

FY2015 Feasibility Studies with the Aim of Developing a  
Joint Crediting Mechanism

**Feasibility Study on a Mega Solar Power  
Development Project with Ultra-Lightweight  
Solar Modules for Special Economic Zones  
in Bavet, Cambodia**

New Energy and Industrial Technology Development Organization (NEDO)

Japan Development Institute Ltd. / Asahi Glass Co., Ltd. / Asian Gateway Corporation

Very large roof areas of factories are currently not utilized in the industrial parks of developing countries. By disseminating Japan's world leading ultra-lightweight solar modules, a large reduction in GHG emissions can be achieved.

## Study Summary

Assuming installation of the world's first ultra-lightweight solar modules manufactured by Asahi Glass Co., Ltd., this survey aims at achieving CO<sub>2</sub> emissions reduction in the industrial parks of Cambodia.

## Study Items

- ① Trends and policies related to climate change, markets and photovoltaic (PV) policies
- ② Evaluation of feasibility, financing and investment environment
- ③ Identification of a Measurement, Report and Verification (MRV) methodology for the proposed project
- ④ Expected emission reduction based on the above MRV methodology and expected economic effects
- ⑤ Reporting

## Partner/Site

- Cambodia, Solar Partners Asia (Cambodia) Co., Ltd. (SPAC)
- Cambodia, Svay Rieng Province (Bavet area)

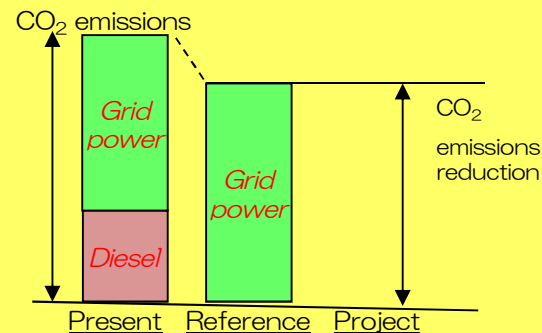


## Estimated Reduction Amount

**Reduction amount: 2,343 tons CO<sub>2</sub>/year**

### Reference Emissions

Reference emissions are calculated on the basis of AC output for a solar power generation system multiplied by a conservative emission factor of the grid.



### Project Emissions

Project emissions are emissions from the solar power generation system, which is assumed to be zero.

## Summary of Introduced Technology

Ultra-Lightweight Solar Module **“Light Joule®”** with AR Coating

Using Leoflex™, a thin and strong chemically strengthened specialty glass, as cover glass, Asahi Glass Co., Ltd. successfully reduced the panel weight of Light Joule® by nearly 50% compared to conventional solar panels.

Characteristics of Light Joule®

- Weight is half of a conventional solar panel (conventional type: 17.0 kg/panel → Light Joule®: 9.5 kg/panel)
  - Light Joule® can be installed on buildings with a low load without construction of additional structure.
  - Installation efficiency is improved as Light Joule® is easy to carry.
- AR (Anti Reflection) coating:
- AR will improve durability and generation efficiency by 2% to 2.5%.

