

# Supporting the Earth's Future Through the Emissions Trading Business

Emissions Reduction Business Unit,  
New Energy & Environment Business Division

Recognizing the need for "coexistence between environment and economy", Mitsubishi Corporation was one of the first organizations to be involved in the emissions trading business. We make use of our strengths as a general trading house, to initiate global-scale emissions reduction projects, providing business-oriented support to the environment and enterprise.

## Climate Change Creates New Business Models

Mitsubishi Corporation underwent a major reorganization in April 2007. At that time, it identified three businesses for the future that it would pursue on a companywide scale: new energies and the environment, finance and medical health care. To do this, it established two new organizations: the Business Innovation Group and the Industrial Finance, Logistics & Development Group. The New Energy & Environment Business Division is situated within the Business Innovation Group, and the Emissions Reduction Business Unit operates under it.

The unit's origins, however, go back about a decade. In 1997, the 3rd Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change ("COP3") was held in Kyoto. Under COP3, the Annex I Parties (developed countries, Russia, Ukraine, Central and Eastern Europe) agreed to reduce emissions of greenhouse gases like carbon dioxide (CO<sub>2</sub>) by approximately 5% over a five-year period between 2008 and 2012 (First Commitment Period). This became known as the "Kyoto Protocol."

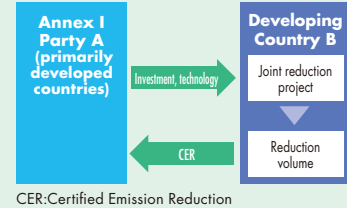
As it may be difficult for some countries to meet their greenhouse gas emissions reduction targets through domestic efforts alone, the Kyoto Protocol provides three "Kyoto Mechanisms" by which they can supplement their shortfalls: The "Clean Development Mechanism" (CDM), "Joint Implementation" (JI) and "Emission Trading" (ET).

Prior to the industrial revolution, the concentration of CO<sub>2</sub> in the atmosphere was 280ppm (0.028%), but today it has increased to 381ppm. This concentration is the same

## The 3 "Kyoto Mechanisms"

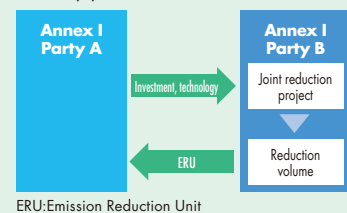
### Clean Development Mechanism (CDM)

Developed countries (operators) with reduction targets and developing countries (operators) with no reduction obligations jointly implement emissions reduction projects, with the amount of reduction counted towards the developed country's target.



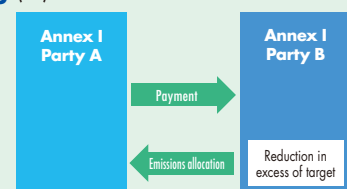
### Joint Implementation (JI)

Two Annex I Parties (operators) with reduction targets jointly implement an emissions reduction project, with the amount of reduction counted towards the numerical targets of the investing countries.



### Emission Trading (ET)

Achievement of targets by purchasing "allowed emissions" from other countries. This is only permitted for Annex I Parties with reduction targets.



\* Annex I Parties  
Developed countries and countries in transition (Russia, Ukraine, Central and Eastern Europe)

regardless of where you measure it, be it the large urban areas of developed countries or the unpopulated spaces of Antarctica, because CO<sub>2</sub> is dispersed throughout the atmosphere. Likewise, the overall effect is the same regardless of where the CO<sub>2</sub> emissions are reduced. It does not matter if a developing country makes improvements to an inefficient electric power plant or if a factory in a developed-country collects and breaks down greenhouse gases. The Kyoto Mechanisms focus on this aspect of global warming in an attempt to efficiently and effectively achieve emissions reductions across the planet.

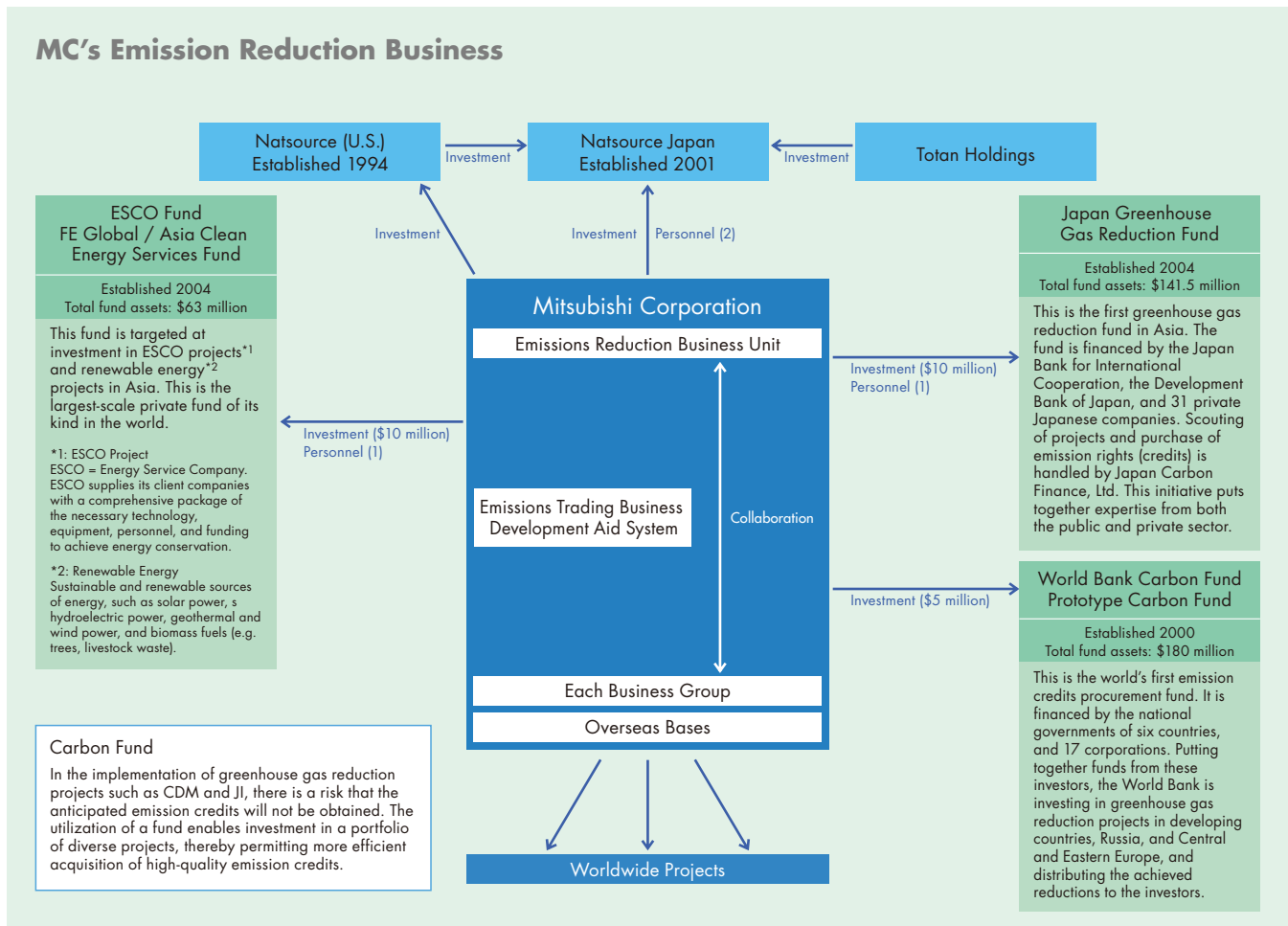
The latter half of the 20th century was a time of frequent climate-related disasters: increasingly large typhoons and hurricanes, devastating storms and chronic drought. Scientific opinion is virtually unanimous that the causes of global warming are man-made and stem from the greenhouse gases emitted as a byproduct of the combustion of fossil fuels.

### One-stop Shopping for all Emissions Trading Services

Shortly after the Kyoto Conference, in 1998, then-President of MC Mikio Sasaki (currently Chairman of MC) saw a major new trend towards combating climate change and reducing

CO<sub>2</sub>, and he ordered the company to investigate. As a result of its findings, MC decided to focus on the Kyoto Mechanisms and in 2000 joined the World Bank Prototype Carbon Fund (PCF). Then in 2001, it teamed up with Natsource, a US company that pioneered the emissions trading business, and Tokyo Tanshi, one of Japan's largest financial brokers (currently "Totan Holdings"), to establish "Natsource Japan" and provide the infrastructure required for emissions trading. In 2004, it became one of the core members of the Japan Greenhouse Gas Reduction Fund, the first of its kind in Asia. The fund was established for the purpose of purchasing emissions credits generated by greenhouse gas reduction projects in developing countries and Eastern Europe and distributing them among its investors.

When the EU began its "European Union Greenhouse Gas Emissions Trading Scheme" in January 2005 and the Kyoto Protocol took effect that February, the world began to focus on the emissions trading business made possible by the Kyoto Mechanisms. A large number of companies also began to participate as a result. Having been one of the first to enter this field, MC was already way ahead of the competition in terms of experience and expertise. With approximately 200 overseas locations, it had access to



industries around the world and a network of connections with governments and global companies. These strengths meant that MC could do more than just trade emissions rights; it could offer one-stop shopping for all of the services required. Today, MC's focus is on CDM and JI projects, and it is able to take clients from the initial studies through to project proposals, plant construction and financing.

"This is a job that is based in developing countries—the farther away from major urban areas, the better. So you need to have local expertise. On the other hand, you also need to be a skilled international negotiator and sensitive to global trends. In other words, it requires that you be extremely local and extremely international at the same time. Being able to simultaneously tackle two such disparate challenges is a perfect fit for MC. What is more, this business contributes to corporate earnings at the same time as it protects the global environment. Yes, we help the company, but we also help the other country and the government of Japan. It is a rare business that can say that." (Ichiro Keida, Senior Vice President & General Manager, Emissions Reduction Business Unit)

## Building Up Expertise and Preparing for the "Post-Kyoto" World

MC's emissions trading business continues to grow. In 2006, it registered its first CDM project with the United Nations. As of the end of November 2007, it had completed the registration of a total of six CDM projects with reductions of 12.7 million tons per year. This is equivalent to 7.5% of the total reductions registered with the UN. On September 28, 2007, MC signed a contract with Uzkimyosanoat, a state-owned chemicals company in Uzbekistan, and three subsidiaries producing chemical fertilizers. Together, we have embarked on a project to reduce emissions of nitrous oxide (N<sub>2</sub>O), a greenhouse gas that is 310 times more powerful

than CO<sub>2</sub>. Converting to CO<sub>2</sub>, will result in a reduction of 1.2 million tons per year. The government of Uzbekistan gave the project its approval the same day. Currently, MC has a total of 16 projects in the process of being registered by the UN. Combined with the six already registered, these projects are forecasted to achieve the reduction of approximately 18 million tons of CO<sub>2</sub> per year. In addition, another 40-50 projects are currently being studied. MC has truly become a leader in this field in terms of both quantity and quality.

The G8 summit held in Heiligendamm, Germany in June 2007 approved a basic guideline to halve emissions of greenhouse gases by 2050, a decision based on a proposal by the Japanese Government. We anticipate that the emissions trading business will continue in some form or another even after 2013, following the expiration of the Kyoto Protocol's First Commitment Period ("post-Kyoto").

"Climate change is a longer-term issue that will require decades to tackle. If MC wishes to continue to be a leader in the post-Kyoto world, it needs to stay abreast of change and to take on as many and varied projects as possible." (General Manager Keida).

The fact is that businesses that do not take the environment and climate change into consideration will not survive. There has been a shift in the level of environmental awareness corporations are showing in their approach towards business activities and research development, and there are numerous new business models being created in addition to carbon trading. All of these changes are related in some way to the work of MC. The projects undertaken by the Emissions Reduction Business Unit are time intensive and not necessarily flashy, but by building on experiences and constructing new models they will play a vital role in addressing future business opportunities in the environmental field.

## Stakeholder Dialogue

### CDM Projects are an Extremely Significant Means of Contributing to Society

The CDM project jointly implemented by Hanwha, MC and Mitsubishi Corporation (Korea) creates emission credits by catalytically breaking down and reducing the N<sub>2</sub>O emitted by Hanwha's Onsan nitric acid plant (280,000 tons/year when converted to CO<sub>2</sub>).

The MC proposal was selected during the technology investigation phase because of its high N<sub>2</sub>O breakdown performance and reliability. We hope that this collaboration provides opportunities for further partnerships with MC in other areas.



Kyung-Seob Shim  
Executive Vice President, Commercial Explosive  
Division  
Hanwha Corporation

### The Emissions Trading Business Contributes to the Global Environment on a Holistic Level

My involvement with the emissions trading business has taught me the importance of protecting the global environment. The international community has reached agreement on a basic guideline of cutting greenhouse gas emissions in half by 2050. We want to promote these reduction efforts by working with partners around the world to develop a global emissions trading business that makes active use of economic and market principles to help the environment.

Ichiro Keida  
Senior Vice President & General Manager,  
Emissions Reduction Business Unit  
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Division, Business Innovation Group,  
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