



ASSET OPTIMIZATION

GO WITH THE EXPERTS

Strong Reputation.
Unparalleled Execution.



OUR MISSION

Delivering renewable **solutions** to lead the transition to a **sustainable energy** future.

For over 35 years, EDF Renewables has been providing clean energy solutions throughout North America.

EDF Renewables North America is a market-leading independent power producer and service provider, delivering:

// **grid-scale power:** wind (onshore and offshore), solar photovoltaic, and storage projects

// **distributed solutions:** solar, solar+storage, electrical vehicle charging and energy management

// **asset optimization:** technical, operational, and commercial skills to maximize performance of generating projects

EDF Renewables' North American portfolio consists of 16 gigawatts (GW) of developed projects and 11 GW of operating assets under service contracts. EDF Renewables North America is a subsidiary of EDF Renewables, the dedicated renewable energy affiliate of the EDF Group.



Origination



Development



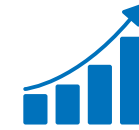
Transaction



Construction



Optimization



ASSET OPTIMIZATION

A trusted partner to optimize the performance of your renewable assets.

The Asset Optimization team offers a full range of services for all phases of renewable energy projects – operations, maintenance, management, procurement, routine and emergency maintenance, retrofits and upgrades.

Our experienced team of over 450 full-time technicians, managers, and support staff, means EDF Renewables is fully equipped to manage the balance-of-plant and day-to-day operations of your wind or solar project.

11 GW
Operations & Maintenance contract

8.6 GW
remote monitoring

6.7 GW
asset management

450+
asset optimization experts

SAFETY

Our people are our greatest asset. Their safety is our top priority and crucial to the success of any site we operate. Safety is a 24/7/365 commitment and is at the forefront of everything we do.

Our most valuable resource is our people.

At EDF Renewables, the health and safety of our team members is our first priority. We're committed to creating a culture of safety that includes the health and well-being of our employees, the environment, our customers, and the communities where we do business.

As part of our dedication to safety, both in and out of the workplace, we strive to inspire a set of common practices that keep safety at the forefront of all our activities.

EDF Renewables maintains an industry-leading Health, Safety, and Environment program throughout its North American operations, guided by these principles:

- // Our people are our greatest asset.
- // Safety is a full-time commitment.
- // Safety starts with individual ownership, accountability, and responsibility.
- // We are dedicated to continuous improvement.

2019 NUMBERS NORTH AMERICA

0.77 TRIR

Total Recordable Incident Rate = (# of recordable incidents) / (hrs * 200k)

0.54 DART

Days Away, Restricted or Transferred = (# of days away, restrictions, job transfers) / (hrs * 200k)

2,613,776 hrs



OPERATIONS AND MAINTENANCE

Our full range of maintenance services begins prior to commissioning and goes through decommissioning.

Maximizing performance and profitability throughout the project lifecycle.

EDF Renewables is one of the largest providers of third-party Operations and Maintenance (O&M) services in North America. Our Asset Optimization team ensures ongoing profitability for project owners and investors by providing a range of expertise, from asset management to spare parts procurement.

We work hard to understand our customers' objectives and offer customizable and flexible service plans that adapt to fit a wide spectrum of customer needs. Our full range of services begins prior to commissioning and goes through decommissioning including options such as balance-of-plant management, equipment service both during and after the warranty period, major component repair and replacement, engineering support, and remote monitoring.

Think of us as stewards of your renewable energy assets. We offer you the same innovative solutions that maximize the performance of our own 5.5 GW of installed projects. Our transparent approach and committed owner mentality guarantee we have your best interest at heart.

CONSTRUCTION
SUPPORT

WARRANTY PERIOD
O&M

POST WARRANTY
O&M

END OF LIFE

OPERATIONAL TECHNOLOGIES

EDF Renewables provides critical 24/7/365 remote monitoring and diagnostics from its state-of-the-art Operations Control Center (OCC), increasing equipment availability and reducing costly downtime.

Integrating monitoring and control with innovative service offerings.

Our Operations Control Center (OCC) combines our SCADA and O&M auxiliary services into a technical services hub with an integrated front-end monitoring system to improve response times and more effectively track key performance indicators.

Our clients receive daily and monthly reports that provide a record of key operating parameters and significant operational events, trends, and anomalies. This data is summarized to assist with the identification of performance shortfalls and the planning of maintenance activities.

We are prepared for the future, as renewable energy projects face increased scrutiny, with enhanced cyber security and compliance capabilities. The OCC is a medium impact facility listed as Generation Operator in the North American Electric Reliability Corporation (NERC) Compliance Registry with Western Electricity Coordinating Council, and has met compliance standards as set forth by NERC Reliability Standards.



OCC Services

Critical 24/7/365 remote monitoring and diagnostics from our state-of-the-art OCC, increasing equipment availability, reducing downtime and its associated operational and maintenance costs.



SCADA Support

SCADA database support and maintenance ensuring data accuracy, security and integrity.



NERC Compliance Services

Regulatory compliance program development and implementation, Generating Availability Data System (GADS) data reporting, training development, cyber security and other disciplines.

ASSET MANAGEMENT EXPERTISE

Renewable energy facilities represent a substantial investment. No one understands this better than EDF Renewables.

Driving financial performance improvement.

By choosing EDF Renewables as your Asset Manager, you are choosing a partner with an owner-operator sensibility and a proven history of successful project performance.

Our Asset Management team works each day to develop and recommend strategies to increase project operational performance which translates into positive financial returns in a challenging and dynamic industry.

Management of physical assets is essential to long-term operational performance. We deliver the expertise that owners need to make value-driven decisions to optimize performance and profitability throughout the project life cycle.



COMMERCIAL MANAGEMENT



FINANCIAL MANAGEMENT



CONTRACTUAL MANAGEMENT



RISK MANAGEMENT



RELATIONSHIP MANAGEMENT



PERFORMANCE MANAGEMENT



ENVIRONMENTAL MANAGEMENT

ADDITIONAL SERVICES

Making your renewable energy projects run efficiently and profitably.

Ensuring the **highest levels** of plant performance and availability.



Performance and Reliability Engineering

EDF Renewables' Performance and Reliability Engineering (PRE) department is an internal engineering group experienced in the technical evaluation of renewable energy projects. Our PRE team performs a diverse set of tasks, including review of equipment failures, root cause analysis on engineering failures, and designing solutions and remediation techniques to improve plant performance. Our rapid response translates into optimized performance and savings for you.



Supply Chain Services

EDF Renewables has built a dedicated, robust, and proactive supply chain to ensure that your project has the right part, at the right place, and the right time. Rely on us to optimize your inventory mix so you can meet fluctuating demand for spare parts while avoiding stock-outs and minimizing costs.



Blade Optimization and Efficiency Solutions

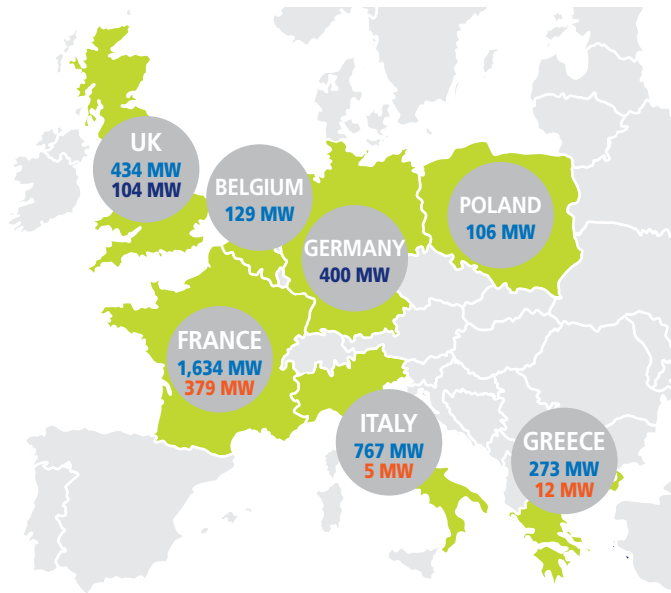
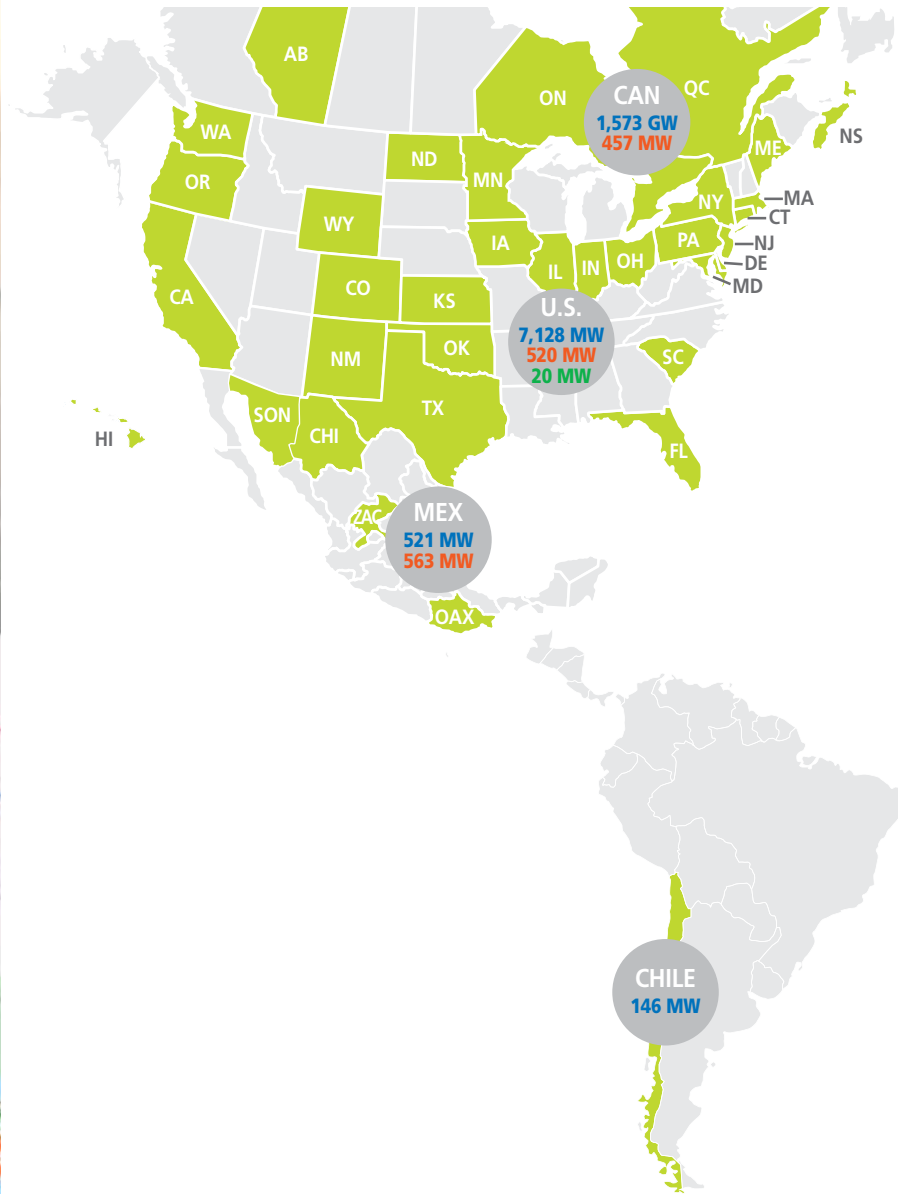
Properly maintaining your blades is vital to maximizing the performance of your turbines. We tailor our advanced blade inspection processes to the unique needs of your project while ensuring a high level of performance, availability, and safety.

Working within your budget, we design a blade maintenance program that includes inspections and repairs, protection to minimize or prevent future damage, and upgrades like vortex generators to increase energy production. If an issue is discovered, we consult with you to formulate a plan that provides the optimal solution.

EDF Renewables provides extensive experience, skilled technicians, and flexible offerings to deliver comprehensive solutions customized to your needs.



Global expert on
renewable energy solutions.



**15.1 GW
UNDER CONTRACT
WORLDWIDE**

BY STATE/PROVINCE/COUNTRY

- Onshore Wind MW
- Offshore Wind MW
- Solar MW
- Storage MW

as of December 2019



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EDF Renewables
15445 Innovation Drive
San Diego, CA 92128
www.edf-re.com

Photo credits: Mark La Boyteaux, Daniel Peters, Solaris Studios, Neil Osborne



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