

Creating New Energy for Tomorrow

Current and Future Trends in New Energy & Environmental Business

Concerns are growing over global warming and there is now increasing awareness of the shortage of energy resources. The New Energy & Environment Business Division, which was formed in April 2007, is working to develop new business models that will help to resolve the various problems facing mankind. These business models include new energy resources and emission credit trading that will counter global warming, as well as the recycling of water and other resources.

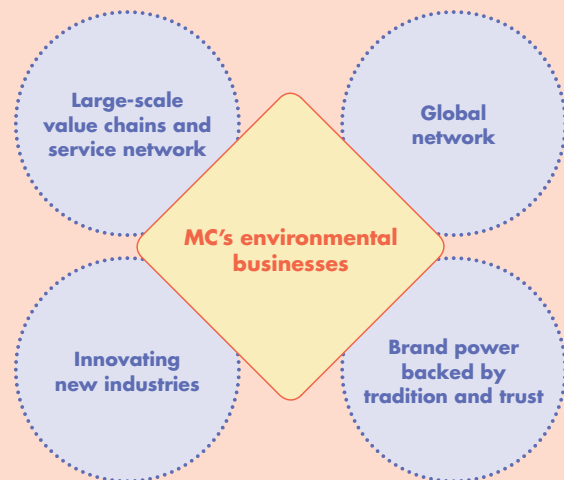
Merger of Our New Energy & Environmental Businesses

Now more than ever, mankind is facing various resource-related and environmental problems, such as global warming. In order to provide solutions to these problems, we established the New Energy & Environment Business Division in April 2007 as part of our Business Innovation Group. The move integrated all our environmental businesses that had previously been handled by the Innovation Center, Energy Business Group, Metals Group, Machinery Group and other

parts of MC.

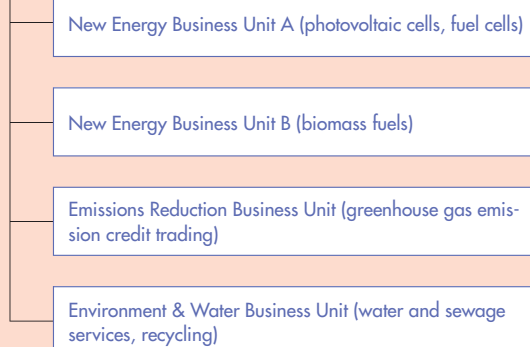
The New Energy & Environment Business Division is made up of four business units. The New Energy Business Unit A is involved in photovoltaic cells and fuel cells, while the New Energy Business Unit B is involved in biomass fuels. The Emissions Reduction Business Unit is engaged in business related to emissions trading for greenhouse gases such as CO₂ as defined in the Kyoto Protocol. The Environment & Water Business Unit is involved in environmental recycling projects and water and sewage services in Japan and overseas.

MC's Global Environmental Business



MC's strengths lie in its expansive network, experience, and reliability developed through its existing businesses. Leveraging these strengths, the company is engaged on a global scale in cutting-edge, comprehensive, and multidisciplinary businesses.

New Energy & Environment Business Division

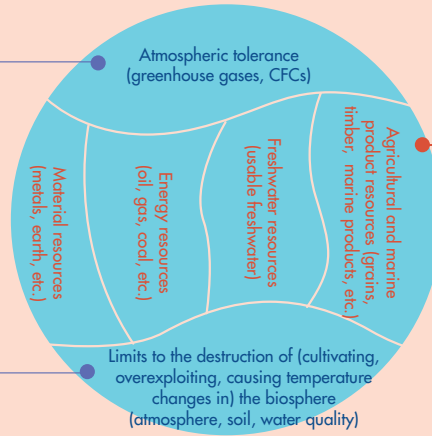


The New Energy & Environment Business Division was established in April 2007 as part of the Business Innovation Group.

Earth's Capacity

Two Limits to Earth's Tolerance

Business development needs to pay careful attention to the earth's tolerance of atmospheric greenhouse gases and CFCs and the tolerance for cultivation/overexploitation of the biosphere.



Four Supply Limits

Business development needs to build structures that can ensure a sustainable supply of energy resources, metal resources, and agricultural and marine products.

Leveraging Our Strengths as a General Trading Company

Our New Energy & Environment Business Division develops business by leveraging our strengths as a general trading company (*sogo shosha*) involved in a variety of different businesses. For example, the emissions credit trading business is an entirely new field that began when the Kyoto Protocol entered into force in 2005. However, MC had highlighted the potential for this area in the late 1990s and has gathered information and developed business methods, mainly through the Innovation Center and the Machinery Group. We have engaged in various activities including participation in the Prototype Carbon Fund and jointly establishing Natsource Japan Co., Ltd. that is involved in emissions trading and other intermediary work. The initial concept of the emissions trading business was focused purely on the actual purchase and sale of emissions credits, but we have responded to customer demand by broadening the scope of our service offering to include everything from market research and consultancy to plant construction and finance. We have established a business model of selling emissions credits generated by these businesses. Emission credit buyers are power companies or manufacturers, who have long been MC customers, so we are in a position to quickly assess their needs. In this way, we are making the most of MC's comprehensive strengths across our global network.

A Value Chain That Supports the Environment Worldwide

Regarding biofuels, we aim to be a supplier that actually manufactures in-house, rather than just trading in biofuels. We are also broadening the scope of our solar power generation business, which previously focused exclusively on selling photovoltaic cells and modules. We are now targeting comprehensive business development from the upstream stage of materials procurement to the downstream stage of power generation. Developing business at every stage from materials to the "end product" allows us to create an environmental value chain while pioneering a new business model. This is another unique feature of MC.

The businesses developed by the New Energy & Environment Business Division will help to improve the global environment. They can be described as businesses that allow for both profit generation and environmental conservation. Business practices will need to be transformed in order to build more sustainable societies as we feel the impact from growing human population, global warming, and resource shortages. Against this backdrop, the New Energy & Environment Business Division has an important mission to provide comprehensive solutions suited to global capacity. Moving forward, we will leverage our extensive network, experience, and reliability developed through existing businesses to engage on a global scale in cutting-edge and comprehensive businesses.

Message From Mitsubishi Corporation Management

I think of environmental issues as a problem with Earth's capacity. One issue is tolerance for atmospheric and water/soil processing or development. Another issue is the supply limits for agricultural or marine produce, fresh water, energy, and material resources (see the figure entitled "Earth's Capacity"). In the future, people will not sell as many items or services as possible. All businesses in the future will probably provide comprehensive solutions that take into account the Earth's capacity in a bid to create a sustainable value chain. I think the New Energy & Environment Business Division will be an important pioneer in this regard.

Masahiko Nakagawa
Strategic Planning Office General Manager
New Energy & Environment Business Division
Business Innovation Group

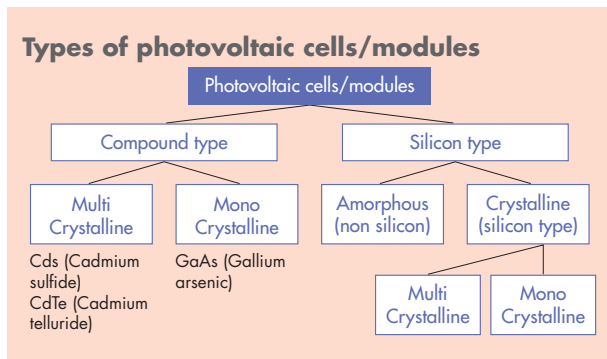


Solar Power as an Energy Source for Low-carbon Societies

Solar Power Systems

Solar power is a green energy source that emits no greenhouse gases and can be used without concerns over dwindling resources unlike fossil fuels. Power can be generated anywhere, even in areas where demand is high. As such, solar power is expected to become a next-generation energy supply that will replace fossil fuels.

Solar power systems use the photoelectric effect whereby sunlight reaching molecules in a semiconductor generates electricity. Solar energy is therefore directly converted into electricity. Photovoltaic cells are needed to convert the solar energy into electricity and the semiconductors used can be broadly divided into silicon and non-silicon (chemical compound) systems. Silicon semiconductors can be crystalline or amorphous silicon systems. Crystalline silicon systems are the most widely used and can be either monocrystalline silicon or polycrystalline silicon (or polysilicon).



Subsidy Schemes Have Driven Rapid Growth in Solar Power Markets

Solar power energy input* as of 2006 reached a cumulative total of approximately 5.7 GW (single-year energy input for fiscal 2006 alone was 1,515 MW). Although Japan was the highest-ranking country through 2004, Germany took over the top spot in 2005 and has held it since. Germany began adopting solar power generation in earnest in the latter half of the 1990s and the enforcement in 2004 of the Renewable Energy Sources Act improved the feed-in tariff system, which was designed to support high purchase prices for electric power generated at solar power facilities. The improved system guaranteed the purchase of electrical power at favorable prices for up to 20 years, propelling rapid growth in solar power generation in the country. There is now expected to be further investment in solar power facilities and an accompanying further increase in solar power energy input.

After Germany, the next highest-ranking countries for solar power energy input in order are Japan, the U.S.,

and Spain. A new feed-in tariff system in Spain, introduced in June 2007, has driven rapid growth in the solar power market there. France, Italy, Greece and several other countries that have adopted similar strategies for promoting solar power and are blessed with abundant sunlight are also expected to see a proliferation in solar power generation.

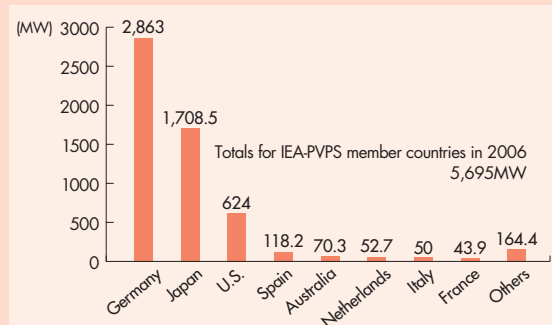
Over the long term through 2025, the global market is expected to increase to a cumulative installed base of 432 GW and a single-year energy input of 55 GW. However, power generation costs are still relatively high at around 40 US cents/kWh, so the main challenge moving forward is how to significantly improve costs. The market is now expected to expand, particularly in Europe, so attention is focused on the industry's moves to promote greater usage, such as by reducing power generation costs and driving new advances in technology.

* Solar power energy input by participating countries in the International Energy Agency's (IEA) Photovoltaic Power Systems Program (PVPS)

Resolving the Materials Shortage

In 2006, global production of polysilicon amounted to approximately 39,000 tonnes, of which some 16,000 tonnes are estimated to have been used in the photovoltaic cell market. Demand is increasing rapidly, partly due to measures to promote the use of solar power systems in Europe and elsewhere. As a result, polysilicon—the main material used in photovoltaic cells—has been in ever shorter supply since 2004. Increased efforts are now being made to develop and install amorphous silicon photovoltaic cells, which use only small amounts of silicon, or chemical compound photovoltaic cells, which do not use silicon at all. The industry is making every effort to resolve the materials shortage, for example, by expanding production facilities at silicon material manufacturing sites or developing new silicon production technologies.

Cumulative Solar Power Energy Input (end-2006)



Source: Prepared from Report IEA-PVPS T1-16:2007

Considering a Move Into the Large-scale Solar Power Generation Business in Europe

Solar power systems convert sunlight directly into electricity. Demand for solar power is growing significantly around the world, maintaining annual growth rates above 30%, because the power generation process emits zero CO₂ and is thus an effective measure to combat global warming. But there has been a



Solar power Stations in Spain

significant amount of construction in Europe—especially in Germany and Spain—of “solar power stations” comprising numerous photovoltaic arrays.

In light of these market trends, MC is

considering making a full-scale move into the solar power generation business in Europe, including the possible acquisition of solar power stations.

Leveraging Business Experience in Global Business Development

To date, MC’s solar power business has mainly involved importing and trading photovoltaic cells and modules in Europe and the U.S. New Energy Business Unit A has developed a strategy to build business throughout the

value chain, from materials procurement to photovoltaic cell/module sale and actual power generation. We want to gain a foothold in European markets, as well as the U.S., the Middle East, and Southeast Asia where market growth is expected, by gaining solar power generation project development and engineering expertise through stronger partnerships and collaborations, and building expertise and experience as an independent power producer (IPP).

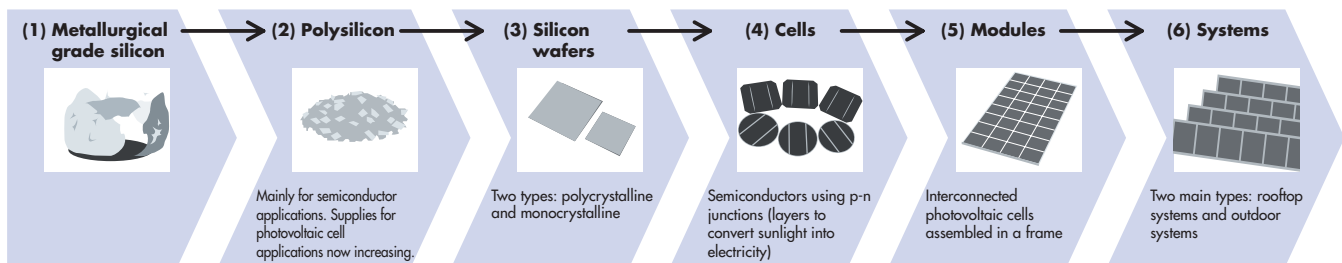
Engaging in Both Materials Procurement and New Technology Development

Crystalline silicon photovoltaic cells are the current mainstream. A shortage of polysilicon and silicon wafers—the raw materials for photovoltaic cells—over the past few years has meant that manufacturing and supply has not been able to keep pace with rising global demand. MC is forming partnerships in the materials field and supporting and investing in new technologies with the goal of ensuring stable supplies of silicon materials for the steady growth of the solar power business.

We are also developing a special reflector and special lens, in collaboration with Okamoto Glass Co., Ltd., as a technology to increase power generation efficiency.

In this way, we aim to support healthy and sustained market growth by generating new demand or lowering costs for solar power generation.

Solar Power Business Value Chain



Stakeholder Comment

Okamoto Glass, in collaboration with Mitsubishi Corporation, has started developing glass components for solar power systems that provide clean, sustainable, and renewable energy and can help prevent global warming. Our glass casting and manufacturing technologies, combined with MC’s extensive sales network, allow us to meet growing market demand.



Tsuyoshi Okamoto
President,
Okamoto Glass Co., Ltd.

Message From Mitsubishi Corporation Management

MC has a number of strengths in the resources and energy businesses, particularly through our Energy Business Group and Metals Group, while the Machinery Group develops power stations overseas and has various power generation assets. Downstream business development by the New Energy Business, which includes solar power, makes full use of the network and experience gained to date in these other business groups. MC is therefore in a position to provide a unique range of services.



Junichiro Yamasaki
IPP Project Team Leader, New Energy Business Unit A
New Energy & Environment Business Division, Business Innovation Group