

International Energy Workshop  
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## A Study on Greenhouse Gas Emission Reduction Potential of Iron and Steel Industry in Korea

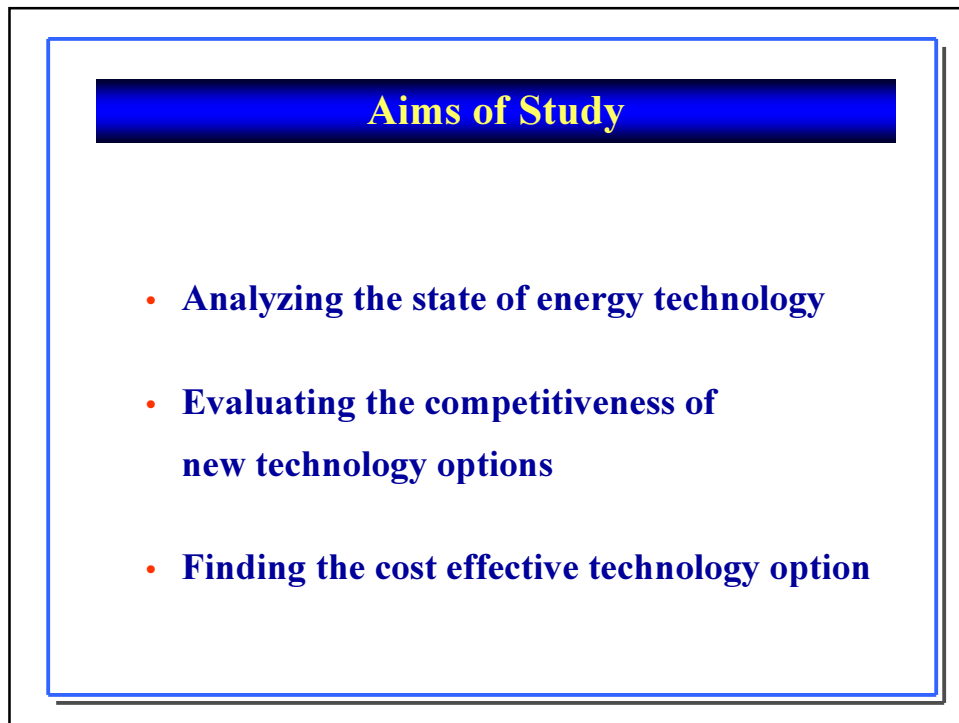
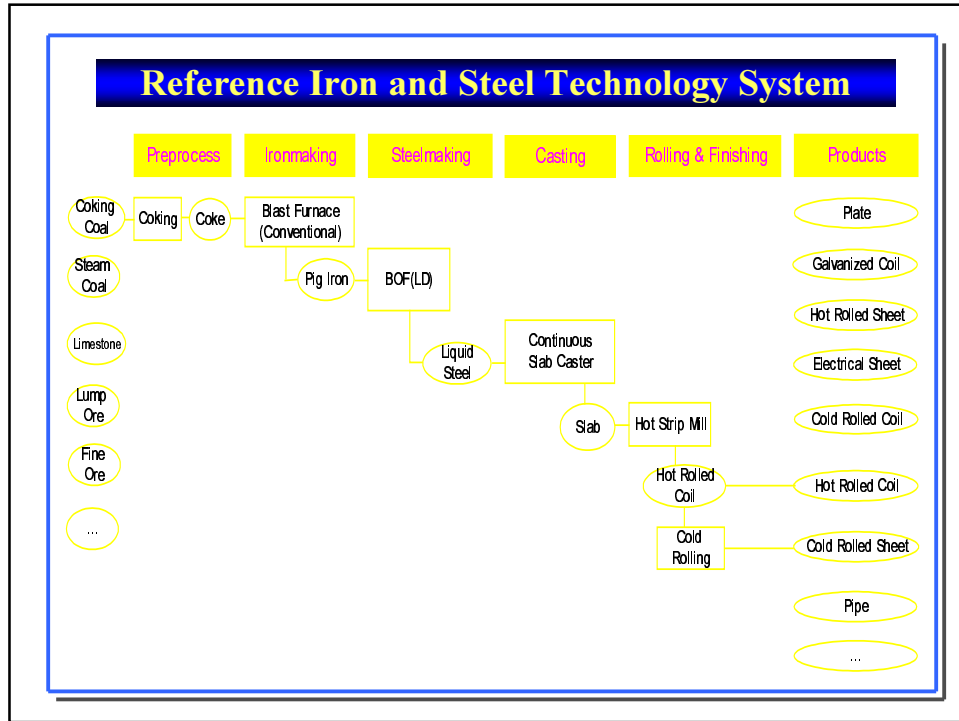
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## Energy Situation in Korea

- Total energy consumption : 10<sup>th</sup> in the world
- Petroleum consumption : 6<sup>th</sup> in the world
- Petroleum importer : 4<sup>th</sup>
- LNG importer : 2<sup>nd</sup>
- Iron and steel industry : 6<sup>th</sup> (Production of crude steel)
  - \* CO<sub>2</sub> emission : 12 % of total emission of Korea
  - : 34% of industrial sector emission

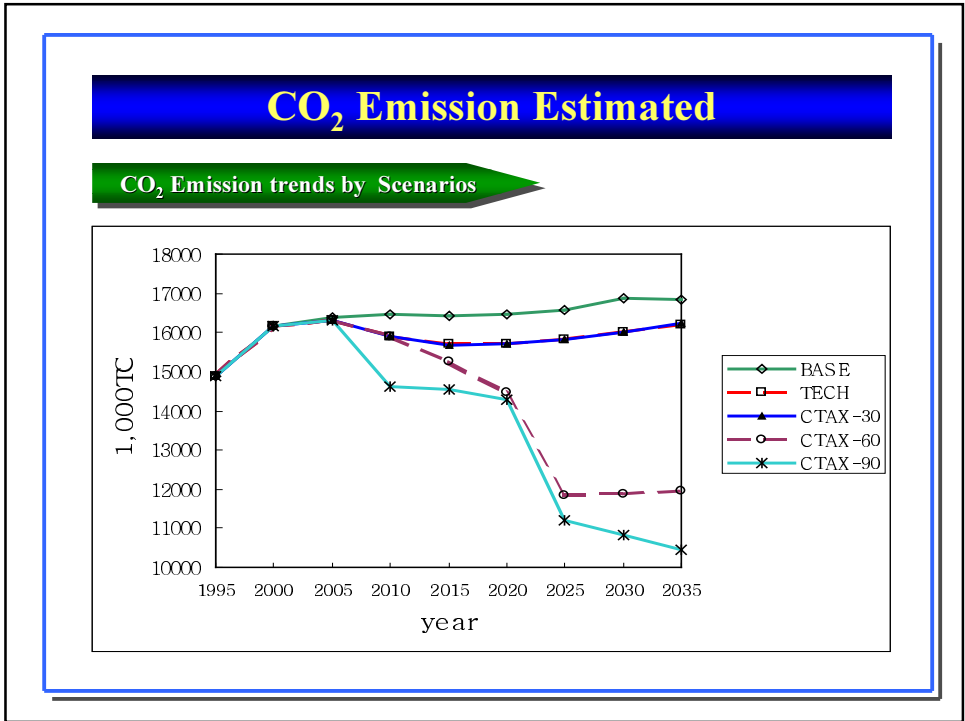
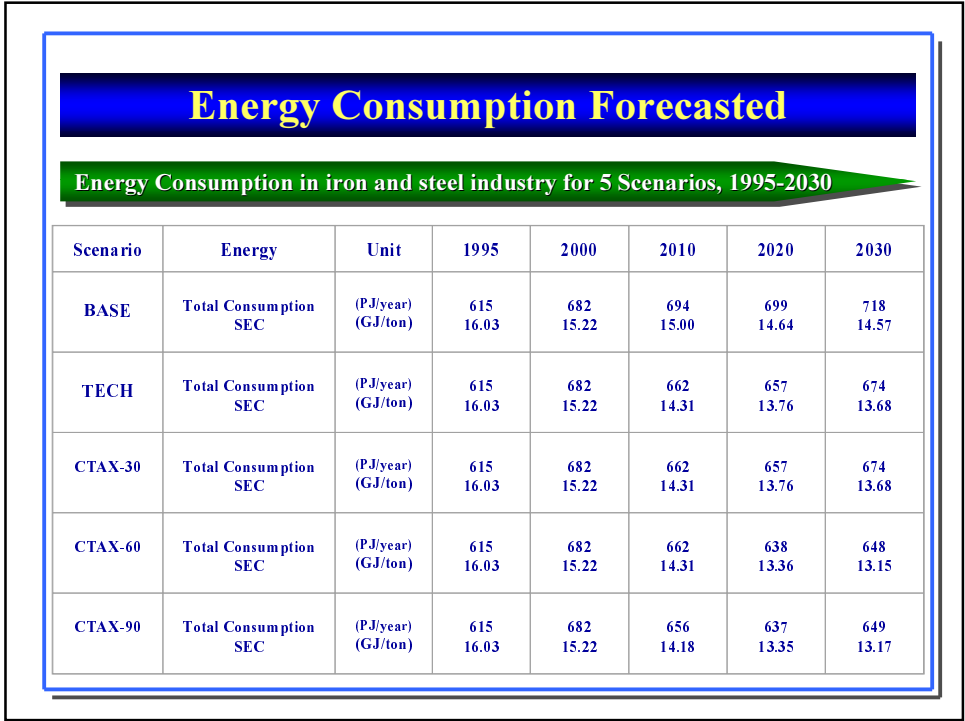


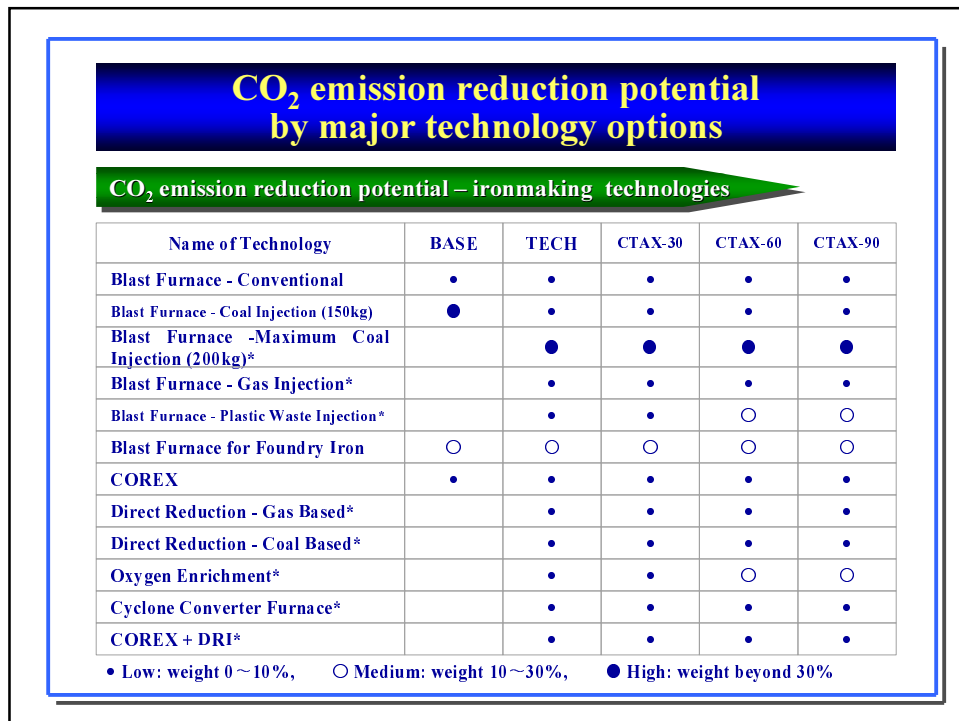
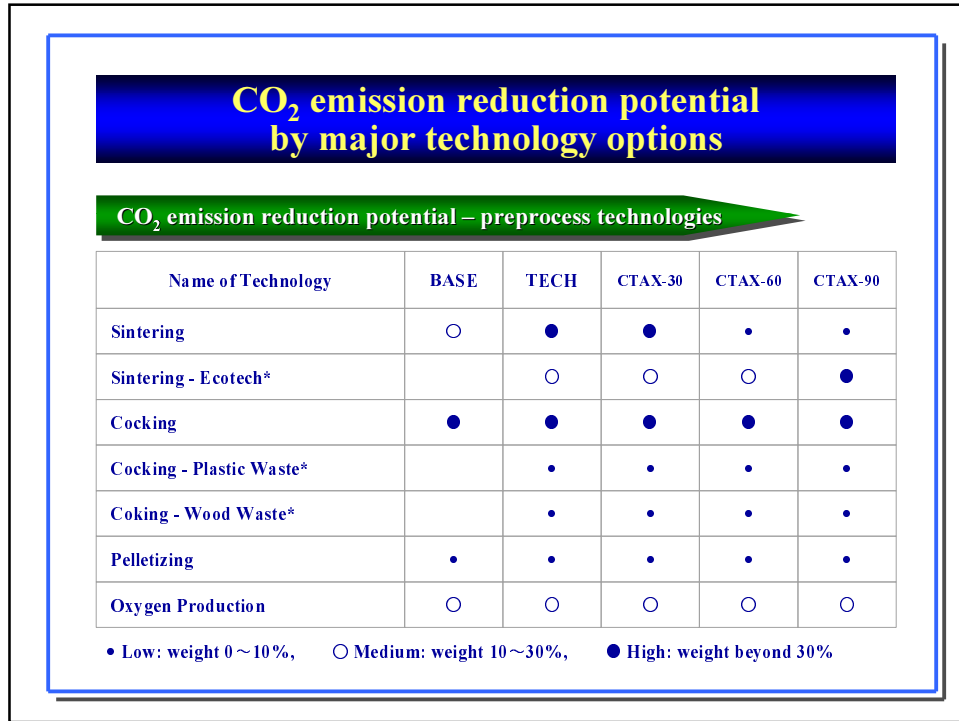
## Methodological Approach

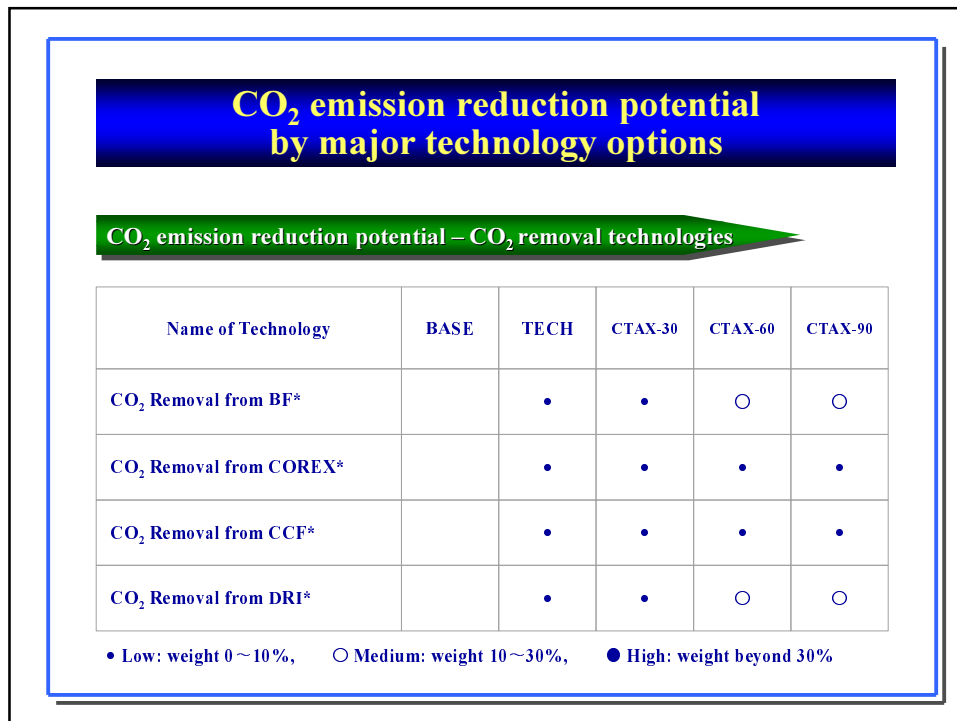
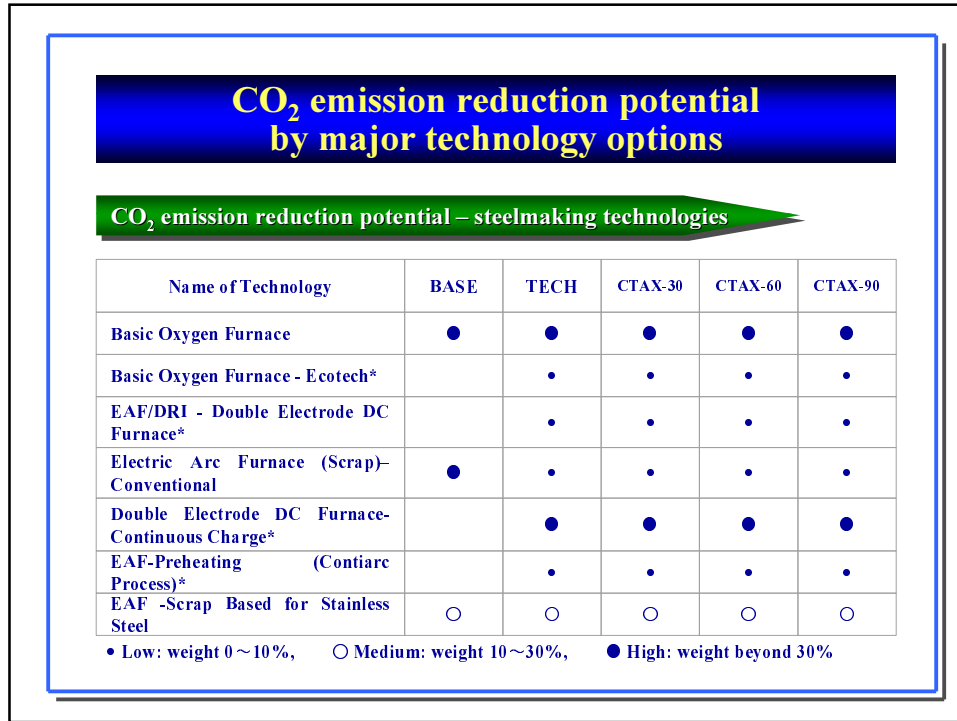
- **MARKAL- Matter model was applied**
- **Number of technologies considered**
  - 62 existing technologies
  - 48 new technologies  
(including CO<sub>2</sub> removal technologies)
- **Period of evaluation: 45 years( 1995 – 2035)**
  - 9 periods by 5 years length
- **Discount rate : 12 %/year**

## Assessment Scenarios

- **BASE : BAU scenario**
- **TECH : Technology options only scenario**
- **CTAX – 30 : Carbon tax US\$30/t-c applied with technology options**
- **CTAX – 60 : Carbon tax US\$60/t-c**
- **CTAX – 90 : Carbon tax US\$90/t-c**







## **Conclusion**

- **Need more detail information and data of technologies**
- **Energy technology database project should be completed**

**Thank You !**