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Leading Global Large-Scale Solar PV Developers

August 2020

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Methodology and Definitions

Definitions:

Operational Capacity: Solar projects which are commissioned and currently in operational status.

Under Construction: Projects that have a signed power purchase agreements (PPAs) and construction has begun.

Awarded (Contracted): Projects that have signed off-takers but have yet to start construction.

Large-Scale Projects (Utility-Scale): Large-scale projects include projects sizes of one (1) megawatt (MW) or more.

PPA (Power Purchase Agreement): Contract to purchase power at a set rate over a predetermined time period.

Research Methodology:

This report includes a ranking of global solar developers based on operating, in construction, and PPA-awarded (contracted) large-scale solar projects of one megawatt or more, across multiple countries. To qualify for this ranking, developers must have projects in at least two countries. All data included in this report was as of June 2020. All figures are in AC. In two instances, numbers have been converted from DC to AC.

Mercom's analysts utilized both primary and secondary research to compile this report. The key component of Mercom's analysis is primary research gained from phone and e-mail interviews with company representatives. Additional analysis includes secondary research conducted by Mercom's staff and analysts. For the two companies that chose to not provide their data directly to Mercom, Mercom relied on the company's latest public information.

GLOBAL SOLAR MARKET

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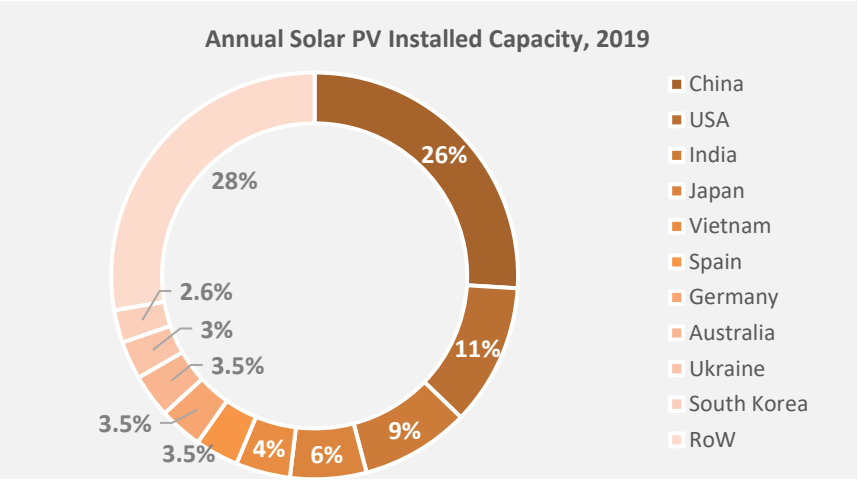
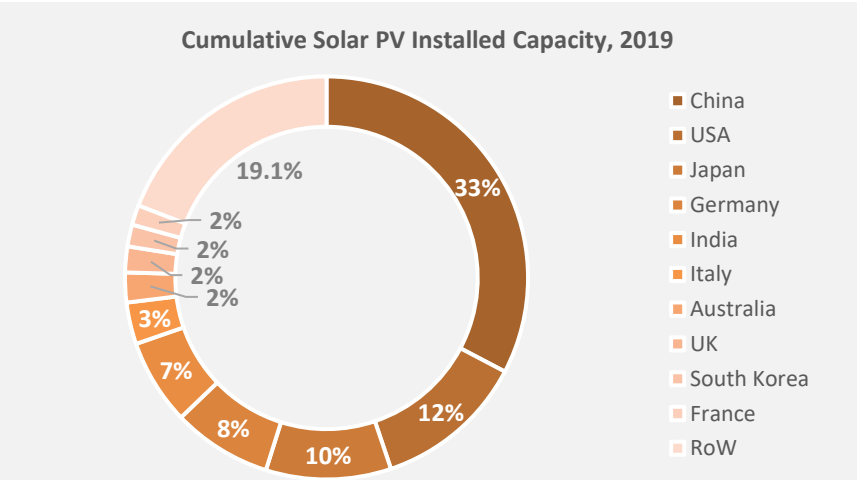
Global Market Overview

Top 10 Global Solar Markets

- The global solar photovoltaics (PV) market had a banner year in 2019, with approximately 120 gigawatts (GW) installed, which was about 15% growth year-over-year.
- In 2019, China was the largest solar market, with approximately 30 GW installed, followed by the United States and India. Japan was fourth on the list. The top five markets collectively accounted for 57% of the solar PV capacity installed in 2019.
- Close to 20 countries added a GW or more in 2019 pointing to a growing trend of robust mid and small markets as PV has become cheaper than fossil fuels in many parts of the world.
- The solar demand is expected to decrease 15-25% in 2020, depending on the severity of COVID-19 on individual solar markets and the global supply chain. However, the solar sector has weathered the crisis much better than other energy sectors. System costs continue to decline, making projects attractive.
- Solar auctions have spread and are now the primary method of procurement for large-scale projects globally.
- China, the United States, Japan, Germany, and India collectively account for almost 70% of global cumulative solar PV installed capacity as of 2019.





Source: Mercom Capital Group

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Key Takeaways

- In developing this global leader report, a key criterion for qualification was that developers had to have projects in at least two countries. Although there were several developers, like NextEra Energy (approximately 11GW of operational and contracted projects), that would have made the list based on their portfolio size, they were only active in a single country.
- India-based, Adani Green Energy emerged as the top solar developer based on operational, under construction, and awarded (contracted) projects. GCL New Energy and SB Energy followed, taking second and third spots.
- The list of top developers is a diverse group of companies with global growth aspirations. It includes several renewable energy arms of industrial and power conglomerates, subsidiaries of asset management companies, and pure-play renewable and solar companies. Top developers hail from all around the world, including India, China, the United States, Europe, Japan, and Canada.
- The top 10 large-scale developers account for 33 GW of operational projects globally. For under construction and awarded (contracted) projects, the top large-solar developers accounted for 28.7 GW.
- While some of the top developers are beginning to grow outside of their domestic markets, many already have large portfolios in several regions of the world.
- The large-scale solar development market is extremely fluid, with project portfolios continually churning.

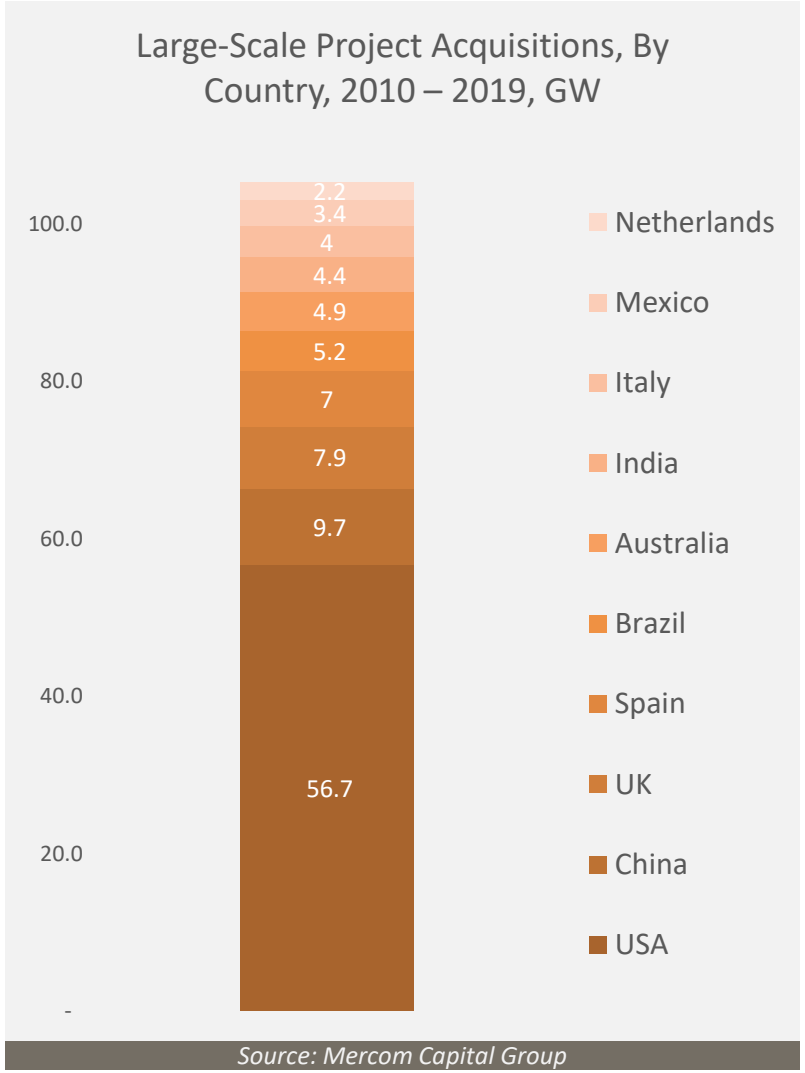
TOP 10 GLOBAL LARGE-SCALE SOLAR PV DEVELOPERS

RANK	DEVELOPERS
1.	Adani Green Energy
2.	GCL New Energy
3.	SB Energy
4.	Enel Green Power
5.	Brookfield Renewable
6.	First Solar
7.	AES Corporation
8.	Invenergy
9.	Lightsource bp
10.	ENGIE

Source: Mercom Capital Group

Key Takeaways

- Top developers are expanding to mature markets like the United States in pursuit of policy certainty, lower risk, and A-rated off-takers.
- Developers are also chasing growth in emerging markets, trying to lay the groundwork and tap into the enormous future potential these regions represent, despite ultra-competitive reverse auctions.
- The secondary market for large-scale solar projects has been extremely active. According to Mercom's 2019 Solar Funding and M&A Report, about 26 GW of projects changed hands in 2019. In the last 10 years, over 120 GW of large solar projects have been acquired. Developers are recycling capital to invest in new projects and realize quicker returns.
- The top 10 developers' operational projects are relatively small when you consider installations of approximately 120 GW in 2019 and over 600 GW of cumulative PV installations. This reflects the fragmented nature of the market, where local and single-market developers make up the majority of activity.
- For the top 10 global solar developers, the Asia-Pacific (APAC) region made up 52.4% of developers' capacity, followed by the Americas at 42.1% and Europe, the Middle East and Africa (EMEA) at 5.5%. In contrast, when compared with the number of projects, the largest number of solar projects by top developers are in EMEA, with 41.6%, followed by the APAC at 29.9%, and Americas at 28.4%.



Source: Mercom Capital Group

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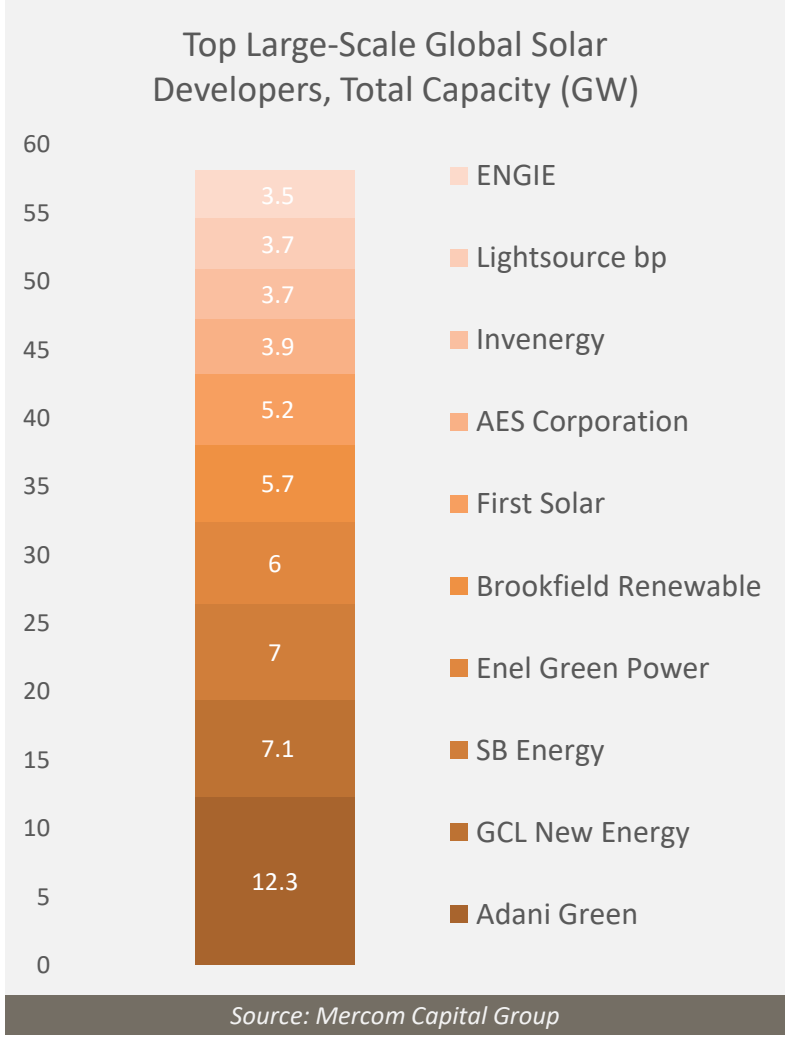
Top 10 Global Large-Scale Solar Developers by Total Capacity

Total large-scale solar PV capacity (operational plus development pipeline)

- Adani Green is currently the top global solar developer with 2.3 GW of operational projects, 2 GW under construction, and 8 GW of awarded projects (with contracted PPAs) for a total capacity of 12.3 GW.
- GCL New Energy is the second largest global solar developer with 7.1 GW, followed by SB Energy, Enel Green Power, Brookfield Renewable, First Solar, AES Corporation, Invenergy, Lightsource bp, and ENGIE.
- Among the top global solar developers, three are based in the APAC region, four are based in North America, and three developers are headquartered in Europe.
- Of the European companies, Enel Green Power, Lightsource bp, and ENGIE are among the top 10 large-scale global solar developers with total capacities of 6 GW, 3.7 GW, and 3.5 GW, respectively.
- Of the North American developers, Brookfield Renewable with 5.7 GW, First Solar with 5.2 GW, AES Corporation with 3.9 GW, and Invenergy with 3.7 GW made the leaders list for large-scale global solar developers.
- Operational, under construction, and awarded capacities of the top 10 developers came to approximately 58.1 GW.



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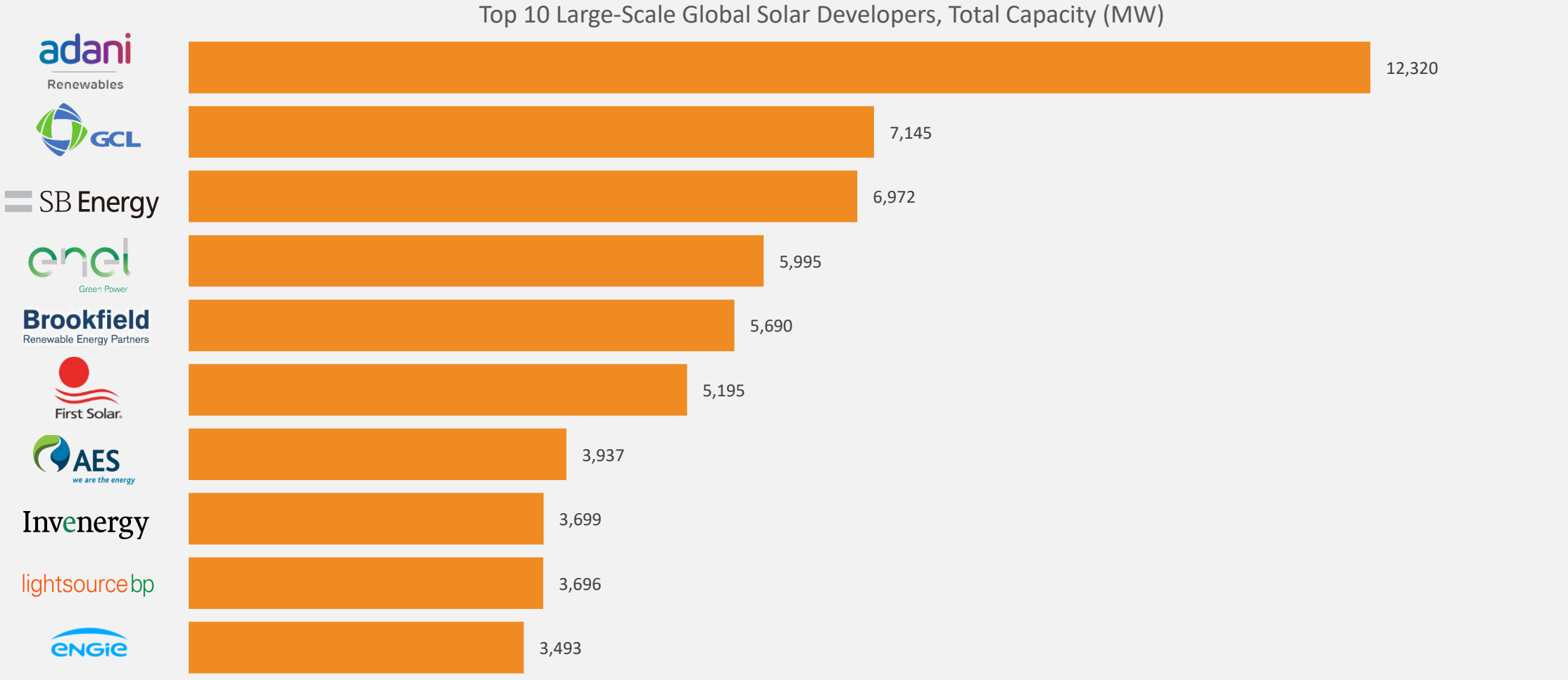
Top 10 Global Large-Scale Solar Developers by Total Capacity



Source: Mercom Capital Group

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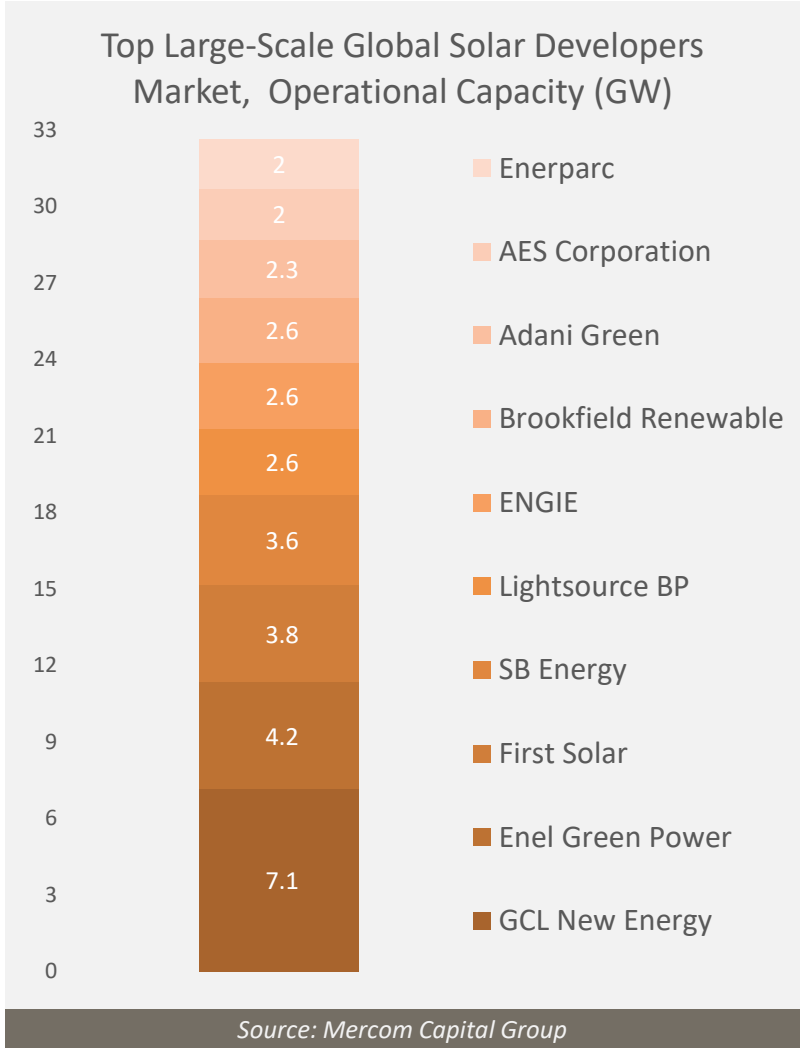
Top 10 Global Large-Scale Solar Developers by Operational Capacity

- The top developer with the largest operational utility-scale solar capacity was GCL New Energy with 7.1 GW.
- Enel Green Power was the second largest player in terms of operational capacity with 4.2 GW.
- First Solar was the third largest followed by SB Energy, Lightsource bp, ENGIE, Brookfield Renewable, Adani Green, AES Corporation, and Enerparc.
- The top 10 developers have 33 GW of operational large-scale solar projects between them.
- Constant divestments of large-scale projects is a major reason for such low concentration of operational projects among market leaders. However, there are several large developers who did not qualify for the global list as they operate in just one country.
- Several of the companies included in this report were in the middle of M&A transactions as we went to publication. Attractive projects are in great demand especially in mature markets.
- Compared to other generation sources, solar has fared well amid COVID-19 due to government mandates. Publicly traded solar companies have performed extremely well despite the pandemic.



Source: Mercom Capital Group

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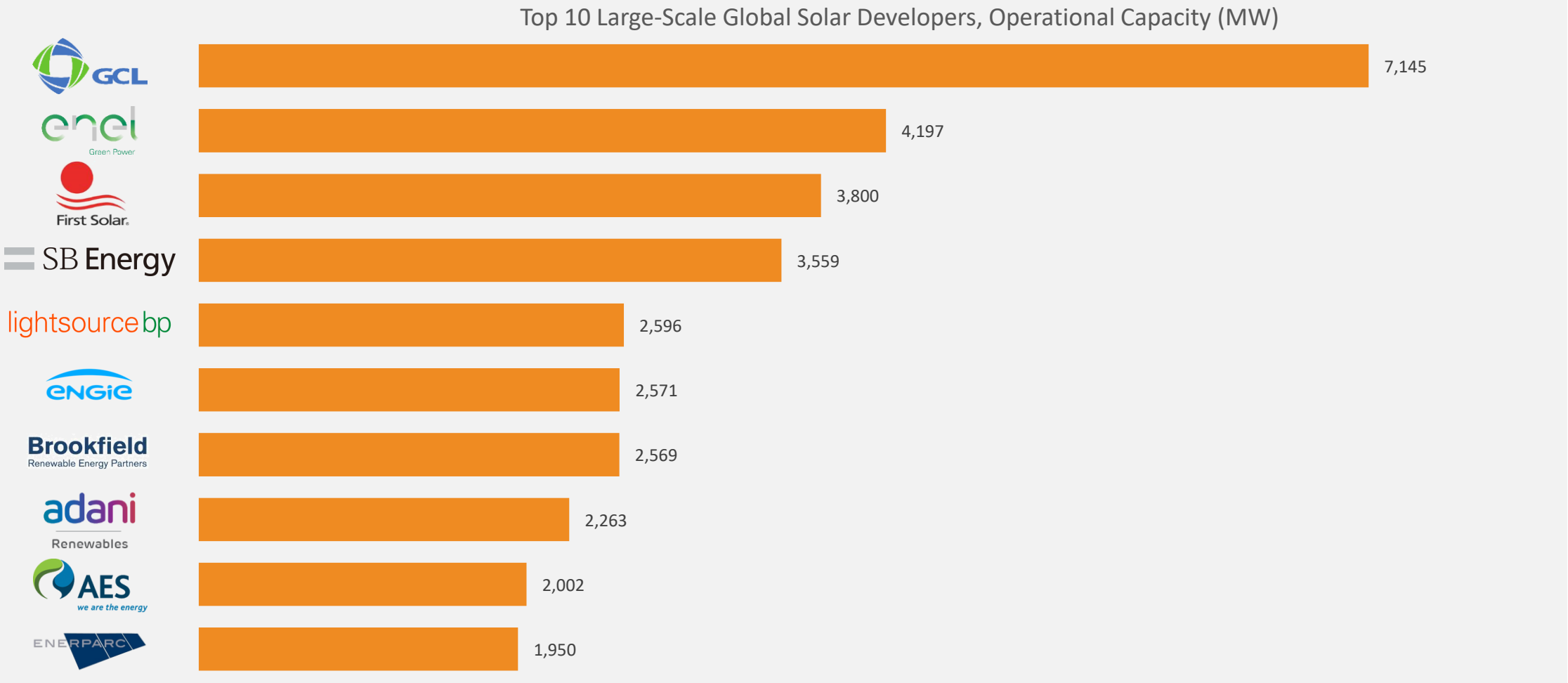
Top 10 Global Large-Scale Solar Developers by Operational Capacity



Source: Mercom Capital Group

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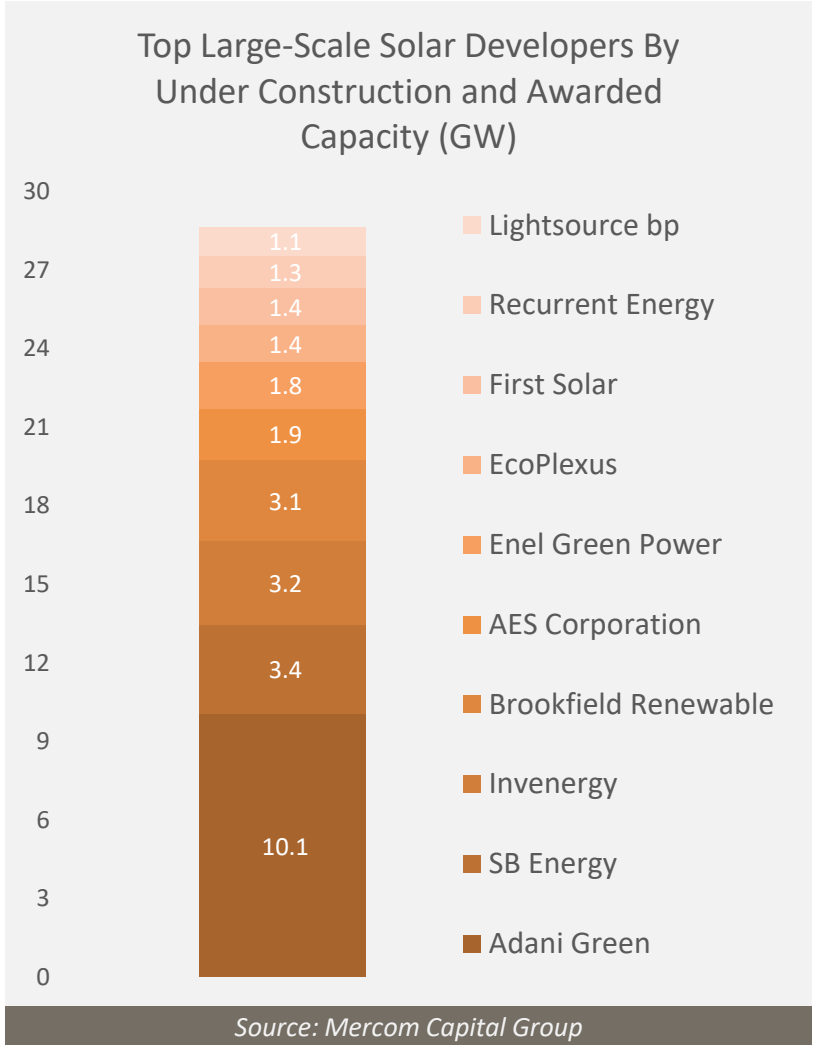
Top Global Large-Scale Solar Developers by Under Construction and Awarded (Contracted) Capacity

- The top 10 global large-scale solar developers accounted for 28.7 GW of under construction and awarded (PPA contracted) capacity.
- In terms of under construction and awarded capacity, Adani Green came out on top with 10.1 GW of projects. SB Energy was the second largest player with 3.4 GW, followed by Invenergy.
- Adani Green and SB Energy are the only APAC companies included in the leaders list.
- Large-scale solar projects have spread across the world beyond the established markets into new growth markets like Latin America and the Middle East and North Africa (MENA) region. Auctions have been the primary mode of procurement. Competition is intense, and bids are continually dropping, making solar the cheapest source of energy in many parts of the world.
- In established markets, under construction and contracted projects tend to change hands quickly. In markets like the U.S., there can be multiple bidders for good projects. While developers with resources tend to absorb projects under development, investment firms have been the primary acquirers of operational projects.
- Currently, construction activity and auctions of large-scale solar projects have slowed significantly in several markets around the world due to COVID-19.



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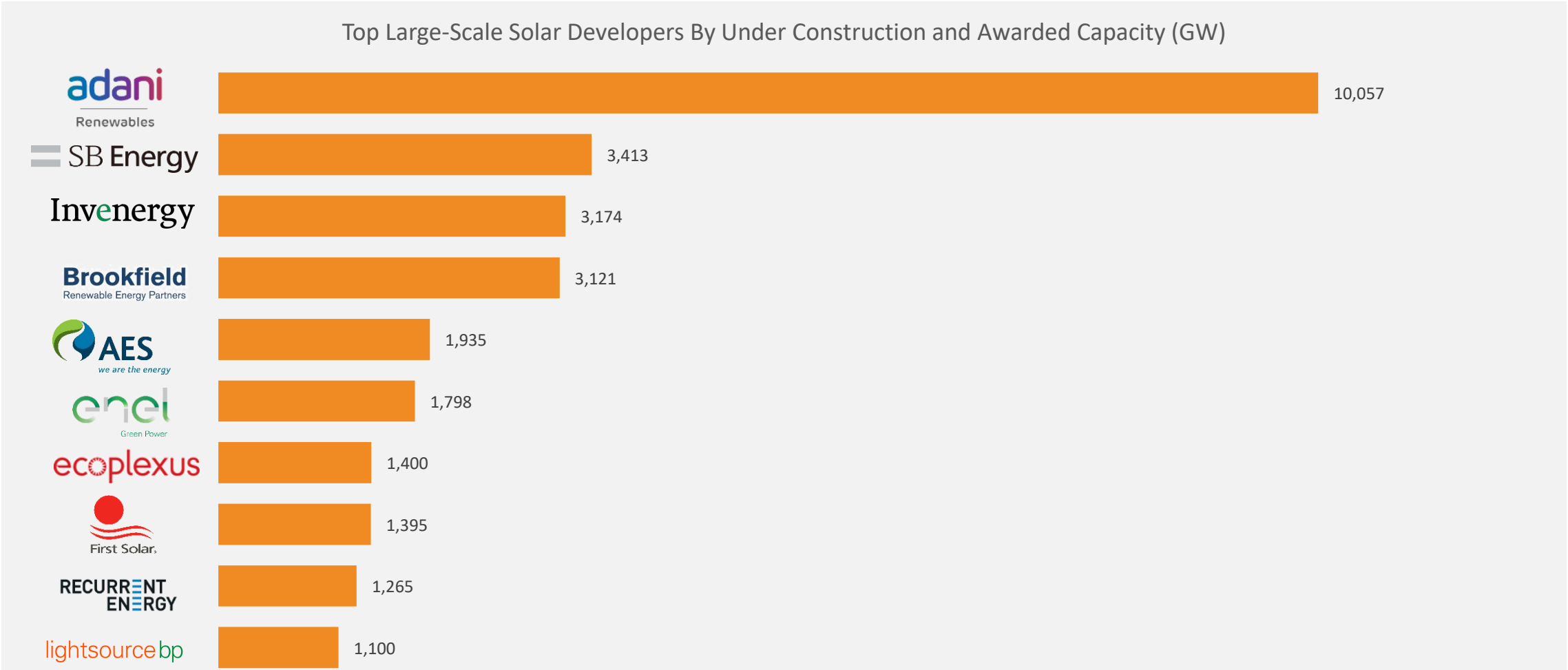
Top Global Large-Scale Solar Developers by Under Construction and Awarded Capacity



Source: Mercom Capital Group

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PROFILES: TOP 10 GLOBAL LARGE-SCALE SOLAR DEVELOPERS

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ADANI GROUP

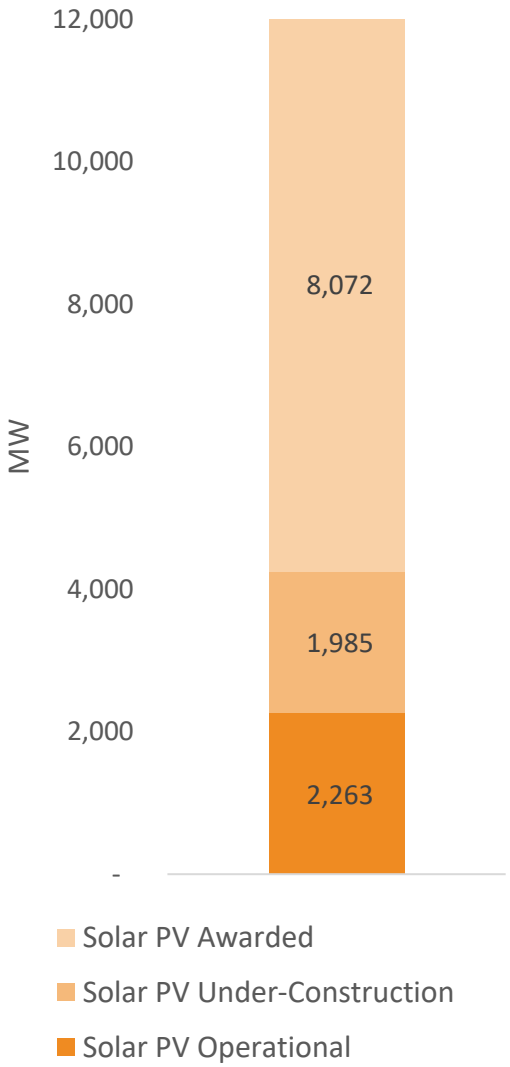
Founded: 1988

Headquarters: Ahmedabad, India

Global Presence: operating 70 locations in 50 countries

Offerings and Capabilities: Ports, Transmission, Solar Modules and Renewable Power Generation

Capacity Portfolio (MW): Operational Capacity: 2,263 MW; Under-Construction (Awarded): 1,985 MW; and Awarded: 8,072 MW



Business Overview: Incorporated in 1988, the Adani Group is an integrated industrial conglomerate operating globally with six publicly traded companies with total revenues of $15 billion and a market capitalization of ~$30 billion. The Group is headquartered in Ahmedabad, India. It operates in transport logistics and energy and is the only Investment Grade infrastructure issuer in India. Adani Green Energy Limited (AGEL) is a majority owned subsidiary of the group: established in 2015, it is among the largest renewable energy generation companies globally.

The company has a total solar portfolio of 12,320 MWac, which includes their operational, under-construction, and awarded capacity. It has commissioned some of the largest utility scale projects in the world. Headquartered in India, the company also has operations in the U.S. and Australia.

Notable Developments:

1. In June 2020, Adani Green has secured the bid to develop solar photovoltaic (PV) power projects of 8 GW. This win, the largest in the world in a single bid, will entail a total investment of approximately $6 billion.
2. In March 2020, AGEL announced that it entered a joint venture with Total Solar Singapore for about 2.1 GW of operating solar power projects.
3. AGEL is developing and building one of the largest wind-solar hybrid projects of 1.69 GWac.

ADANI GROUP

Geographical Presence:

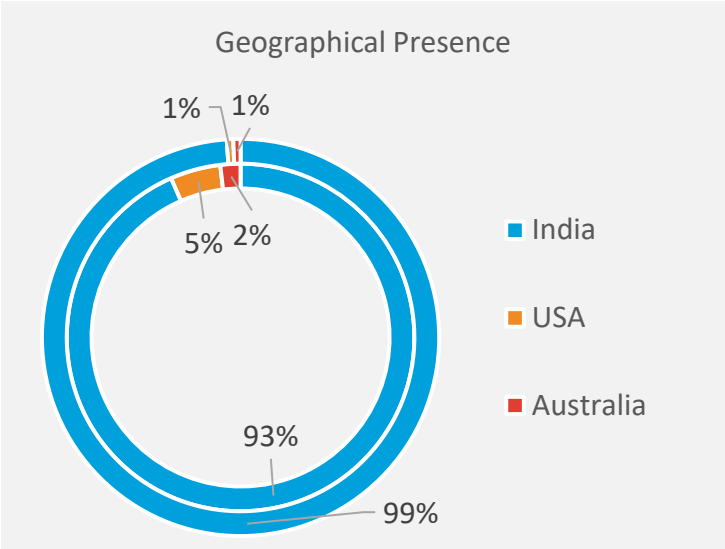
The company has solar PV projects in U.S., Australia, and India.

Some of the company's large-scale utility solar PV projects include:

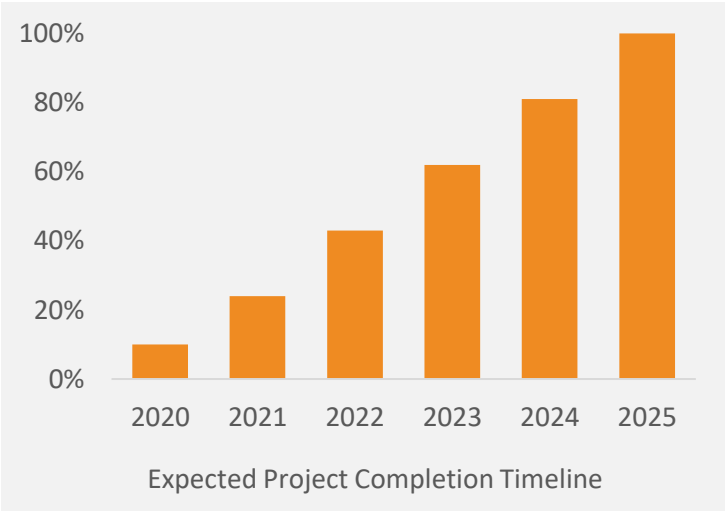
1. Kamuthi, India (648 MW)
2. Rajasthan, India (600 MW)
3. Karnataka, India (350 MW)
4. Rawra, India (250 MW)
5. Pavagada, India (150 MW)
6. Rugby Run, Australia (65 MW)

Pipeline Description:

Adani's solar pipeline includes projects which are under-construction and awarded portfolio and cumulatively accounts for 10,057 MW. Approximately 10% of their pipeline is expected to be completed by 2020, 24% by 2021, 43% by 2022, 62% by 2023, 81% by 2024, and total 100% will be completed by 2023.



Note: The inner circle represents number of projects; and the outer circle represents capacity



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GCL NEW ENERGY

Headquarters: Hong Kong

Global Presence: China and the U.S.

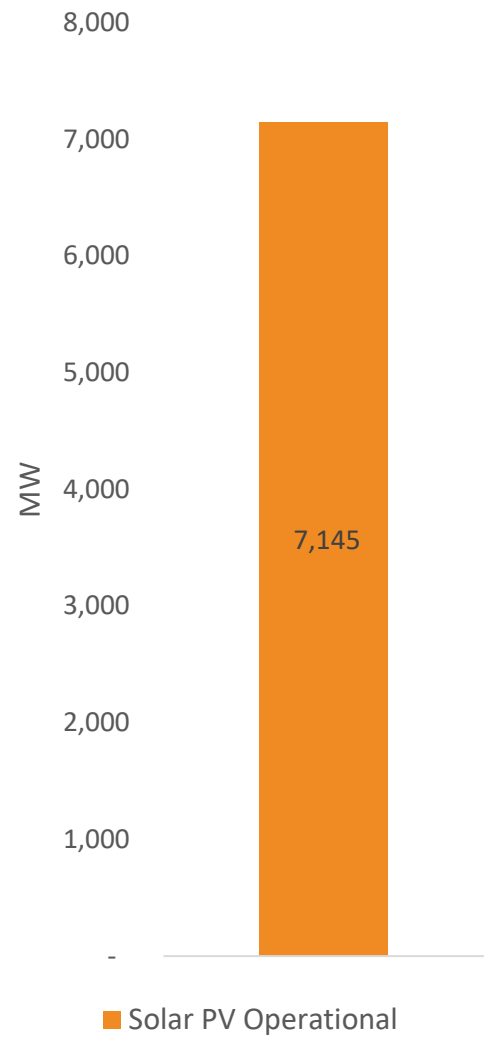
Offerings and Capabilities: Project Development and EPC

Project Portfolio (MW): Operational Capacity: 7,145 MW

Business Overview: GCL New Energy, a Hong Kong-listed solar independent power producer (IPP), is a subsidiary of the GCL Group, which also owns GCL Poly, a manufacturer and supplier of solar materials. GCL New Energy focuses on solar power generation, development, construction, and operations. The company operates across China and has regional subsidiaries in North America, Japan, and Africa. According to its 2019 annual report, the company has a total portfolio of 7,145 MW in the solar sector. Most of its solar PV projects are in China with others in the United States. At the time of this report, GCL New Energy was actively engaged in solar asset sales.

Notable Developments:

1. In June 2020, Suzhou GCL New Energy, a subsidiary of the company, sold a 75% stake of a 100 MW solar project in China to CDB New Energy.
2. In March 2020, Saudi Arabia's Renewable Energy Project Development Office (REPDO) published a list of the prequalified bidders for a 1.2 GW solar tender, which included GCL.



Note: The company did not disclose projects under construction or that were awarded

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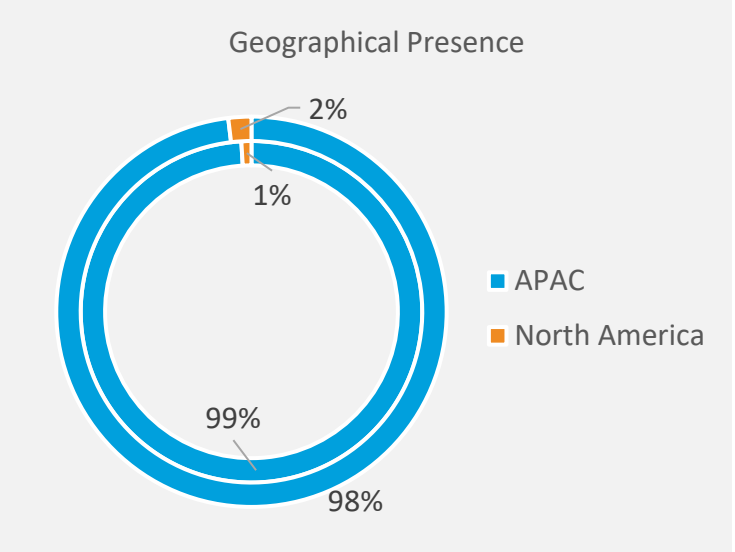
GCL NEW ENERGY

Geographical Presence:

The company has solar PV projects in the United States and China. In China, it has a project capacity of 7,009 MW with 209 projects in operations, while in the United States, it has two projects totaling 136 MW in operation.

Some of its larger solar PV projects include:

1. Shangyi Yuanchen, China (180 MW)
2. Yulin Longyuan, China (200 MW)
3. Ningxia Zhongwei, China (330 MW)
4. Hengshan Jinghe, China (100 MW)
5. North Carolina 1, U.S. (83 MW)



Note: The inner circle represents number of projects; and the outer circle represents capacity

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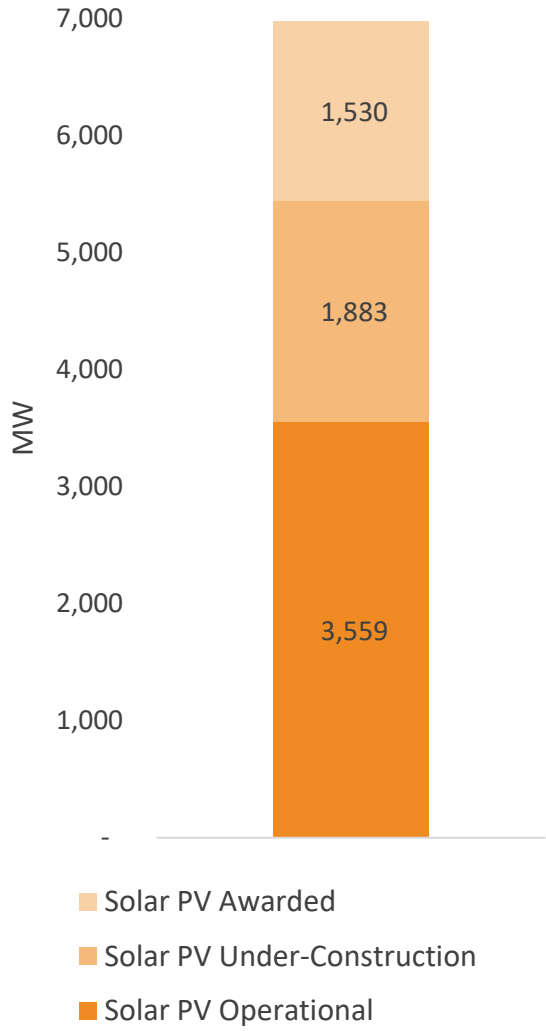
SB ENERGY

SB Energy

Headquarters: Tokyo, Japan
Global Presence: U.S., Japan, and India
Offerings and Capabilities: Renewable Power Development and Generation
Project Portfolio (MW): Operational Capacity: 3,559 MW; Under Construction: 1,883 MW; Awarded: 1,530 MW

Business Overview: SB Energy is a renewable energy developer and a subsidiary of the Japanese conglomerate, SoftBank Group. The company's core businesses are categorized as: the Watts business, the Bits business, and the Mobility business. The Watts business segment is responsible for the generation of power using natural resources. In contrast, the Bits business combines renewable energy with artificial intelligence (AI) and the internet of things (IoT) to build energy platforms. The Mobility business combines renewable energy with battery cells from electric vehicles (EVs) to develop services.

The company has a total solar PV portfolio of 6,972 MW, including operational, under construction, and awarded projects across the U.S., Japan, and India.



Notable Developments:

1. SB Energy was the largest bidder in a 2 GW tender by NHPC (India) and secured 600 MW of capacity.
2. SB Energy also won 600 MW in a 1.2 GW tender by Solar Energy Corporation of India (SECI) and was also the largest bidder.
3. In October 2019, SB Energy acquired a portfolio of five U.S. solar power projects with a combined capacity of more than 1.7 GW from Intersect Power.

SB ENERGY

Geographical Presence:

The company has solar PV projects in the United States, Japan, and India.

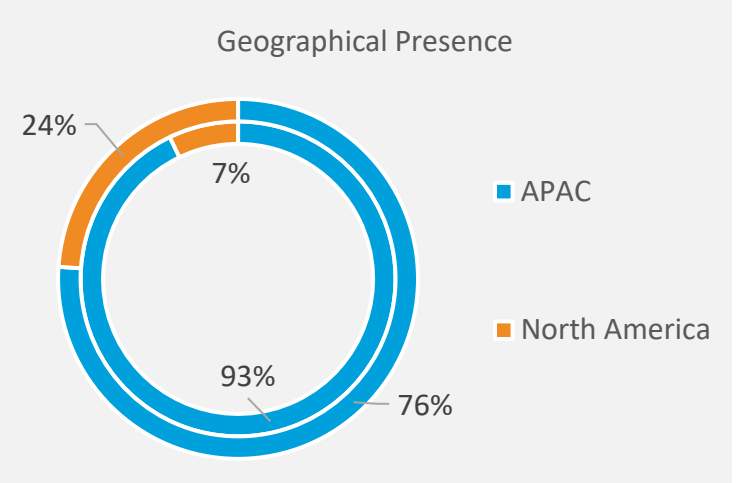
Some examples of their grid-connected PV projects include:

1. Juno, U.S. (412 MW)
2. Titan, U.S. (363 MW)
3. Kurnool, India (350 MW)
4. Athos I, U.S. (357 MW)
5. Athos II, U.S. (284 MW)

Pipeline Description:

The solar project pipeline includes 3,413 MW of projects under construction and projects with awarded PPAs.

Approximately 51% of their pipeline is expected to be complete by 2021, and the remaining 49% in 2022.



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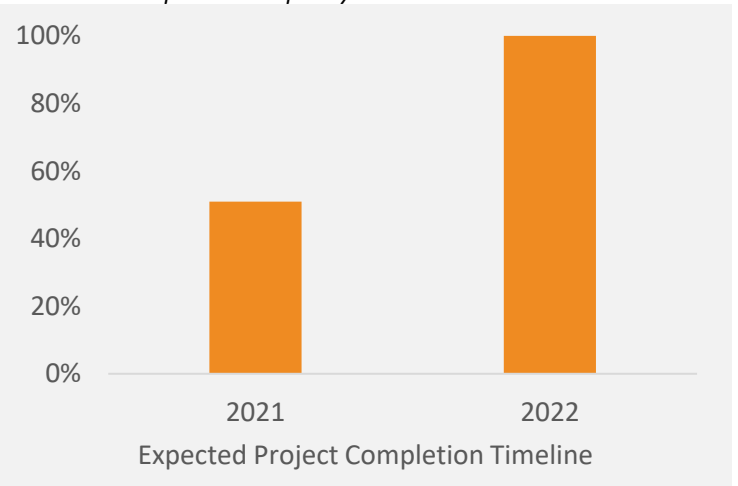

Note: Development pipeline based on India projects only; limited information on U.S. and Japan projects

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ENEL GREEN POWER

Green Power

Headquarters: Rome, Italy

Global Presence: Australia, South Africa, Zambia, Brazil, Chile, Peru, Colombia, Panama, U.S., Mexico, Italy, Spain, Greece, and Romania

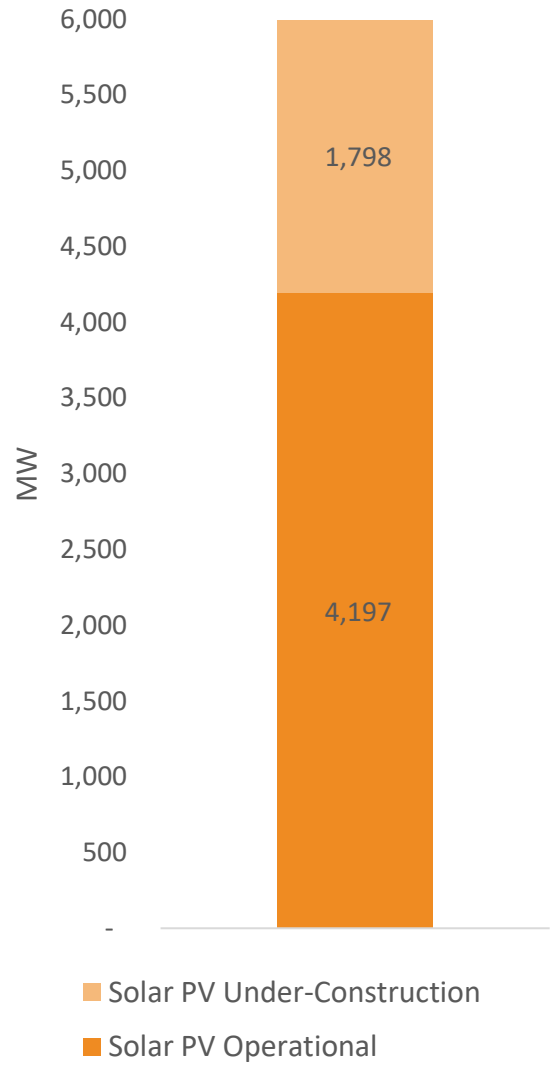
Offerings and Capabilities: Renewable Power Generation

Project Portfolio (MW): Operational Capacity: 4,197 MW; Under Construction: 1,798 MW

Business Overview: Enel Green Power is the renewable energy subsidiary of Enel Group, an Italian multinational energy group with a portfolio of 82,711 MW according to its 1H 2020 results. Enel Green Power has a presence across five continents in 27 countries with a managed capacity of over 46 GW and more than 1,200 power plants.

Notable Developments:

1. In July 2020, Enel Green Power India and the Norwegian Investment Fund for developing countries (Norfund) signed a long-term agreement to finance, build and operate new renewable projects in India. Recently, Enel was awarded a 25-year energy supply contract for the 300 MW (420 MW DC) solar project in Rajasthan, the company's first solar project in India.
2. In May 2020, Enel Green Power began construction of the second stage of the Finis Terrae Photovoltaic Park in Chile, which will increase the installed capacity of this plant by 126 MW.
3. In January 2020, Enel Green Power started operations of a 475 MW solar plant in Brazil and invested around $390 million to construct the project.



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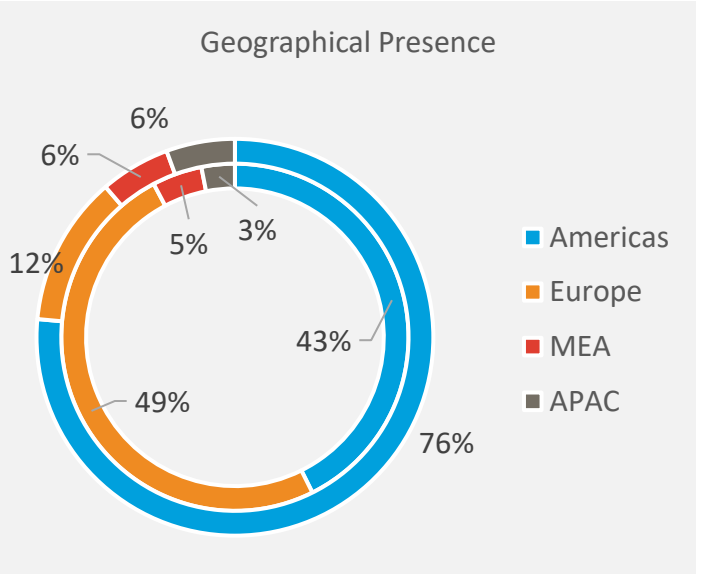
ENEL GREEN POWER

Geographical Presence:

The company has solar PV projects in Australia, South Africa, Zambia, Brazil, Chile, Peru, Colombia, Panama, U.S., Mexico, Italy, Spain, Greece, and Romania. As of June 2020, Enel had 129 operating, under construction solar power plants with a total capacity of 5,995 MW in five continents (Europe, North America, South America, Africa, Asia).

Some of their large-scale solar PV projects include:

1. Villanueva, Mexico (828 MW)
2. São Gonçalo, Brazil (475.7 MW)
3. Roadrunner Solar, U.S. (317.5 MW)
4. Don Jose, Mexico (260 MW)
5. Magdalena II, Mexico (220 MW)
6. Rubi, Peru (179.5 MW)
7. Aurora, U.S. (150.2 MW)



Note: The inner circle represents number of projects; and the outer circle represents capacity

Pipeline Description:

According to the company's data, they have approximately 1,798 MW of projects under construction across the U.S., Australia, Brazil, and Spain, among others.

BROOKFIELD RENEWABLE PARTNERS

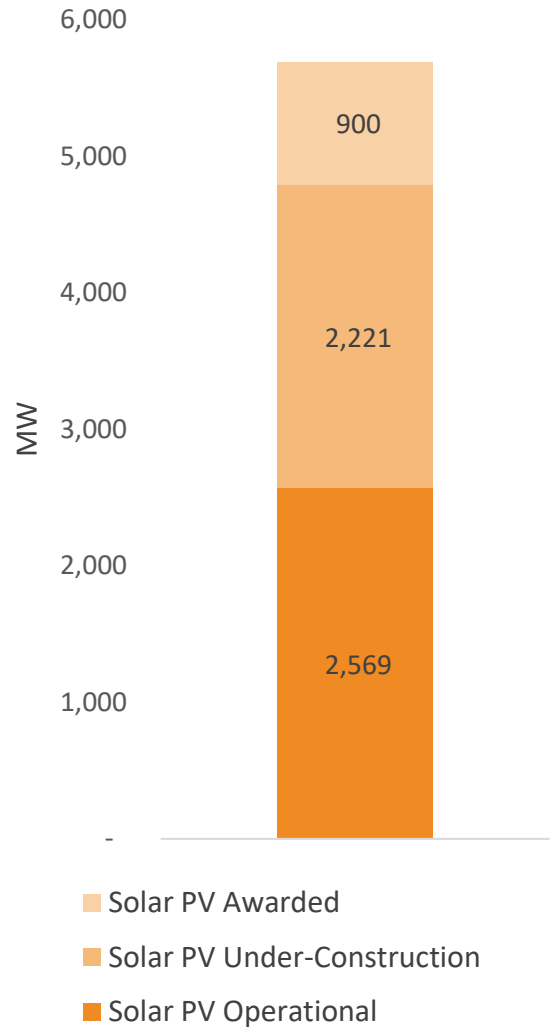
Brookfield
Renewable Energy Partners

Headquarters: Ontario, Canada
Global Presence: North America, South America, Europe, and Asia among others
Offerings and Capabilities: Renewable Power Generation
Project Portfolio (MW): Operational Capacity: 2,569 MW; Under Construction: 2,221 MW; Awarded: 900 MW

Business Overview: Brookfield Renewable Partners is a renewable energy developer and part of Brookfield Asset Management, which is focused on real estate, renewable power, infrastructure, private equity, and asset management. Brookfield Renewables' operations and capacity mix are segmented by hydroelectric, wind, solar, storage, and other (cogeneration and biomass) sources. In contrast, their generation mix consists of hydroelectric energy, wind energy, and solar. According to its Q2 2020 report, the company's portfolio comprises approximately 19,317 MW of generation capacity with 5,301 generating facilities in North America, South America, Europe, and Asia.

Notable Developments:

1. In July 2020, Brookfield Renewable received approval to merge with Terraform Power. The merger creates one of the largest integrated renewable power companies globally, with a 15,000 MW development pipeline.
2. In July 2020, Brookfield Renewable signed an agreement to acquire a 1.2 GW advanced solar development project in Brazil, and the project is expected to be completed by early 2023.



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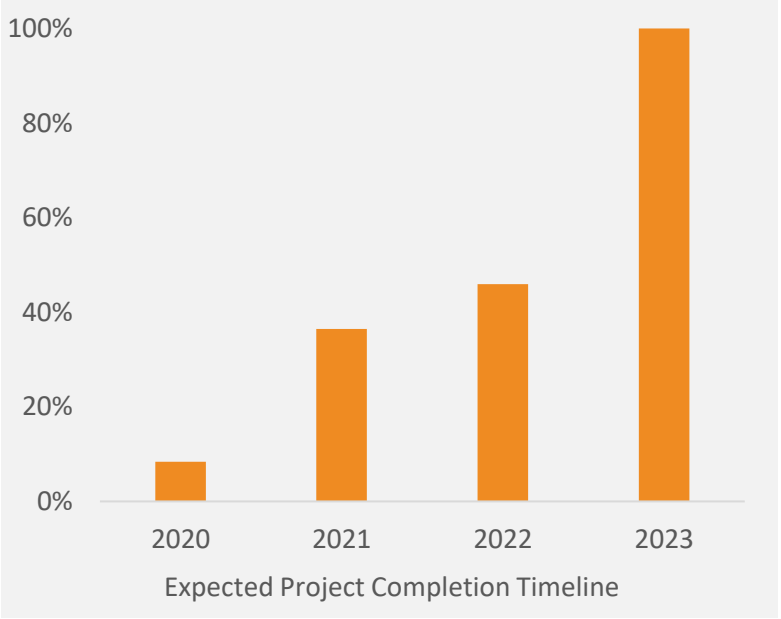
BROOKFIELD RENEWABLE PARTNERS

Geographical Presence:

The company has developed, engineered, constructed, and managed large grid-connected PV projects around the world, including in the United States, Brazil, China, Spain, and Japan.

Some examples of their grid-connected projects include:

1. Mt. Signal, U.S. (265.8 MW)
2. CAP, Chile (101.6 MW)
3. Regulus Solar, U.S. (81.6 MW)



Pipeline Description:

According to the company's Q2 2020 report, it has 2,221 MW of projects under construction and another 900 MW of projects with contracted PPAs. Approximately 8% of their pipeline is expected to be completed by 2020, 37% by 2021, 46% by 2022, and the remaining by 2023.

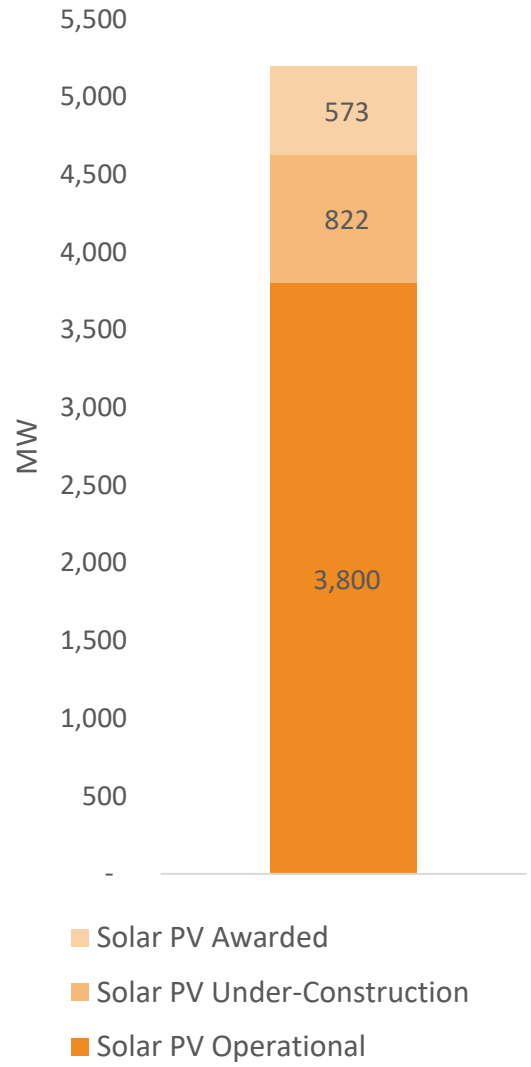
FIRST SOLAR

Headquarters: Arizona, U.S.
Global Presence: U.S., Chile, El Salvador, Namibia, Jordan, UAE, Australia and India among others
Offerings and Capabilities: PV Solar Modules, Utility-Scale Solar Projects, and O&M Services
Project Portfolio (MW): Operational Capacity: 3,800 MW; Under Construction: 822 MW; Awarded: 573 MW

Business Overview: First Solar is a pure-play solar company headquartered in the United States and operates under two business segments: solar module manufacturing and systems. Under the modules segment, the company designs, manufactures, and sells cadmium telluride solar modules. Under the systems segment, it provides power plant solutions, which include project development, EPC, and operations & maintenance (O&M) services. First Solar has a total portfolio of 5,195 MW, which includes operational, under construction, and awarded projects. The company has operations in APAC, Europe, and North America.

Notable Developments:

1. In July 2020, Goldman Sachs Renewable Power acquired the 123 MWac American Kings Solar project from First Solar. The project is backed by a 15-year PPA with Southern California Edison and is scheduled to be commissioned in the fourth quarter of 2020.
2. In June 2020, First Solar signed a 15-year PPA with Dow to supply electricity at its Gulf Coast operations, the biggest petrochemical site in the western hemisphere.
3. As of CY 2020, a total of 323 MW of First Solar's projects have been acquired (Goldman, 123 MW; Longroad Energy, 160 MW; and Ayana Renewable, 40 MW) in different geographies.



FIRST SOLAR

Geographical Presence:

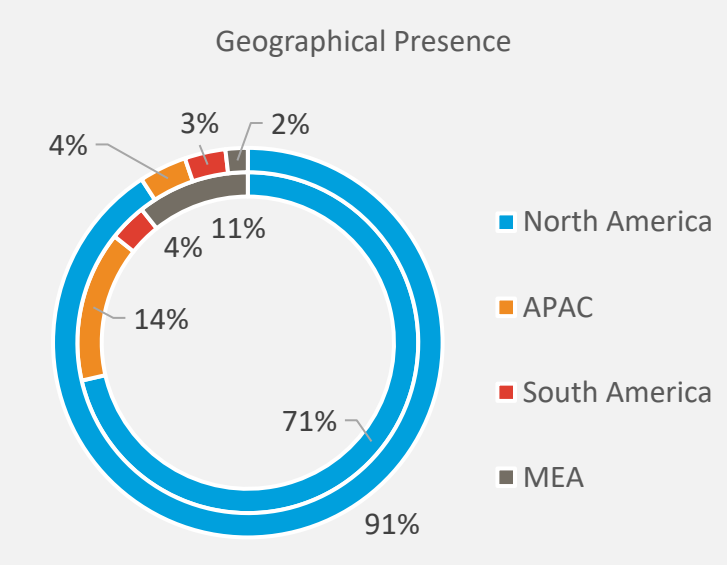
The company has solar PV projects in the United States, Chile, El Salvador, Namibia, Jordan, UAE, Australia, and India.

Some of their larger grid-connected projects include:

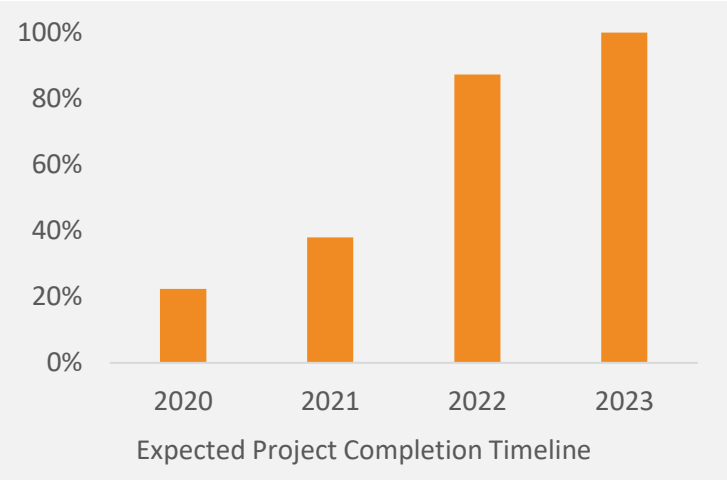
1. Topaz Solar Farm, U.S. (550 MW)
2. Desert Sunlight Solar Farm, U.S. (550 MW)
3. Agua Caliente Solar Project, U.S. (290 MW)
4. California Flats, U.S. (280 MW)
5. Moapa, U.S. (250 MW)
6. Luz Del Norte, Chile (141 MW)

Pipeline Description:

According to the company's Q2 2020 report, it has 822 MW of projects under construction and 573 MW of projects in the pre-construction phase. Approximately 22% of their pipeline is expected to be complete by 2020, 38% by 2021, 87% by 2022, and balance by 2023.



Note: The inner circle represents number of projects; and the outer circle represents capacity



MERCOM CAPITAL GROUP

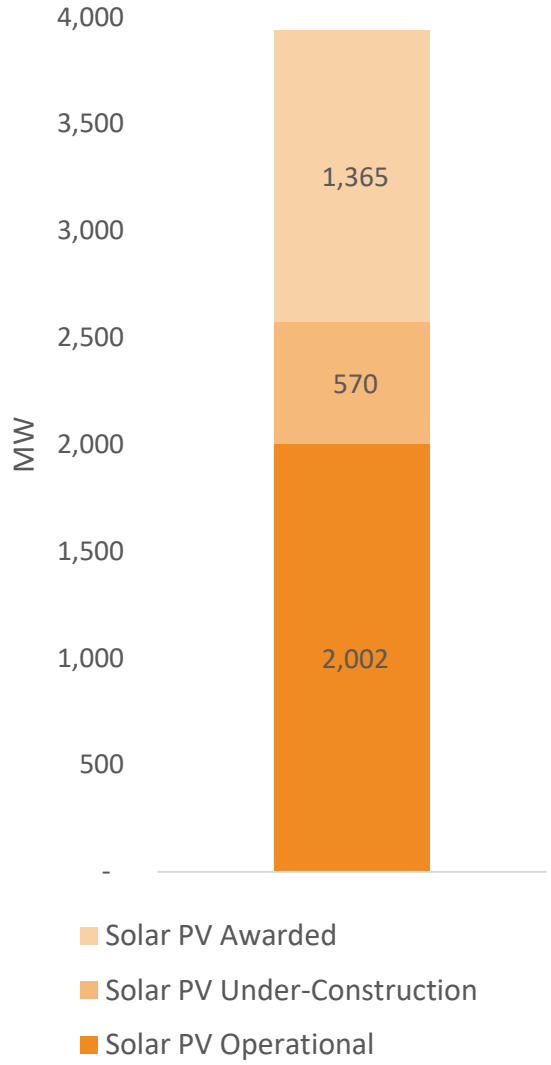
AES CORPORATION

Headquarters: Virginia, U.S.
Global Presence: U.S., Colombia, Chile, Brazil, El Salvador, Jordan, Dominican Republic, and Panama
Offerings and Capabilities: Transmission & Distribution; Thermal and Renewable Power Generation, Development and Construction
Project Portfolio (MW): Operational Capacity: 2,002 MW; Under Construction: 570 MW; Awarded: 1,365 MW

Business Overview: AES is a global power company with a diverse portfolio of renewable and thermal generation facilities and distribution businesses. The company mainly operates under two business lines - generation and utilities. According to its 2019 annual report, AES owns and operates a generation portfolio of 30,471 MW, which is diversified by fuel type. Out of the total generation capacity, 32% of the capacity is fueled by renewables, including hydro, solar, wind, energy storage, biomass, and landfill gas. AES' joint venture with Siemens, under the brand Fluence, is responsible for deploying energy storage projects.

Notable Developments:

1. In 2020, AES announced a target to reduce the company's coal-fired generation to below 30% of its overall generation by the end of the year and to less than 10% by 2030.
2. In July 2020, it announced that its wholly-owned subsidiary, AES Holdings Brazil, will acquire an 18.5% economic interest in AES Tietê S.A from BNDES Participações.
3. In June 2020, AES was selected by Hawaiian Electric Companies to develop and operate two new utility-scale solar + storage projects, totaling 79.5 MWdc of PV and 275 MWh of battery energy storage systems.



AES CORPORATION

Geographical Presence:

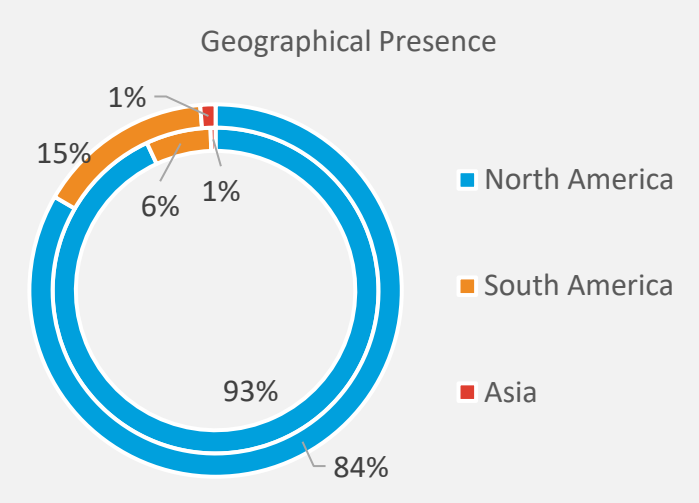
The company has solar PV projects in the United States, Colombia, Chile, Brazil, El Salvador, Jordan, the Dominican Republic, and Panama.

Some of the company's large-scale utility solar PV projects include:

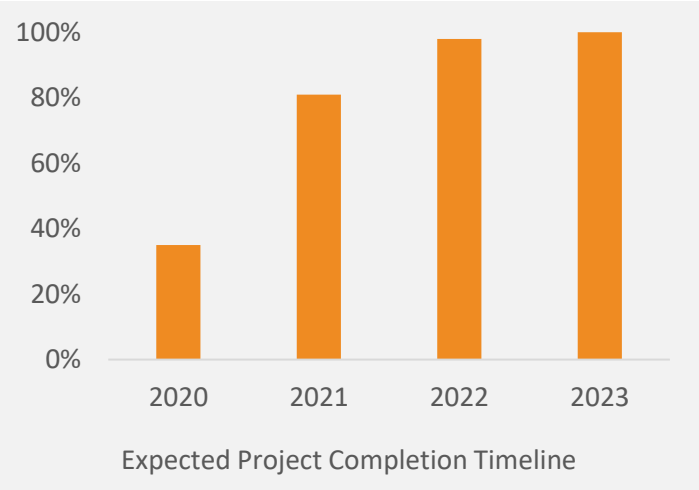
1. Highlander, U.S. (465 MW)
2. Guaimbe, Brazil (150 MW)
3. Bosforo, El Salvador (100 MW)
4. Andes Solar 2, Chile (80 MW)
5. AGV Solar, Brazil (75 MW)

Pipeline Description:

The AES solar pipeline includes projects which are awarded and under construction and collectively account for 1,935 MW as of June 2020. Approximately 35% of their pipeline is expected to be completed by 2020, 81% by 2021, 98% by 2022, and the balance by 2023.



Note: The inner circle represents number of projects; and the outer circle represents capacity



MERCOM CAPITAL GROUP

INVENERGY

Invenergy

Headquarters: Chicago, U.S.

Global Presence: U.S., Japan, Canada, and Uruguay

Offerings and Capabilities: Renewable Power Generation and Energy Storage Solutions

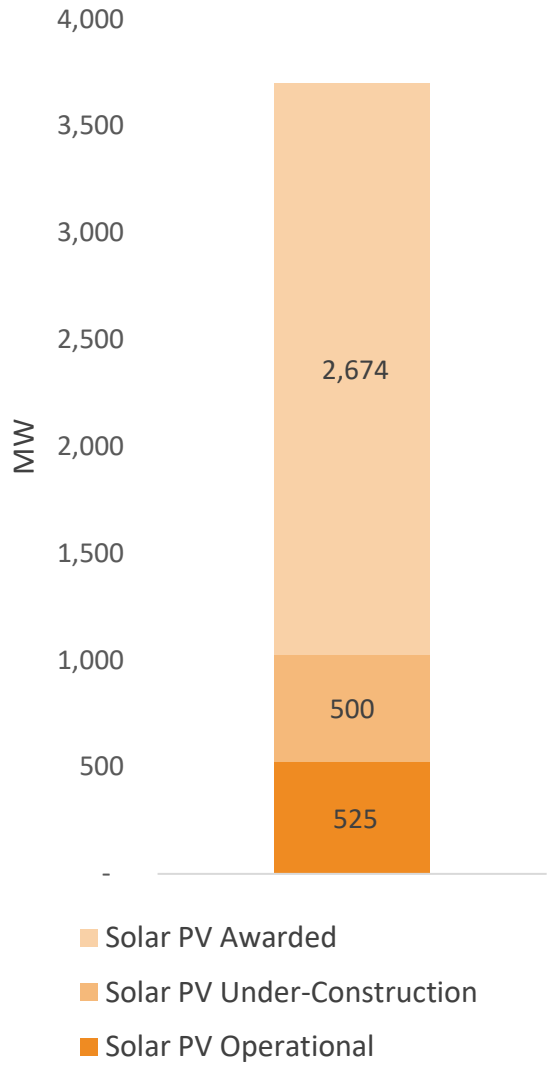
Capacity Portfolio (MW): Operational Capacity: 525 MW; Under Construction : 500 MW; Awarded: 2,674 MW

Business Overview: The company is a privately-held global developer and operator of large-scale renewable projects. The company has developed over 164 projects totaling 25 GW, including wind, solar, and natural gas power generation facilities as well as advanced energy storage projects. The operations are spread across North America, Latin America, Asia, and Europe.

Notable Developments:

1. In June 2020, it announced the commercial operations of its Wilkinson Solar Energy Center of 74 MW capacity. The project was developed and constructed by Invenergy and acquired by an affiliate of Dominion Energy, Virginia.

2. In April 2020, the company started commercial operations at its 100th energy project. The 160 MW, Southern Oak Solar Energy Center project, is among the company's largest solar projects.



MERCOM CAPITAL GROUP

INVENERGY

Geographical Presence:

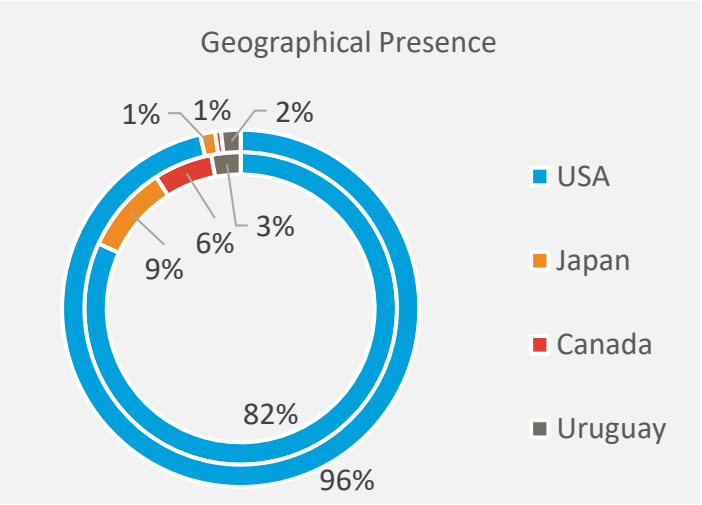
The company has solar PV projects in the US, Canada, Japan, and Uruguay.

Some of the large-scale solar PV projects include:

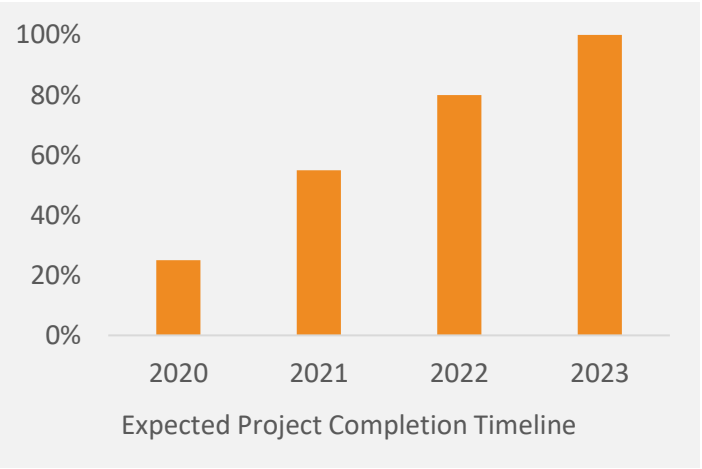
1. Tip Top, U.S. (220 MW)
2. Southern Oak, U.S. (160 MW)
3. Hardin II, U.S. (150 MW)
4. Yum Yum, U.S. (147 MW)
5. Dry Lake, U.S. (100 MW)
6. La Jacinta, Uruguay (65 MW)

Pipeline Description:

The company has 500 MW of projects under construction and 2,674 MW of projects in the pre-construction phase (awarded). Approximately 25% of their pipeline is expected to be completed by 2020, 55% by 2021, 80% by 2022, with the balance to be complete by 2023.



Note: The inner circle represents number of projects; and the outer circle represents capacity



MERCOM CAPITAL GROUP

LIGHTSOURCE BP

lightsource bp

Headquarters: London, United Kingdom

Global Presence: North America, Europe, South America, and Asia among others

Offerings and Capabilities: Solar Power Generation, Development, Asset Management, O&M Services, Financing

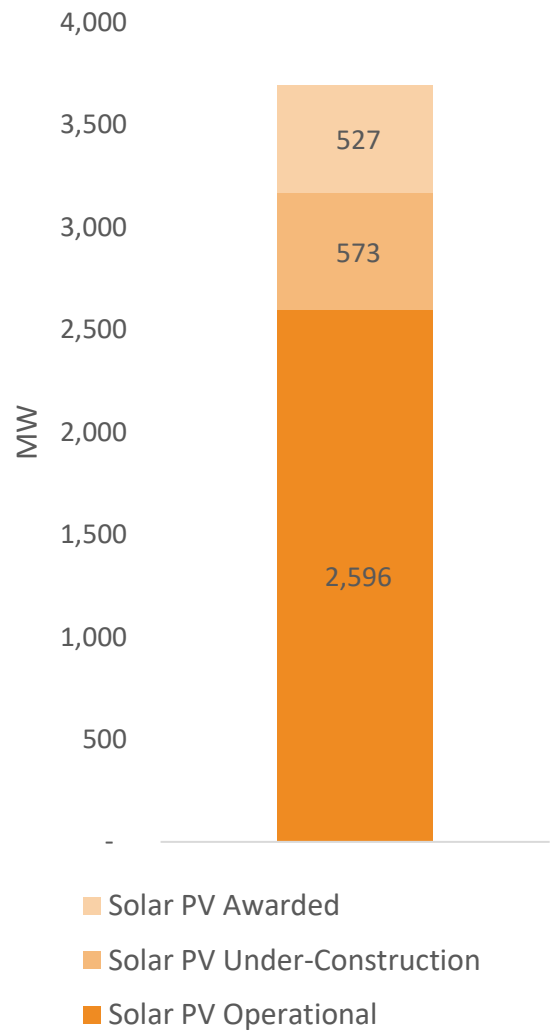
Project Portfolio (MW): Operational Capacity*: 2,596 MW; Under Construction: 573 MW; Awarded: 527 MW

Business Overview: Lightsource Renewable Energy was renamed Lightsource bp after the acquisition of 43% by bp in 2017. The stake was increased to 50% in December 2019. Alongside its expertise in solar power generation and corporate PPAs, the company also provides funding, development, asset management, and O&M services in the solar sector.

For India and Egypt, Lightsource bp exclusively operates through EverSource Capital (JV of Lightsource bp and Everstone Capital) and Hassan Allam Utilities (JV of Lightsource bp and Hassan Allam Utilities). The company has a geographical footprint in various countries within Asia, Europe, and the Americas.

Notable Developments:

1. In July 2020, bp announced $70 million in India's Green Growth Equity Fund (GGEF) through EverSource Capital. GGEF was launched in April 2018 when EverSource Capital was created for the development of green energy infrastructure in India.
2. In May 2020, Greencoat Capital agreed to acquire a 156 MW solar portfolio from BlackRock Real Assets and Lightsource bp.
3. In July 2020, Lightsource bp secured planning approval for a new solar farm of 50 MW capacity in Durham, UK.



MERCOM CAPITAL GROUP

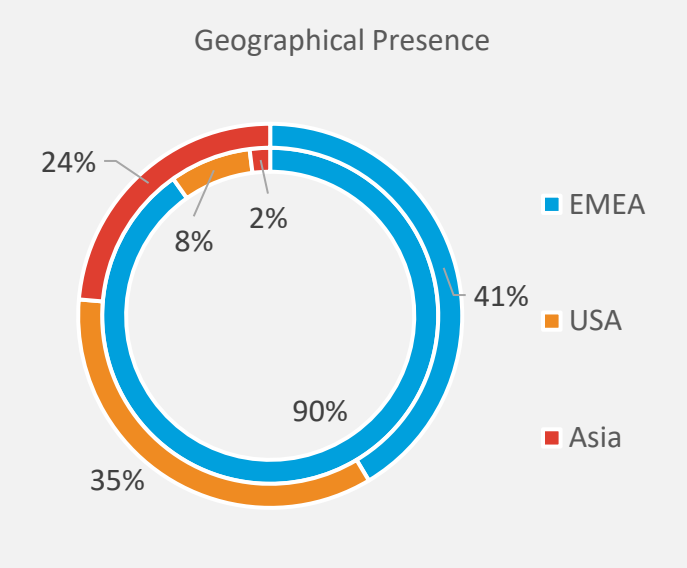
LIGHTSOURCE BP

Geographical Presence:

The company has solar PV projects in countries across the Americas, Europe, Australia, and Asia.

Some of the company's large-scale utility solar PV projects include:

1. Bighorn Solar, U.S. (294 MW)
2. Impact Solar, U.S. (260 MW)
3. Zaragoza Cluster, Spain (250 MW)
4. Wellington Solar Farm, Australia (170 MW)
5. Black Bear Solar, U.S. (130 MW)
6. Maharashtra, India (60 MW)



Note: The inner circle represents number of projects; and the outer circle represents capacity. This chart only includes under construction and awarded projects for this company.

Pipeline Description:

The company collectively accounts for a total portfolio capacity of 3,696 MW of solar power generation, including projects in operation, under construction, and awarded. Its solar project pipeline includes 573 MW of projects under construction and 527 projects with awarded PPAs.

Disclaimer:
**Operational capacity is year to date capacity for this profile*

ENGIE

Headquarters: La Défense, France

Global Presence: France, Brazil, Mexico, US, Chile, South Africa, Belgium, India, and others

Offerings and Capabilities: Client Solutions, Renewables, Networks, and Thermal

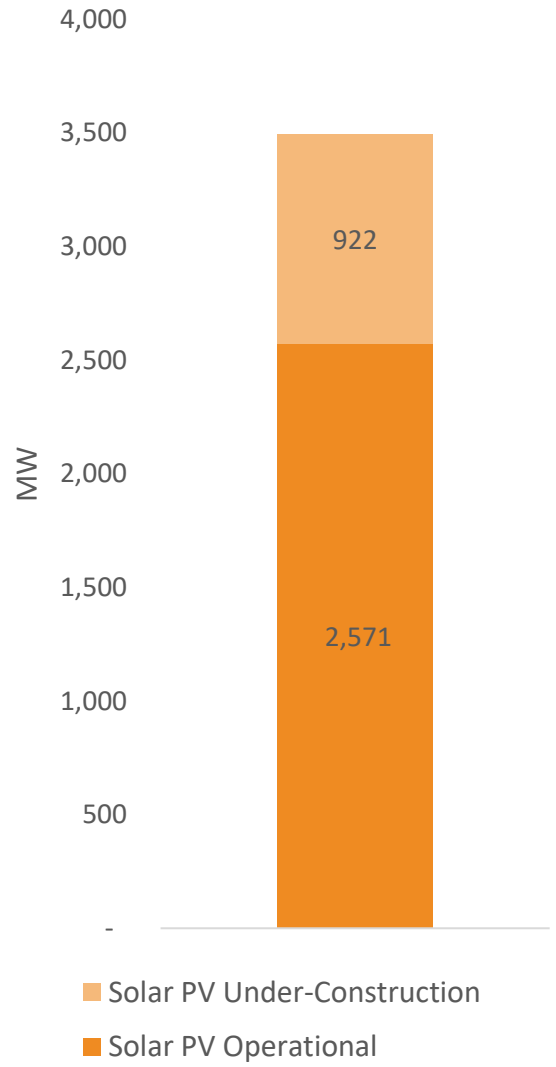
Project Portfolio (MW): Operational Capacity: 2,571 MW; Under Construction: 922 MW

Business Overview: ENGIE is a French power conglomerate involved in electricity generation and distribution from natural gas, nuclear, renewable, and petroleum. The company operates under five business lines - networks, renewables, thermal, supply, and client solutions.

The renewable business arm of ENGIE is comprised of all centralized renewable energy generation activities, including financing, construction, and operation of renewable energy facilities, using various energy sources such as hydroelectric, onshore wind, and solar photovoltaic, biomass, offshore wind, geothermal and biogas.

Notable Developments:

1. In July 2020, ENGIE signed an agreement to sell a 49% equity interest in a 2.3 GW U.S. renewables portfolio to Hannon Armstrong. The 2.3 GW portfolio consists of 1.8 GW of onshore wind and 0.5 GW of solar projects.
2. In January 2020, ENGIE agreed to sell a 74% stake in 12 solar assets aggregating 813 MW of operating capacity collectively to Edelweiss Infrastructure Yield Plus (EIYP) and Sekura Energy Limited, a portfolio company of EIYP.



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ENGIE

Geographical Presence:

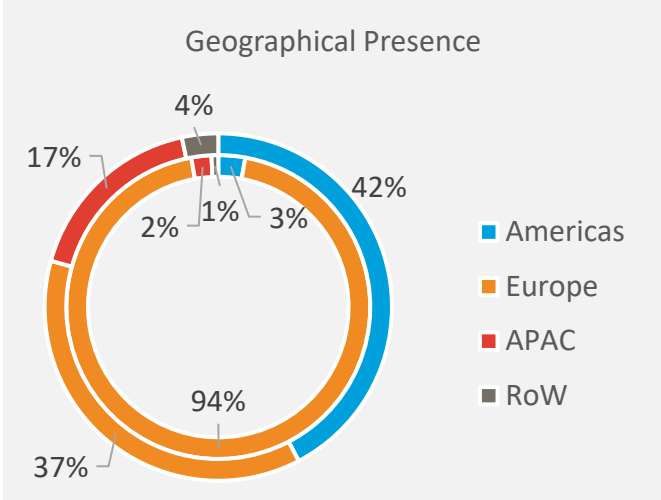
The company has solar PV projects the in U.S., Canada, Mexico, Chile, Brazil, South Africa, India, France, the UK, and the Netherlands.

Some of their large-scale solar PV projects include:

1. GAIL, U.S. (225 MW)
2. Calpulalpan, Mexico (200 MW)
3. NTPC Kadapa, India (200 MW)
4. Paracatu, Brazil (158 MW)
5. Villa Ahumada, Mexico (150 MW)
6. Bhadla, India (140 MW)

Pipeline Description:

ENGIE's pipeline includes under construction projects of 922 MW as of June 2020. Most of their pipeline projects are in France, Chile, India, Mexico, the U.S., and Poland. Approximately, 50% of the pipeline is expected to be completed in 2020, and the remaining 50% by 2021.



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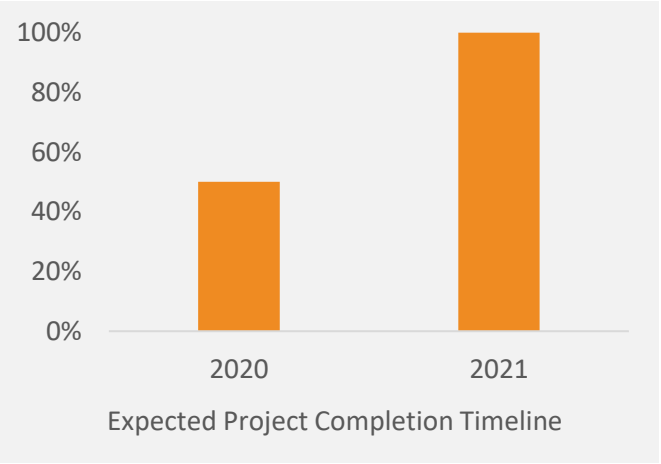

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