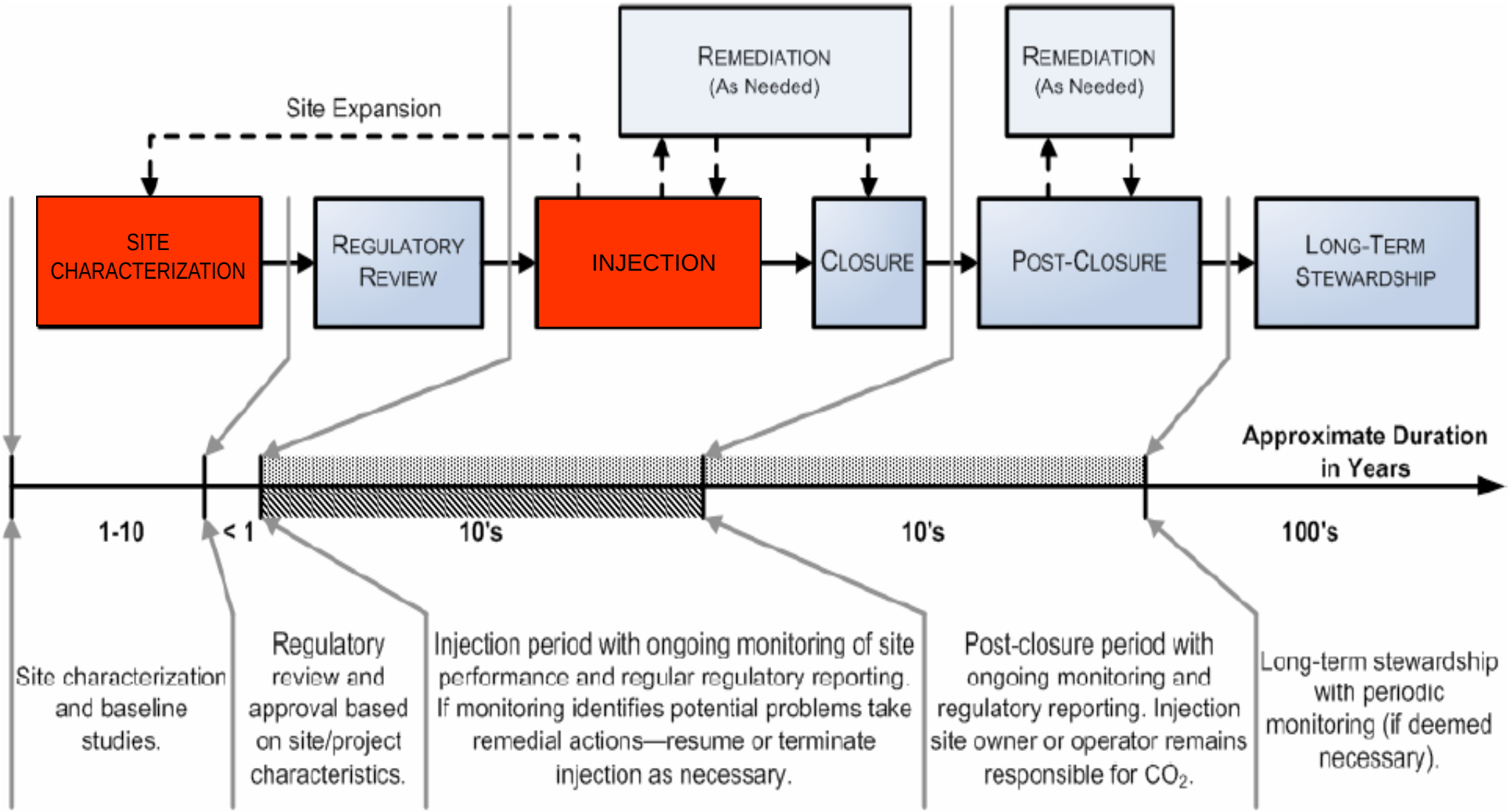
*) Including Coal Liquefaction, UBC, gasification TOTAL

FUTURE OUTLOOK OF DOMESTIC COAL DEMAND
(Based Energy Demand Growth)



Lain-lain: Textile, Pulp & Paper, Metalurgi

LIFE-CYCLE STAGES OF A GS PROJECT



(IRGC 2007)

Storage Requirement for GS :

1. Capacity and injectivity of GS, that has as CO_2 storage. The storage has to have adequate porosity and permeability.
2. Sealing cap rocks, which is a common system in oil and gas and geothermal system to keep CO_2 in the storage and avoid CO_2 escapes.
3. Stable geologic environment, therefore in seismic active areas careful characterization of the site is a *necessity*.

THANK YOU

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