Public - Private Sector Collaboration and Partnerships for Technology Transfer

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Technology Transfer: Role of Public and Private Sectors

Role of the Private Sector

- The private sector owns technologies and TT takes place in various ways.
  - Product exports (e.g. many initial plants)
  - On-site production through FDI
  - Joint Venture (e.g. CDQ and waste heat recovery system)
  - Licensing (e.g. coal power plants)

- Enhancing the business environment will make TT easier and attract more companies, and consequently further TT will be achieved.

Technology Transfer: Role of Public and Private Sectors

Role of the Public Sector

➢ Create attractive business environment for activities above by

- Identification of effective environmental technologies
- Capacity building
- Investigation of actual conditions
- Remove barriers for technology transfer and diffusion(TT&D)
- Ensuring appropriate investment returns
  (Proper IPR protection, Foreign investment protections, Removal of energy subsidies, etc.)

➢ Leveraging private sector financing

Public and private partnership will contribute
to take above measures.

Technology Transfer with Public - Private Sector Collaboration and Partnerships

- Strengthening the ties with initiatives and partnerships* that involves the private sector actively is important.

  *Ex) the Climate Technology Initiative (CTI)

  the Private Financing Advisory Network (PFAN)

- International sector-specific technological cooperation activities, including public-private efforts such as the Asia-Pacific Partnership (APP) have been developed.

Sector Specific Cooperation by APP

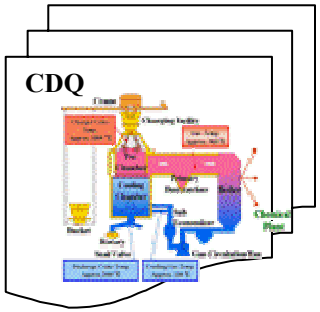
- Asia-Pacific Partnership promotes sector-specific cooperation among 7 countries.
- APP identifies and solves barriers for deployment and transfer of technologies in each sector

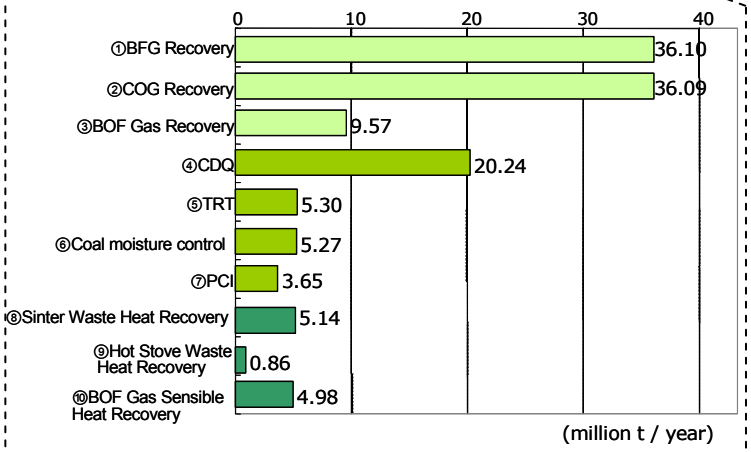
Compile state-of-the-art technologies in a handbook.

Estimate CO2 reduction potential if BAT are all installed.

Dispatch experts to steel plants for appropriate advice.

Determine the priority of technology for transferring.





CO2:127 M ton/year

Performance diagnosis for 3 steel plants in China and 3 plants in India in FY2007 & 2008

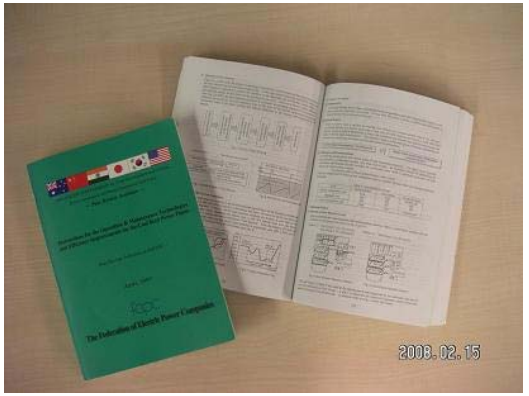
Capacity building for introduction of technologies (Experience in Power: Green Handbook)

Electric Power Companies have a plenty of Knowhow with regard to O & M

- ***IPRs of power generation mainly exist as knowhow of operation and maintenance at electric power companies.***
- ***Power companies has distributed their knowhow which has obtained.***

  e.g.) Green Handbook, which describes the Japan's best practice of operation & maintenance, is available for not only APP members but also for public "free of charge".

Peer Review
(April 2007, Japan)

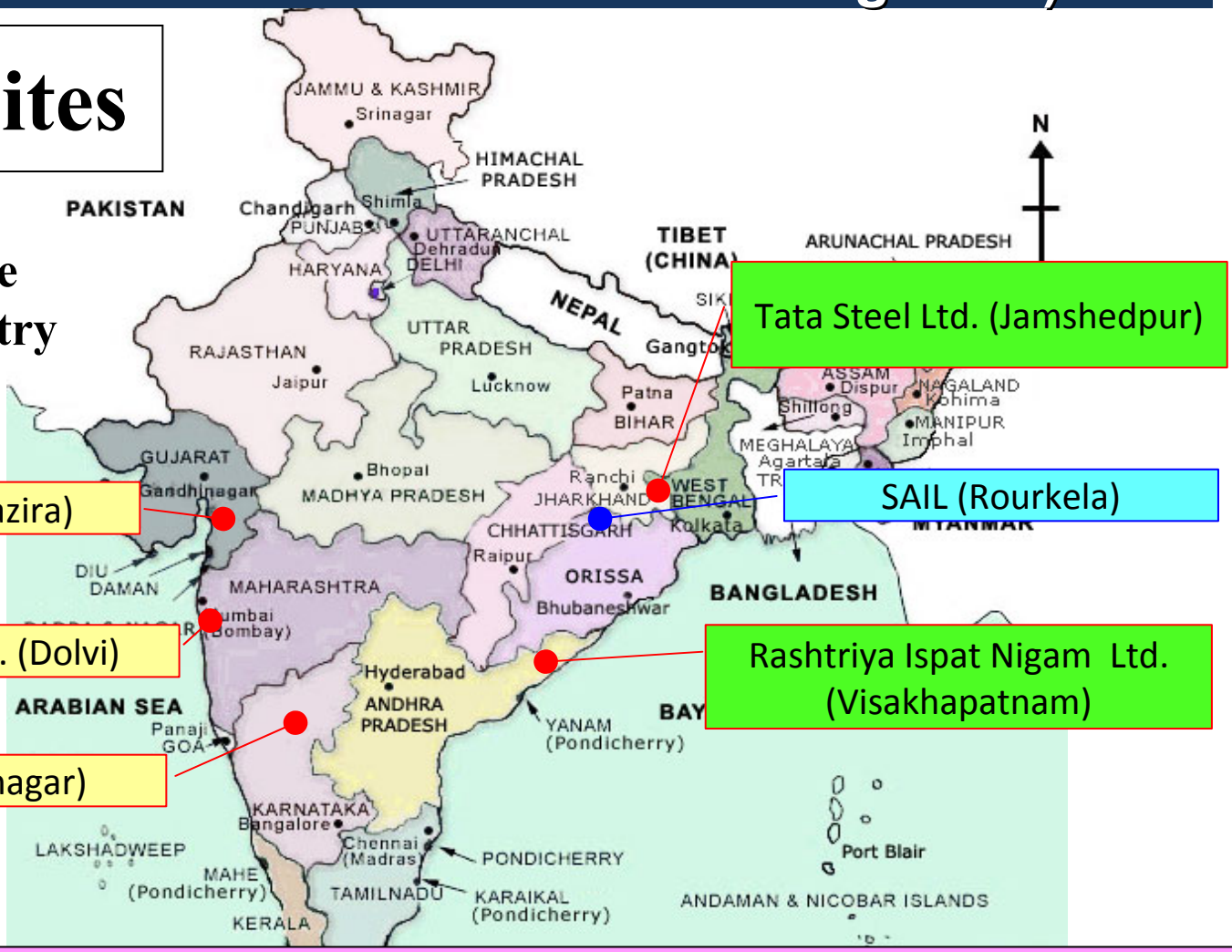


Green Handbook

Investigation of actual conditions
(Experience in Steel: Performance Diagnosis)

INDIA Sites

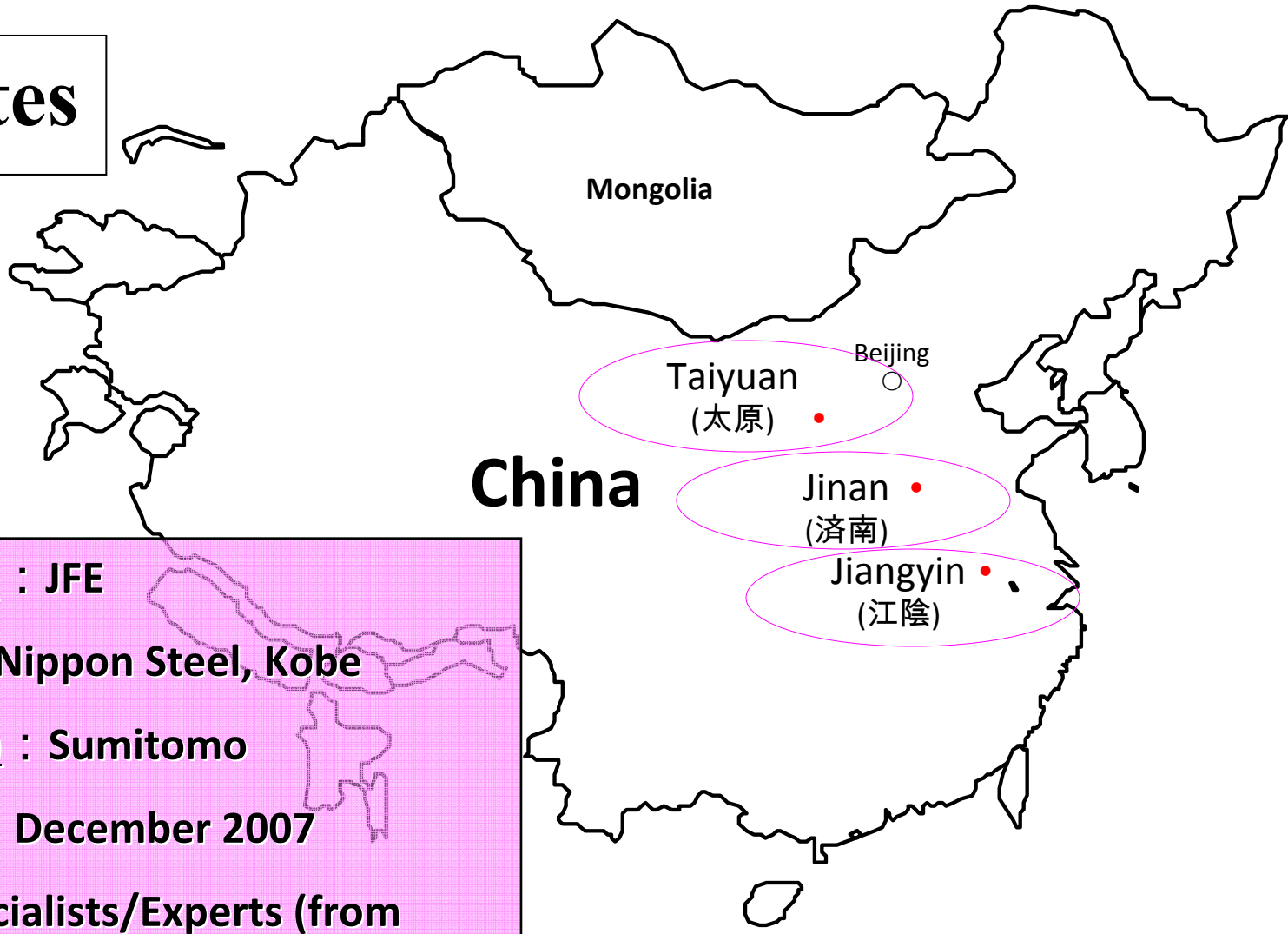
6 steel plants were selected by Ministry of Steel of INDIA



SAIL (Rourkela) : Conducted by Japan in January 2008
Tata Steel Ltd. (Jamshedpur), Rashtriya Ispat Nigam Ltd. (Visakhapatnam)
: Will be conducted by Japan in December 2008
Other 3 Plants: Will be conducted by APP member countries next spring

Investigation of actual conditions
(Experience in Steel: Performance Diagnosis)

China Sites



1) Taiyuan(太原)：JFE

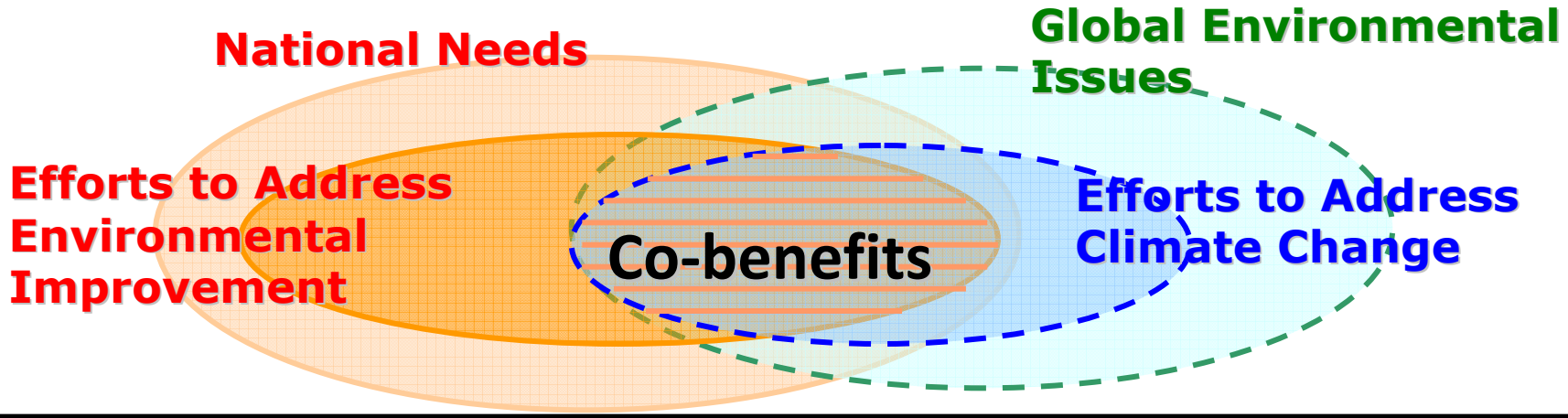
2) Jinan(済南)：Nippon Steel, Kobe

3) Jiangyin(江陰)：Sumitomo

★ Schedule： December 2007

★ 3 ~ 4 Specialists/Experts (from Japan) at each site

Co-benefits Approach for Public-Private Sector Collaboration



Co-benefits Action Area	Project Example	Environmental Improvement Benefits	Climate Change Benefits
Air Pollution	Improvement of combustion efficiency	Air Pollutant (SOx, NOx and dust) Reduction	CO_2 reduction
	Fuel switching		
	Transport		
Water Pollution	Prevention of Methane generation from sludge	Improvement of Water Pollution	CH_4 reduction
Waste	Proper treatment of MSW at landfill	Proper treatment of waste	CH_4 reduction
	Utilization of biomass waste	Reduction of waste amount	

Good Practices of Co-benefits Approach

Metro Manila Transport Project (Philippines)

- Purposes of the project:
  - To increase the mobility of passengers and raise logistics efficiency in the Manila capital region
- What were done:
  - Constructing roads, two-level crossing roads etc.
  - Strengthened capacity to protect environmental condition by the local authorities by introducing traffic and air quality monitoring system.
- The project demonstrated effects of **mitigating traffic congestion**, and **reducing air pollution substances such as SOx and NOx, as well as CO2**.
- By mitigating traffic congestion, **air pollution substances were abated** by 3% (**SOx**) and 0.6%(**NOx**) and **CO2 was reduced** by 4.2%.

Yen Loan Post Evaluation Report 2001
Project by the Japan Bank
for International Cooperation (JBIC)

Environmental Model City Project in Guiyang (China)

- Cooperation project by the Japan International Cooperation Agency (JICA) ,the Japan Bank for International Cooperation (JBIC), private sector stakeholders and other assistance* consisted of sub-projects below.

(1) **Measures for Sulphur Dioxide and Dust** from Steel Plant, Cement Plant, Power Plant.
(2) Supply **Desulphfurized Clean Coal** and Coal Gas.
(3) Establishment of **Automatic Air Monitoring Stations and On-line Monitoring System for Emission Sources**.
(4) **Abolishment of Acetic Production Facility Using Mercury Catalyst** in Organic Chemistry Plants.

- Some of activities **contributed greenhouse gas reduction**, in addition to **air and water pollution abatement**.
- Results: **Reduction of SO2** (80.54% / 163,500 t), **PM** (66.37% /57,080 t), **CO2 emissions** (1,067,400 t)

*Assistance included loan for establishing measures to control and monitor major pollution sources, and human and institutional capacity building of Chinese authorities.
Report by Guizhou (Guiyang) Project Secretariat (July, 2004)

Conclusion; Role of the Public- Private Partnership

- A desirable approach for TT is to promote cooperation according to country-specific needs based on the efforts by;

  - Identifying necessary best practices (including technology and policy measures) in each sector
  - Assessing technology installation status in developing countries
  - Analyzing reduction potential
  - Ensuring appropriate investment returns (ex. Proper IPR protection)

- APP's activities succeed in improving business environment for TT&D;
  - Identification of effective technology and practices *SOACT handbook*
  - Capacity building for introduction of technologies *COE, Green handbook*
  - Investigation of actual conditions *Performance Diagnosis*
  - Remove barriers for technology diffusion *Guideline for TT*

PPP should be embedded into an effective future framework

=> Japan proposes to establish Sectoral Technology Cooperation Group with participation of experts from private sectors