

October 25, 2019  
Marubeni Corporation  
Marubeni Tetsugen Co., Ltd  
Marubeni Metals Corporation  
Tottori Resource Recycling, Inc.

Strategic Partnership for Solar Panel Recycling

Marubeni Corporation, Marubeni Tetsugen Co., Ltd, Marubeni Metals Corporation (hereinafter, “Marubeni Group”), and Tottori Resource Recycling, Inc. (hereinafter, “Tottori Resource Recycling”) have entered into a Strategic Partnership Agreement today, to jointly undertake a solar panel recycling business by utilizing the patented glass forming technology of Tottori Resource Recycling.

Aiming for the maximum 1.5 °C temperature increase target set by the Paris Agreement, governments have announced a goal of reducing greenhouse gas emissions to zero (net zero) by 2050. The shift to renewable energy will continue to progress and solar power generation is also expected to increase significantly.

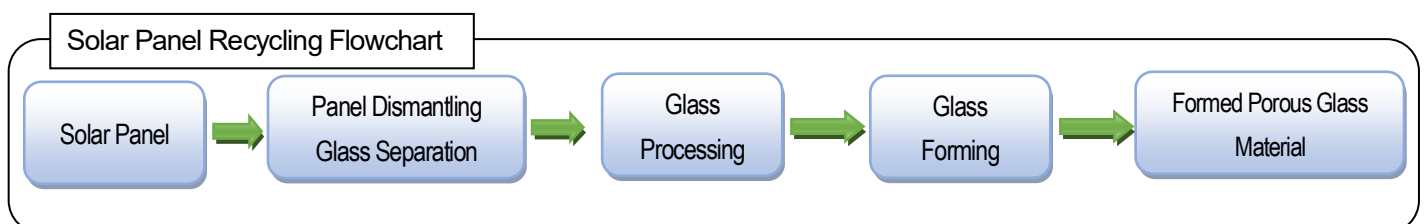
On the other hand, solar panel waste is estimated to grow 10 times in 10 years and 200 times in 20 years. Solar panels are dismantled and recycled for each part. However, tempered glass, which accounts for more than 70% of the panel weight, is difficult to recycle, and is currently disposed of in landfills. It has been pointed out that disposal of tempered glass will become a major social problem in terms of the environment. (\*1)

Marubeni Group and Tottori Resource Recycling will collect solar panel and use tempered glass as raw materials, and manufacture formed porous glass material utilizing the patented technology of Tottori Resource Recycling. This glass foaming technology makes it possible to detoxify and immobilize harmful substances such as heavy metals contained in glass. The manufactured formed porous glass material enhances the soil by increasing the water retention capacity in the soil, and in the water, it improves the water quality by becoming a habitation for microbes that purify water.

Marubeni Group and Tottori Resource Recycling will transform the tempered glass, which is said to be difficult to recycle, into a valuable product that is friendly to the global environment. By reducing waste and improving the environment, we aim to provide diversified solutions to environmental issues in order to realize a sustainable society.

(\*1) Related press release from Ministry of Environment (Japanese)

<https://www.env.go.jp/press/files/jp/110514.pdf>



## &lt; Company Profile &gt;

Company Name Marubeni Corporation  
Office Tokyo Nihombashi Tower, 7-1, Nihonbashi 2-chome, Chuo-ku, Tokyo, 103-6060, Japan  
Incorporated December 1, 1949  
Paid-in Capital JPY 262,686 million (As of Mar, 2019)  
Main Business Marubeni Corporation and its consolidated subsidiaries use their broad business networks, both within Japan and overseas, to conduct importing and exporting (including third country trading), as well as domestic business, encompassing a diverse range of business activities across wide-ranging fields including lifestyle, ICT & real estate business, forest products, food, agri business, chemicals, power business, energy, metals & mineral resources, plant, aerospace & ship, finance & leasing business, construction, auto & industrial machinery, and next generation business development. Additionally, the Marubeni Group offers a variety of services, makes internal and external investments, and is involved in resource development throughout all of the above industries.

Website <https://www.marubeni.com/en/>

Company Name Marubeni Tetsugen Co., Ltd  
Office 1-21 Agebacho, Shinjuku-ku, Tokyo 162-0824 Japan  
Incorporated July 1981  
Paid-in Capital JPY 490 million  
Main Business Domestic sales, import and export of raw materials for the production of iron & steel, minerals, powder metallurgy materials, special metals, etc.

Website <https://www.marubeni-tetsugen.co.jp/en/>

Company Name Marubeni Metals Corporation  
Office 1-7 Kudan-Kita 4-chome, Chiyoda-ku, Tokyo 102-8250 Japan  
Incorporated January 11, 1983  
Paid-in Capital JPY 1,300 million  
Main Business Domestic sales, import and export of non-ferrous and aluminum products

Website <https://www.marumet.co.jp/english/>

Company Name Tottori Resources Recycling, Inc.  
Office 583 Higashi-sono, Hokuei-cho, Tohaku-gun, Tottori, 689-2202, Japan  
Incorporated December, 2001  
Paid-in Capital JPY 40million  
Main Business Producing foam glass by clean recycling process (patented technology)  
Inventing and selling solutions based on foam glass

Website <https://www.t-rrl.jp/en/>