Power Beyond Solar

Submitted by: Trina Solar
**Milestones**

- **1997**
  - Trina Solar is founded

- **2002**
  - Builds 40 off-grid solar power stations in Tibet, China

- **2006**
  - Lists on NYSE

- **2008**
  - Builds Trina Solar PV Industry Park

- **2012**
  - Establishes State Key Laboratory of PV Science & Technology

- **2014**
  - Becomes world’s largest PV module supplier

- **2016**
  - Builds factory in Thailand
  - Establishes storage business

- **2017**
  - Launches Million-Roof Plan in China

- **2018**
  - Acquires Spanish tracker company Nclave
  - Launches energy IoT brand Trina IoT

- **2020**
  - Lists on SSE STAR market
  - Launches 600W+ ultra-high power new modules, setting benchmark for PV 6.0 era.

- **2021**
  - 50GW+ company-wide production capacity
  - 40GW+ production capacity for industry-leading 210 Vertex module
Globalization

- 66GW+ Shipments
- 5GW+ Grid-connected
- 100+ Regions
- 14000+ Employees

As of December 31, 2020
R&D Capabilities

2011-2020
World records
for PV cell efficiency & module output

20

R&D Results
Number of patent applications
2000+
Proportion of invention patents
50%+
Cumulative R&D investment
USD 1.6 bn+
(2011-2020)

Laboratory Accreditations
World's first
TUV Rheinland IEC certified witness test laboratory
World's first U.S.-accredited
UL 61730 witness test laboratory

Formulation of Standards
Industry standards led on or participated in
105
Standards issued
92
First to propose and publish
IEC international standards

As of December 31 2020
Building a Carbon-free Energy System

- Energy Cloud
- Power Electronics
- Intelligent Gateway
- Edge Computing
- EMS
- Smart Micro-Grid
- Trade of Electricity
- Virtual Grid
- Charging Points
- EV
- BIPV
- Micro Grid
- City of Smart Energy
- Charging System
- Power Electronics
- Energy Cloud
- Edge Computing
- Intelligent Gateway
- PV + Wind + Energy Storage + Hydrogen
In the year of 2002, Trina Solar partnership with the Chinese government to install 39 solar power systems for residents in Tibet's non-powered areas. From then on, people in Tibetan poverty-stricken areas got access to electricity. After that project, I have strengthened my belief in "Solar Energy benefit all"

—The Chairman Jifan Gao
# Case Study – Maldives 27 Islands Microgrid Project

## PROJECT OVERVIEW

<table>
<thead>
<tr>
<th>Location</th>
<th>27 islands, Maldives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed</td>
<td>Jan. 2019</td>
</tr>
<tr>
<td>Owner</td>
<td>Maldives Ministry of Environment and Energy</td>
</tr>
<tr>
<td>Project Designer and Installer</td>
<td>TrinaBEES</td>
</tr>
<tr>
<td>System Size</td>
<td>PV 4.6 MW + BESS 4.97 MWh + Diesel 6MW</td>
</tr>
<tr>
<td>Annual Electricity Saved</td>
<td>8 GWh</td>
</tr>
<tr>
<td>Estimated Annual Diesel Saving</td>
<td>2,600,000 L</td>
</tr>
</tbody>
</table>

## BENEFITS

- Lower down the cost of electricity
- Improve the quality of power safety and stability
- Reduce the blackout and instability impact of diesel generators on household electricity consumption

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_One of the largest Micro-grid projects in the Maldives_

Maldives, a well-known island country with golden sunlight and beaches, also is the largest coral island country in the world. However, such an beautiful island country, is becoming one of the first victims due to the climate change. The oceanographer predicts that global sea levels will rise 1.4 meters by 2100 if global countries still discharge CO2 at current rates and quantities. If so, the vast majority of Maldives islands are expected to be submerged in the Indian Ocean bottom in less than 80 years.

Maldives is made up of more than 1,200 small coral islands and unable to build large power stations to unified power supply. During the peak, 81% of the country’s electricity are generated from burning diesel. In order to prevent the sea level from rising rapidly, the Maldives government announced that it will vigorously develop renewable energy and become the world’s first country to achieve “carbon neutral” by 2020.

TrinaBEES, together with the Maldives Ministry of Environment and Energy, are working to provide microgrid solutions for 27 islands of the Maldives. The project will become the main power grid on the island and the main source of electricity for residents, hospitals, kindergartens, docks and schools. The solution is poised to solve the problem of living electricity consumption for about 11,000 residents.
Maldives 27 Islands Microgrid Project

Sustainability

Empowering communities
Empowering communities

Trina Solar donated 10 million RMB to set up the Siyuan Sunshine Entrepreneurship Fund, which aims at empowering the college students in the underdeveloped communities through PV-related education and entrepreneurship trainings.
2014 Trina Solar donated 4 kilowatts of PV modules to the Sun Star hybrid power system in Cape Town, South Africa. The construction was later dismantled and all the modules were donated to support a local low-income community.

Trina Solar donated modules to earthquake-stricken area in Nepal, and British Prince Harry participated in reconstruction.

In 2014 Trina Solar, together with its partners SunPlan and MaxSolar, donated 9.5 kilowatts of PV modules to Tanzania Msafiri English primary school, supporting the education of 170 students.