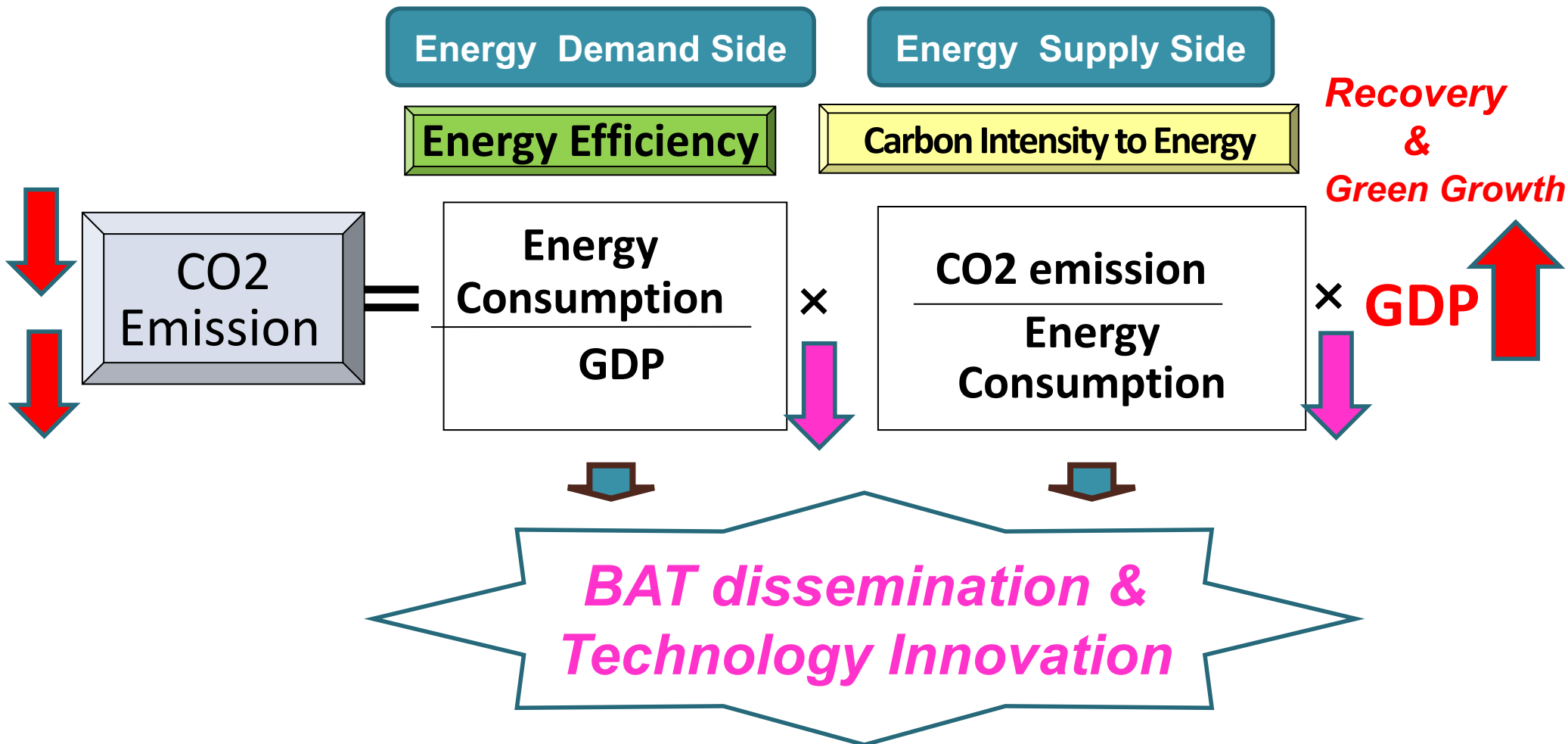


The Role of Industrial Energy Efficiency in Economic Recovery & Green Growth

Hiroyuki Tezuka
Fellow
JFE Steel Corporation

Kaya-Identity

➤ Technological solution is the key to reconcile economic recovery and emission reduction (Green Growth).



Partner country/region

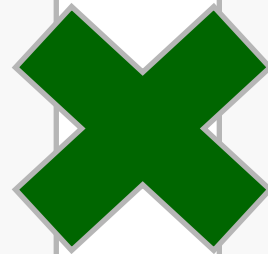
China
(2005~)



India
(2011~)



ASEAN
(2014~)



Cooperation Program

Steel
Plant
Diagnosis

Technologies
Customized
List

Public and
Private
Meeting

The Public & Private Collaborative Meeting btwn Indian & Japanese Steel Industry



Public and Private Partnership

India

Public members and observers

Ministry of Steel
Bureau of Energy Efficiency etc.

Private members and observers

Indian steel companies
(SAIL, RINL, TSL, JSW, JSPL,
BSPL, BSL, Essar, MECON etc.)

Japan

Public members

Ministry of Economy, Trade and Industry
Note: Following organizations attend the meeting with specific theme
NEDO / JBIC / JETRO

Private members and observers

The Japan Iron and Steel Federation
(Nippon Steel, JFE steel, Kobe steel,
Nisshin Steel etc.)

Technology Customized List



1. The benefit of technology implementation is demonstrated

- *Indicate **CO₂ reduction effect and payback period** for the collaborative country or region, based on country-based energy prices, plant installation cost and CO₂ emission factor*

2. Technologies listed on TCL are **reliable**

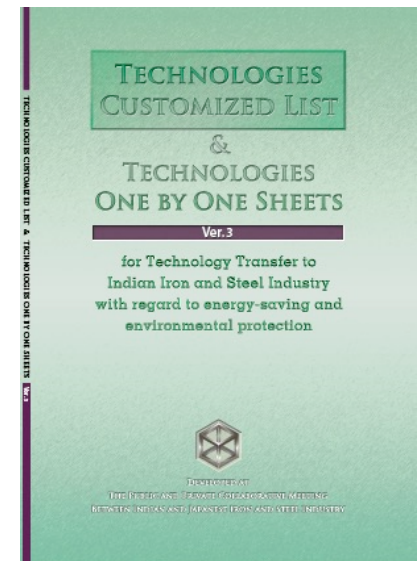
- *Effects of the technologies are **proven** through Japanese steelmakers' operating experiences*

3. Easy to reach out to further information when necessary

- *Include in contact detail of supplier companies which have the best available technologies*

Please find latest TCL from the link below (For India and ASEAN)

<http://www.jisf.or.jp/en/activity/climate/Technologies/index.html>



Benchmarking Energy Consumption & GHG Emissions of Iron & Steel Industries of Thailand



Climate Technology Centre & Network (CTCN) Project (2017)

- 1. Understand the baseline performance:** Designing specific questionnaires for different segments of Thailand iron & steel industry
- 2. Detailed survey:** Undertaking Field Survey and Off-site Survey on energy consumption data
- 3. Benchmarking of energy consumption pattern, together with**
 - Energy Reporting Guidelines and Energy Efficiency Manual
 - Assessment of Financing Options
 - Training for Iron and Steel Institute of Thailand for data collection & analysis



Now the Thai steel industry conducts benchmarking once every two years, based on the energy/CO₂ benchmarking system developed under CTCN project

JFE Group's Medium-to-long-term vision



【JFE Group's targets for reducing CO₂ emissions】

Toward 2030

- In the steel business, which accounts for most of the JFE Group's CO₂ emissions, we are exploring feasible scenarios with the aim of **reducing CO₂ emissions in fiscal 2030 by 20% or more compared to fiscal 2013**, maximizing the use of the **best available technologies and innovations**.

Toward 2050

- In line with the social transformation to establish carbon-free infrastructure over the long term, JFE will strive to be **carbon neutral within the JFE Group as soon as possible after 2050**.
- JFE is carrying out **research and development** to be **ready to show a lineup of carbon neutral technologies** in its business processes well ahead of 2050.

Key Messages

- **Energy Efficiency improvement** is the key for post COVID19 Economic Recovery to be matched with Green Growth
- **Applying BATs** is the most proven/effective/quick approach
- **International Corporation** under Public Private Partnership can play an important role
- In the long-term, **Technology Development and Innovation** is necessary to expand the pool of BATs

Thank you