Our Solar Energy Business
Based in Juno Beach, Florida, NextEra Energy Resources, LLC, is the competitive energy subsidiary of NextEra Energy, Inc., a Fortune 200 company and a leading clean energy provider with consolidated revenues of approximately $16.7 billion in 2018. NextEra Energy Resources is primarily a wholesale power generator, operating power plants and selling the output to utilities, retail electricity providers, power cooperatives, municipal electric providers and large industrial companies.

NextEra Energy Resources has established a strong reputation based on outstanding performance at every level. We continue to solidify our position as one of the nation’s leading energy providers by focusing on:

Development, construction and operation
NextEra Energy Resources is a world leader in the development, construction and operation of wind energy centers. Standardized processes, best practices and superior execution have earned us the top position in the field. We are also experienced in other areas of power generation, including solar, nuclear energy and fossil fuels. Given our experience in these areas, NextEra Energy Resources is uniquely suited to continue developing and acquiring power plants to meet the nation’s growing energy needs.

Transmission facilities
Power plants are only part of the energy equation. As additional power generation facilities become operational, we need to move this power from the generation sites to where it is needed. To do that, the electric transmission system must be improved, and NextEra Energy Resources is doing its part. Although we own transmission lines across the country, we are pursuing additional large-scale opportunities to develop, build and operate new transmission facilities through an affiliate company, NextEra Energy Transmission.

Renewable energy expertise at NextEra Analytics
NextEra Analytics, one of our subsidiaries based in St. Paul, Minnesota, provides renewable energy consulting services, using industry-leading scientific analysis for planning, siting and forecasting renewable energy projects. Besides being the lead wind and solar advisor to NextEra Energy Resources, NextEra Analytics also serves the renewable energy and electric utility industries throughout North America and around the world. The company employs meteorologists, computing experts and other industry specialists.

Energy marketing
NextEra Energy Marketing (NEM), LLC, a subsidiary of NextEra Energy Resources, is one of the top 10 marketers of power in the nation. NEM buys and sells wholesale energy commodities, such as natural gas, oil and electricity; manages all the fuel needs of NextEra Energy Resources’ power generation fleet; and markets the output to customers across the country.

Retail energy
NextEra Energy Resources entered the retail market in 2005. NextEra Energy Services and Gexa Energy serve customers in numerous U.S. retail markets and manage the related billing, customer service, collections and remittance services to residential and commercial customers.

Energy storage
Our team of specialists has spent years researching energy storage technologies. Today, we have more than 145 MW of operational energy storage and a pipeline of development projects across the U.S. and Canada. With our best-in-class development skills, we are a leader in the energy storage market.
Wind-friendly. Using clean fuels to produce electricity that is environmentally friendly. NextEra Energy Resources has been leading the way in clean energy for decades. Long before clean energy became a popular choice in the U.S., NextEra Energy Resources entered the solar generation business in 1989 through its interest in Solar Electric Generating System (SEGS), one of seven solar thermal projects sited in Kramer Junction and Harper Lake, California. Since then, the company has significantly expanded its solar development to approximately 2,300 MW of universal and small-scale operating assets.

Solar energy benefits
Solar plants operate when energy consumption needs are at their highest, effectively matching energy supply and demand. Solar energy is cost effective. The cost of large, universal solar installations has dropped significantly in recent years due to advances in technology and design of solar panels. It has reached parity with natural gas in certain markets.

The other benefits of NextEra Energy Resources’ photovoltaic (PV) solar portfolio are considerable, including:
- Creates no greenhouse gases or other air pollutants.
- Uses no water resources to generate electricity.
- Provides a renewable fuel supply.
- Creates no waste byproducts for disposal.
- Results in no hazardous cleanup at the end of a project’s productive life.
- Is a completely silent operation.

Our solar expertise
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Vital landowner relationships
PV solar facilities require a large area for development. Our general rule of thumb is that each MW of power will require about 100 to 160 acres. We generally aim to site a project as close as possible to existing electrical transmission or distribution infrastructure. We try to avoid too much land variation, extreme terrain and trees when siting a project because such characteristics can cause shading, reducing the project’s electrical production. A solar PV project only requires water during construction for dust control, as well as infrequent panel cleaning during operations.

If an area is promising after our initial assessment, NextEra Energy Resources will enter into a purchase or lease option agreement with landowners, which provides additional time for further evaluation of the property. Landowners can hold on to their land for an option period, landowners are able to continue to conduct business as usual on their land. Landowners are not the only beneficiaries. Their decision to help develop a solar project in their community brings additional jobs to the area, increased tax revenue and our purchases of local goods and services.

Natural gas
We have incorporated the cleanest-burning fossil fuel into our portfolio with natural gas-fired facilities. We often install combined-cycle technology that uses waste heat to drive an additional power generator for increased energy efficiency and lower emissions than conventional fossil-fueled units. This type of plant is about 30% more efficient than a traditional steam plant.

Nuclear energy
NextEra Energy Resources also incorporates clean nuclear energy into the fuel mix through Seabrook Station in New Hampshire, Duane Arnold Energy Center in Iowa and Point Beach Nuclear Plant in Wisconsin. Nuclear power plants produce virtually no air emissions during operation, representing a responsible energy choice for the future as climate change concerns intensify. All three of NextEra Energy Resources’ nuclear power plants have achieved the highest exemplary ratings and are focused on reliable operation.

Investment in Energy Infrastructure
Long before clean energy became a popular choice in the U.S., NextEra Energy Resources has been leading the way in using clean fuels to produce electricity that is environmentally friendly. Our renewable or clean energy mix includes:

Wind
NextEra Energy Resources remains the world’s largest generator of U.S. wind-generating facilities. We have 119 wind facilities in operation in North America capable of producing more than 13,500 MW of electricity. NextEra Energy Resources’ wind facilities have enabled our customers, who have purchased renewable attributes, to reduce emissions that would have otherwise been released into the atmosphere from other sources of power generation. In the coming years, NextEra Energy Resources plans to continue the aggressive expansion of its wind business.

Solar
NextEra Energy Resources is a leading generator of solar energy. The company operates more than 2,300 MW of universal and small-scale solar generation across the U.S.

Bringing Solar Energy to Market
Solar and storage
When paired with an energy storage system, solar offers an attractive combination. Together, they can improve the operation of the electrical grid, reduce the need for additional generation and provide additional options to meet peak energy demands.

Environmental stewardship
- NextEra Energy Resources works closely with federal, state and local environmental organizations.
- Environmental assessments determine suitability of prospective solar sites.
- Land and wildlife are respected and protected during construction and operations.
- Land is restored after construction.

The 81-MW Stuttgart Solar Energy Center in Arkansas.

The 20-MW Pinal Central Solar Energy Center in Arizona was NextEra Energy Resources’ first project to pair solar energy with an on-site, state-of-the-art 10-MW battery storage system.
Energy from the Sun

Siting a solar project

Siting a solar project is challenging work and includes finding the right combination of solar conditions, power transmission lines and land. In addition to working with landowners to familiarize them with the process and what to expect, our developers are busy on a wide range of issues related to developing a solar site, including:

- Meeting with and providing information to local officials on project progress.
- Conducting environmental assessments.
- Completing historical and archaeological reviews.
- Arranging to connect to the local power grid.
- Securing customers for the site’s generated electricity.
- Attending public meetings to gain approval for construction.
- Permitting and land use zoning, as applicable.
- Procuring equipment.

Construction is carefully planned

NextEra Energy Resources’ construction team is experienced in building solar PV plants. When all approvals are in place and landowners have signed their contracts, construction can begin. Our construction managers and engineers oversee and are responsible for all work and all contractors at a construction site. They, and often their families, live in the community during construction.

How a photovoltaic solar plant works

As sunlight hits the solar panels, the photovoltaic energy is converted into direct current electricity (DC). The direct current flows from the panels through inverters and is converted into alternating current (AC). Finally, the electricity travels through transformers, and the voltage is boosted for delivery onto the transmission lines, so the local electric utility can distribute the electricity to homes and businesses.

Approximately 90 to 120 contractors can be involved in a typical solar construction project. Our goal is to hire as many workers from the area as possible, including heavy equipment operators, electricians, laborers, security and others.

Construction typically takes between six and 12 months. Our construction manager and staff stay in close contact not only with landowners, but also with local government, to keep interested parties apprised of progress and to ensure adherence to all local building code requirements.

Some of the major steps involved include:

- Erecting a fence for safety.
- Laying high-quality gravel roads to accommodate heavy equipment.
- Constructing a substation, and possibly an operations and maintenance building.
- Installing the solar arrays, which are typically about six to eight feet tall and are erected on steel posts driven into the ground.
- Testing and commissioning the completed arrays.

When construction is complete and the plant has begun commercial operation, the site is turned over to our operations staff who operate and maintain the solar plant.

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Extensive Construction Experience

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