History

1994 Started to manufacture PV modules
2001 Established S-Energy
2002 Introduced first green village program in Korea
2006 Completed first MW PV power plant in Korea
2007 IPO, Listed KOSDAQ
2008 Started to export PV modules (EU)
2009 Established 2nd factory
Marked USD 100M export
Marked USD 200M export
2010 Established overseas subsidiary in the U.S.A.
(S-Energy America)
2012 Completed Elk Grove PV Plant in the U.S.A.
(4.3MW)
Completed Kuala Perlis Project in Malaysia
(6.0MW)
2013 Achieved JET Certification
Established overseas subsidiary in Japan
(S-Energy Japan)
2014 Established O&M expertise subsidiary company
(S-Power)
Established the fuelcell system subsidiary company
(S-Fulcell)
2015 S-Power merged with S-Finance
2016 Established O&M expertise overseas subsidiary
company in the U.S.A. and Japan (S-Services)

S-Energy is one of the industry’s oldest and most experienced PV module manufacturers. Twenty years of field
operating data support S-Energy’s reputation as the best over-all quality, performance and value for solar investors.
S-Energy has further expanded functionally into specialized businesses; mainly in residential and plant PV lease,
O&M, fuelcell systems. A global top tier company, S-Energy is listed in Bloomberg New Energy Finance (1st quarter
of 2013) as the world’s third most bankable solar company.
<table>
<thead>
<tr>
<th>Name</th>
<th>S-Energy Co., Ltd.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establishment</td>
<td>12th of January 2001</td>
</tr>
<tr>
<td>No. of employees</td>
<td>472</td>
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<tr>
<td>Subsidiaries</td>
<td>S-Power / S-Fuelcell</td>
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<td>Branches</td>
<td>S-Energy America Inc. Irvine, U.S.A.</td>
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<td>S-Energy Japan Co., Ltd. Tokyo, Japan</td>
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<tr>
<td></td>
<td>S-Services Inc. Irvine, U.S.A.</td>
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<tr>
<td></td>
<td>S-Services Co., Ltd. Tokyo, Japan</td>
</tr>
</tbody>
</table>

FY 2015
Global Top Tier

*S-Energy* has ranked the world’s third bankable solar company as being in the global top tier listed on Bloomberg New Energy Finance (‘Who to trust’, 1st quarter of 2015).

### Business Models

<table>
<thead>
<tr>
<th>Module Supply</th>
<th>Project Business</th>
<th>O&amp;M</th>
<th>Lease &amp; Power Supply</th>
<th>Fuel cell System</th>
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</thead>
<tbody>
<tr>
<td><img src="image" alt="Standard Module" /></td>
<td><img src="image" alt="EPC" /></td>
<td><img src="image" alt="O&amp;M" /></td>
<td><img src="image" alt="Investment, Consulting, Assessment etc." /></td>
<td><img src="image" alt="Fuel cell for buildings" /></td>
</tr>
<tr>
<td>BIPV Module</td>
<td>Project Development</td>
<td>Inspection, Maintenance, Monitoring system, Renovation</td>
<td>Investment, Consulting, Assessment etc.</td>
<td>Fuel cell for buildings</td>
</tr>
<tr>
<td>Specialized Module</td>
<td>O&amp;M</td>
<td>Renovation</td>
<td>Korea’s Top Solar Lease Company, expanding its reach into the world</td>
<td></td>
</tr>
</tbody>
</table>

*Developed by Edward Altman in 1968, the Altman Z score is a linear function of financial ratios found to correlate with the probability of business failure leading to bankruptcy.*
Based on our experience over the past 20 years, S-Energy’s PV module has proven to be reliable and durable through production and supply of standard module, BIPV module and specialized module.

### Standard module

**Long-term reliability**
- EL TEST, Enhanced PID, ARC Glass

**Durability**
- Higher endurance than the IEC standard

**Sustainability**
- Linear warranty/ Max. annual power decline up to 0.7%

### BIPV module

70% market share of BIPV in Korea

Obtained the nation’s first BIPV G2G type module certification from Renewable Energy Center

### Specialized PV module

- **Optimized desert PV module**
  - Aquatic module enhanced for water resistance
  - Lightest frameless type glass to glass PV module

- **Desert PV Module**
- **Floating PV Module**
At S-Energy, a team of experts competent in engineering, finance and legal review conducts projects.

### Project Business

#### EPC

**Procurement**
- Competitive components
  - PV module
  - Inverter
  - Racking system
  - SCADA
  - Bankable sourcing

**Construction**
- Well-organized local partners
  - Project engineering
  - Civil engineering
  - Electrical engineering
  - Supervisory services

#### Project Development

**Financing**
- Financial modeling
- Incentive/Tax equity funding
- Project acquisition

**Consulting**
- Project assessment
- Evaluating power system
- Environmental assessment
- Business analysis

#### O&M

**Operation & Maintenance**
- 24hr monitoring
- Immediate and reliable response
- Full insurance coverage
Guarantee ROI through project financing and equity investment for small commercial power supply and residential solar leases.

**Solar lease**

Lease project of solar powered houses

Save over 20% on your utility bill without the initial investment by leasing home PV systems, only a monthly lease fee is required.

**Installment project of 99kW solar package**

This project provides power companies, wishing to purchase small-sized power plants with an installment payment program for solar power system and power plant construction costs. Power companies pay the down payment first and the balance by monthly installment, and thereby do not have the burden of initial investment.

**Investment in PV power plants**

Improve the value of a PV power plant by buying the shares, operating the plant, and making a profit via resale.

**Financial advisory and consulting**

Advise business models with risk hedging for optimal ROI and coordinate investors for stable financial support.

**Project feasibility assessment**

Analyze and evaluate various factors affecting project cash flow for business feasibility.
The operation and management service experts at S-Power provide the best satisfaction to customers through power plant integrated management system.

**Monitoring**

SPMC (Solar Performance Management Center) provides high quality advisory services and optimized maintenance services.

**Inspection & Maintenance**

The service is to ensure the performance of client’s PV assets by identifying potential issues before they directly impact on power production.

**Grid-Connected System: Main results**

- Normalized productions (per installed kWp): Nominal power 98.8 kWp
- Lc: Collection Loss (PV array losses)
- Ls: System Loss (Inverter, ...)
- Lc: Collection Loss (PV-array losses)
- Yf: Produced useful energy (inverter output)
- Yr: Produced useful energy (PV array)

**Guarantee**

S-Power acts on your behalf, providing you optional services such as the best power-performance guarantee, insurance, accounting and security services. All for your convenience.
Fuel cell system

We provide optimal solutions in PEM fuel cell applications based on the best technology and diverse experiences.

Configurations of fuel cell system

Fuel cell systems provide both electricity and thermal energy, with a total efficiency (electrical efficiency + thermal efficiency) of over 85%.

1. A fuel processor is a reactor that transforms city gas into hydrogen-rich gas.
2. A stack generates energy (electricity and heat) through the reaction of hydrogen and oxygen (in the air).
3. A power conditioning system converts a direct current to an alternating current.

Fuel cell models

NG Series

Model: ecogener NG series
Fuels: LNG/LPG
Power: 1~5kW (electricity)
1.5~7kW (heat)
Efficiency: over 85%

HG Series

Model: ecogener HG series
Fuels: H₂
Power: 1~10kW (electricity)
1.5~15kW (heat)
Efficiency: over 85%
# MW Installation Reference

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Country</th>
<th>Capacity (MW)</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dongbae Power Plant</td>
<td>Korea</td>
<td>1.0</td>
<td>2006</td>
</tr>
<tr>
<td>Muan SolarTopia</td>
<td>Korea</td>
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<tr>
<td>Jangsu Dong Hwa PV Power Plant</td>
<td>Korea</td>
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<tr>
<td>Buan IJSNB</td>
<td>Korea</td>
<td>1.3</td>
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<tr>
<td>Kimcheon PV Power Plant</td>
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<td>2.5</td>
<td>2008</td>
</tr>
<tr>
<td>Jindo Samsung Sollice</td>
<td>Korea</td>
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<td>2008</td>
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<tr>
<td>Insil PV Power Plant</td>
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<tr>
<td>Tomsan Project</td>
<td>Czech Republic</td>
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<tr>
<td>Alps Project (Alps Winter Olympic Park)</td>
<td>Germany</td>
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<tr>
<td>Efico Project, Zeebrugge</td>
<td>Belgium</td>
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<td>2010</td>
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<tr>
<td>T.E. Project</td>
<td>Czech Republic</td>
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<tr>
<td>Juseong University</td>
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<td>Elk Grove Project</td>
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<td>Minami Awaji Project</td>
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<tr>
<td>Toyo Project</td>
<td>Japan</td>
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<td>2014</td>
</tr>
</tbody>
</table>
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