Potential of Japan's Technology to Solve Climate Change Issues

July 10th, 2012 Ministry of Economy, Trade and Industry

Japan's Low-Carbon Technology and Potential Contribution

Iron and Steel

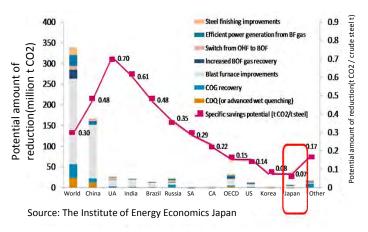
➤ By applying the best practice of iron and steel plants in Japan to that of the world's plants, it is estimated to be reduced **130 million tons** of CO2 which is equivalent to Japan's 20% emission.

Coal Power Generation

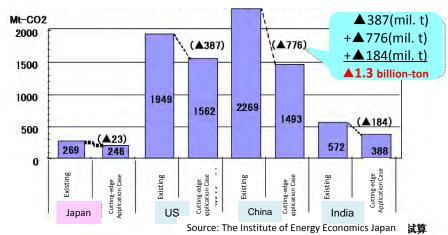
China

➤ By applying the best practice of coal-fired power plants in Japan to that of the US, China and India, it is estimated to be reduced **1.3 billon tons** of CO2 which is equivalent to Japan's total emission.

Potential reduction of CO2 by applying BAT (Best Available Technology)



CO2 Emission from Coal Power Plant in 2004



[Market Share for inverter air-conditioner]

Home Electrical Appliance (Air Conditioner)

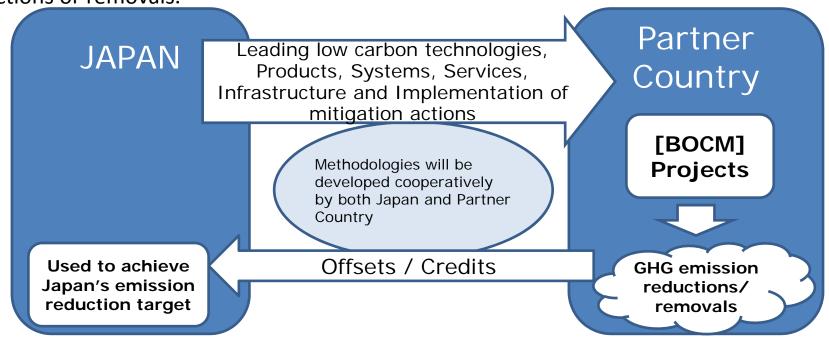
➤ By improving efficiency of all air-conditioners' in the world as efficient as Japan's air-conditioners which is equipped with inverter controller, it is estimated to be reduced **100 million tons** of CO2.

N America Europe -100% Japan 830 21 Temp. 25% 30% Cool the air Small difference mil. 万台 30% 740 units Feel mil. in short time in temperature Energy 8.3 万台 750 units saving 万台 Comfortable Inverter units M&S America Preset conditioner Oceania 7.5 45% Asia 3.8 Temp. mil. mil. 75 380万台 Non-Inverte units 550 units 5.5 conditioner mil. 0.75 Over cooling units mil. units Comparison of energy consuming ■Inverter equipped ■Non inverter equipped Start operation Operating time

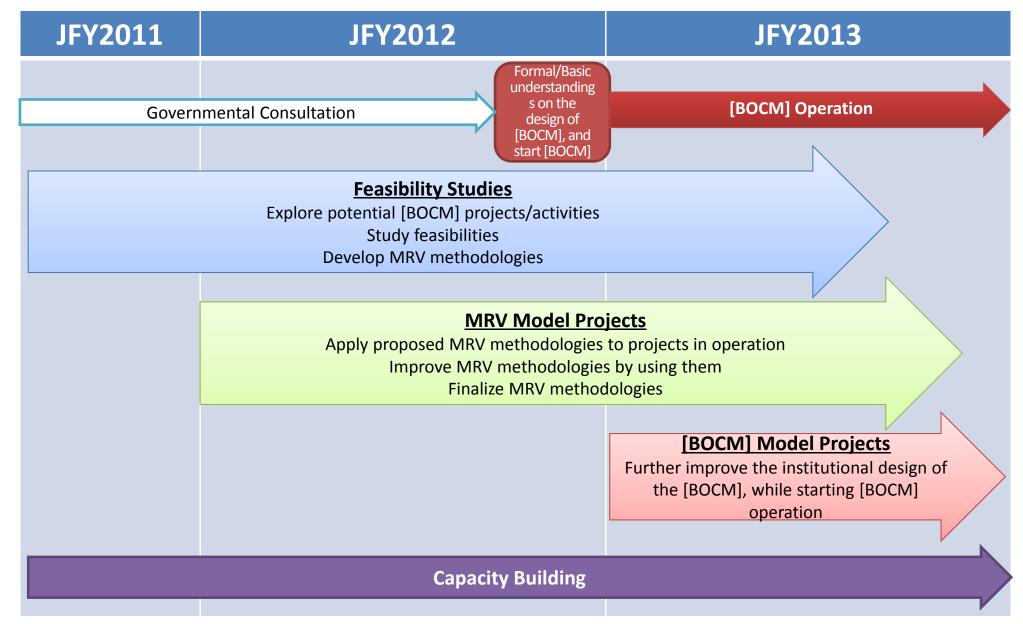
Bilateral Offset Credit Mechanism[BOCM]

Purpose of the BOCM

- ◆ To facilitate diffusion of leading low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions, and contributing to sustainable development of developing countries.
- ◆ To appropriately evaluate contributions to GHG emission reductions or removals from developed countries in a quantitative manner, through mitigation actions implemented in developing countries and use those emission reductions or removals to achieve emission reduction targets of the developed countries.
- ◆ To contribute to the ultimate objective of the UNFCCC by facilitating global actions for emission reductions or removals.



Roadmap & MRV/[BOCM] Model Project



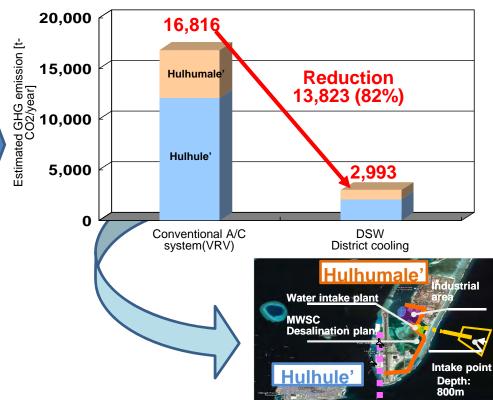
Feasibility Study In the Republic of Maldives (Deep seawater utilization system)

Reference:
Hitachi Plant
Technologies,
Ltd.

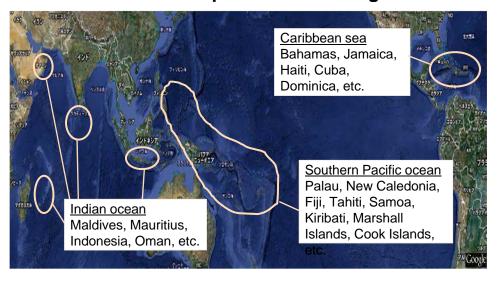
Concept of Multistage Deep Seawater Utilization



Estimated GHG reduction at 2 FS sites



Potential areas for deep seawater cooling



- More than 100 cities in 20 countries are expected as potential sites for deep seawater cooling system.
- Up to 1 million t-CO2/year of total GHG emission reduction is expected at those potential sites.

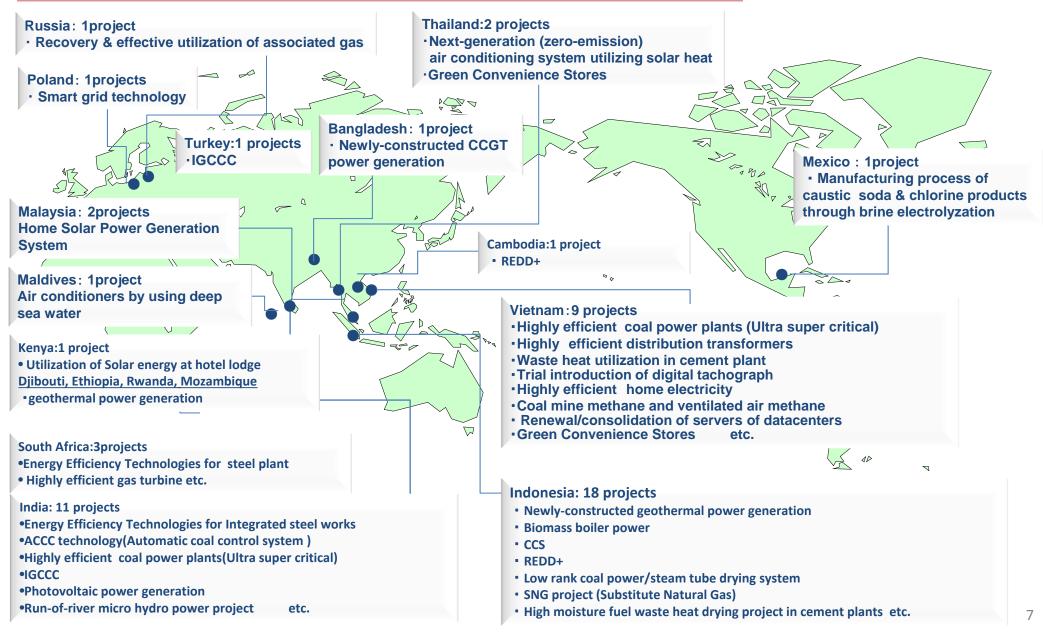
Feasibility Study for Joint GHG Reduction Projects FY2010

30projects in 13countries China: · Introduction of high efficiency motor system • Energy saving housing (eco-friendly house) India: Highly efficient coal power plant (Ultra supercritical) Asia (Vienam, Laos, Malaysia, China): Introduction of energy efficient technologies at iron Trial introduction of Digital Tachograph and steel plant Maldives: · Energy consumption reduction of air conditioners by using deep seawater Mexico: Promotion high efficiency light and energy saving of home product Laos: · REDD+ NAMA FS on transportation in Laos Laos/Myanmar: Brazil: · Introduction of energy efficient • REDD+ technologies at cement plant Thailand: · Introduction of CHP facility and privately-owned electrical power facility Malaysia: · Eco-friendly driving using digital tachograph Introduction of air-conditioning control system Optimum control of plant equipment (by IT) · Introduction of energy efficient technologies at NAMA FS on wastes and wastewater management divisions in Thailand cement plant Malaysia/Indonesia: Reducing N2O emission by using coating fertilizer Philippines: Introduction of energy efficient technologies at iron and steel plant Indonesia: Geothermal power Underground storage of CO₂ low rank coal power plant • Introduction of energy efficient technologies at cement plant Vietnam: Highly efficient coal power plant (Ultra super critical) · Introduction of Nuclear power · Promotion of Home electricity Geothermal power Optimum control of plant equipment (by IT) Highly efficient coal power plant (Ultra super critical) · REDD+ · Reduce power transmission loss by using highly Peru: efficient transformer • REDD+ NAMA FS on peat management in Indonesia → Ministry of the Environment

→ Ministry of Economy, Trade and Industry

Feasibility Study for Joint GHG Reduction Projects FY2011

METI FS: 50 projects were selected for FY2011(18 countries)



[BOCM] Feasibility Study by METI in FY2012

METI FS: 36 projects were selected for FY2012 (15 countries)

X As of June, 2012

