

Our Solar Energy Business



Our **Business Operations**

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 \$19.2 billion in 2019.

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.

Nationally recognized as a leading clean energy provider, NextEra Energy Resources has a portfolio of facilities, totaling more than 21,900 net megawatts (MW) of generating capacity in the U.S. and Canada. In 2019, nearly all of the electricity we generated was derived from clean or renewable resources, including wind, solar, natural gas and nuclear energy.

NextEra Energy Resources' operations are diversified not only by fuel sources, but by geographic regions. This helps us manage our power generation business more efficiently and economically, especially in today's volatile energy markets.

NextEra Energy Resources **Generation Facilities in Operation**

(As of 12/31/19)



Provider of **Energy Services**

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 solar and 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 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.

Renewable energy market

NEM markets the largest renewable energy portfolio in the country. NEM provides custom renewable energy solutions for customers with specific needs, from meeting regulatory mandates associated with a renewable portfolio standard,

to working with businesses to meet their goals on renewable energy generation or carbon emissions management.

Distributed generation

Our distributed generation (DG) team tailors solar solutions that enable customers to generate clean, reliable energy from their rooftops, parking structures and open land. DG develops, builds, finances and operates the systems for commercial, institutional, utility and public power customers, helping them to control costs and make a meaningful impact on their renewable energy goals.

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.



Kings Park is a brownfield solar project constructed on a former landfill in New York. The 4-MW project is owned and operated by a subsidiary of NextEra Energy Resources. It avoids approximately 4,500 metric tons of carbon dioxide emissions per year that would have been produced if the electricity had been generated using fossil fuels.

Investment in **Energy Infrastructure**



Shaw Creek Solar Energy Center generates 74.9-MW of renewable energy. It's NextEra Energy Resources' first project in South Carolina.

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 126 wind facilities in operation in North America capable of producing more than 14,100 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 dozens of universal and smallscale solar projects across the U.S., generating more than 2,600 MW.

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.

Bringing **Solar Energy** to Market

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.
- » Operates quietly.

Our solar expertise

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 2,600 MW of universal and small-scale operating assets.

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 five to eight acres of land to support the solar equipment, as well as easements for power line infrastructure. For example, a 20-MW facility 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 receive option payments based upon the final agreed dollar-per-acre value of the property. Throughout the 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.

Solar and storage

When paired with an energy storage system, solar offers an attractive combination. In 2019, more than 50% of NextEra Energy Resources' new solar projects included a storage component. Together, solar and storage can improve the operation of the electrical grid, reduce the need for supplementary generation and provide additional options to meet peak energy demands. Adding energy storage to a solar project is a cost-effective way to meet renewable energy goals, benefit from tax incentives and take advantage of competitive energy storage costs.

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 20-MW Pinal Central Solar Energy Center in Arizona was NextEra Energy Resources' first project to pair solar energy with an 5 on-site, state-of-the-art 10-MW battery storage system.

Extensive Construction Experience

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.

Hundreds of 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.

Generating Homegrown Solar Energy



Quitman Solar Energy Center's 569,000 photovoltaic solar panels generate up to 150 MW of renewable energy, making it one of the largest solar plants in Georgia.

NextEra Energy Resources is a leader in solar energy. Lower solar panel costs have greatly improved the economics of solar power and the benefits are significant. For local communities, it means clean, homegrown energy that also provides much-needed tax income to rural communities, including schools, libraries and other public services, benefiting the entire community.

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.

Highlights of solar operations

- » We have more than 30 universal-scale solar projects with ownership interest, with a total net generating capacity of more than 2,600 MW of solar generation.
- » More projects are in the development pipeline for future construction and operation.
- » Solar PV generation does not use water for power generation.
- » Solar PV generation is emissions free.





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