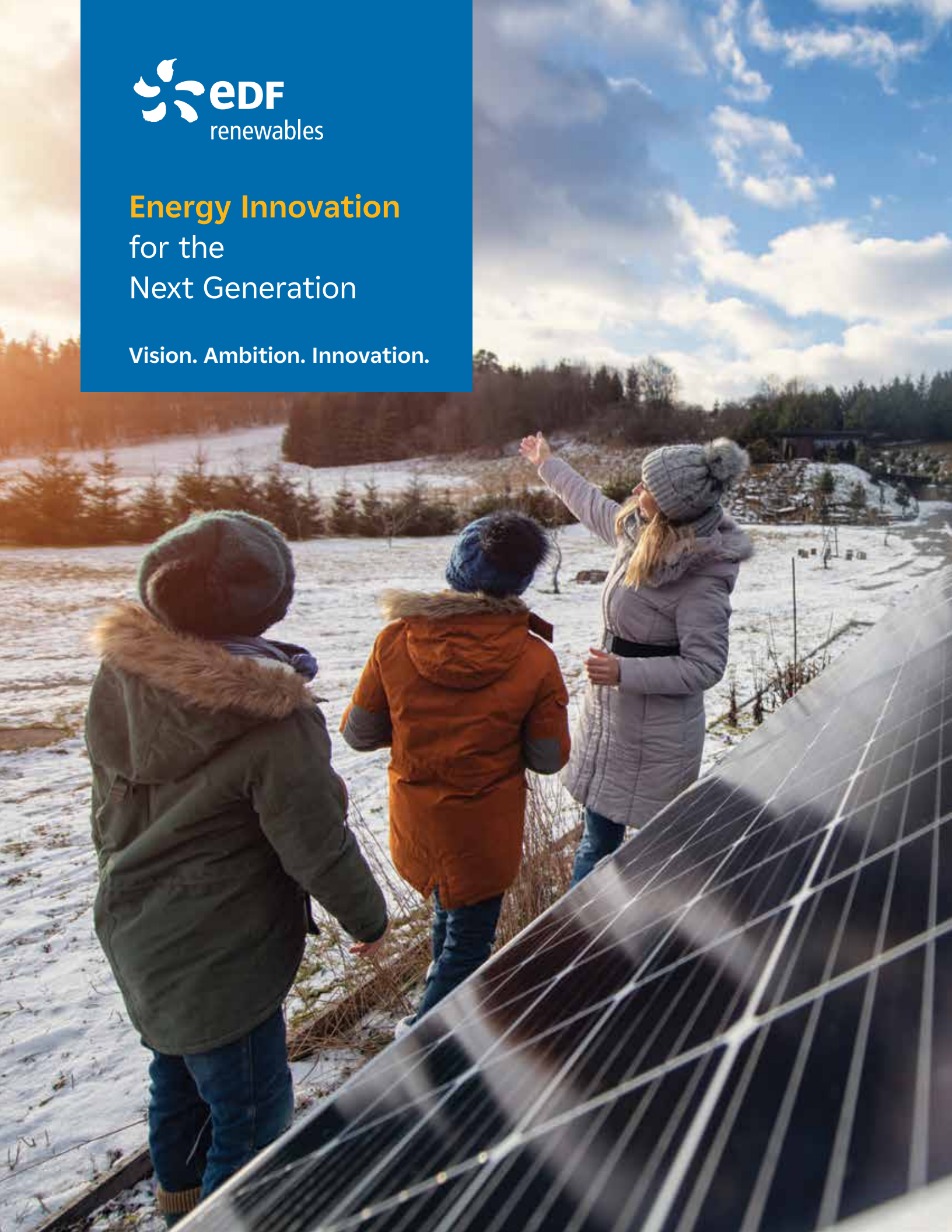
EDF renewables

# Energy Innovation for the Next Generation

**Vision. Ambition. Innovation.**



# 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**: large commercial wind (onshore and offshore), solar and storage projects for corporates and utilities

**distribution-scale power**: solar and storage customized for utilities, co-ops, landowners, communities, and institutions

**onsite solutions**: behind-the-meter solar, storage, smart EV charging, microgrids, and energy management systems for corporate and industrials

**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 13 GW of operating assets under service contracts.

EDF Renewables North America is a subsidiary of EDF Renouvelables, the dedicated renewable energy affiliate of the EDF Group.

# GRID-SCALE POWER

**Big projects. Bigger impact.**

EDF Renewables' Grid-Scale Power team provides origination, development, transaction and construction services for large-scale wind (onshore and offshore), solar power generation, and storage projects across North America.

Our team of leaders can solve energy challenges facing corporations and communities no matter the size or complexity.

**35+ years**

We've been on the forefront of the burgeoning wind industry in California as a service provider beginning in 1985.

**14 GW**

We expanded into project development in 2000 and have developed 14 GW of grid-scale solar, wind and storage projects across North America.

**$23 billion**

Since 2010, we have paid over $23 billion to vendors, including lease payments made to landowners.

**70,000**

On-site jobs created over the lifetime of our Grid-Scale Power projects.

*Based on an employment factor of 5 jobs per MW*

*IRENA Annual Review 2022*

# DISTRIBUTION-SCALE POWER

**Experienced. Reliable. Integrated.**

The Distribution-Scale Power team provides industry-leading, cost-effective development, engineering, construction, and operations of solar and storage projects.

Solutions are customized for utilities, co-ops, communities, and institutions. The team specializes in community solar and environmentally sensitive sites.

## 20+ years

We started our distributed business in 1998, which consisted of residential and small commercial solar projects. Our first distributed project in 2008 was 1 MW, located in Vacaville, California.

## 208 installations

We have experience designing, developing, and constructing solar and storage projects on all types of sites, including landfills, brownfields, and wastewater treatment plants.

## 1,550 MW

The Distribution-Scale Power team has installed over 1,550 MW of solar photovoltaic and storage projects across the United States.

## 20-100

Temporary construction jobs created per project during construction.

## 25

States with O&M jobs for the life of projects.

# ONSITE SOLUTIONS

**Multiple solutions. One point of contact.**

Our onsite solutions services are provided by our PowerFlex brand. PowerFlex's scalable offerings include onsite solar, battery storage, electric vehicle charging, microgrids, and energy management systems. Whether standalone or working in concert as a bundled system, these technologies bring clean, reliable, and affordable carbon-free power when and where it is needed, helping our clients reduce their long-term energy costs, increase resiliency, and achieve sustainability goals.

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## 440 MW solar installed

We're commercial solar experts. With rooftop, ground and carport projects across the United States, we've worked across industries to create projects personalized for our customers.

## 78 MWh storage installed

Our storage projects help give our customers more control over their energy use while increasing reliability.

## 11,318 EVs installed

Our Adaptive Load Management software algorithm optimizes power consumption across a large network of EV charging stations helping customers make the most out of their EV chargers.

## 200+ employees

With employees across departments covering both coasts, PowerFlex has the national market cornered.

# ASSET OPTIMIZATION

**Maximize power production, efficiency and your investment.**

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

Our experienced team of over 400 full-time technicians, supervisors, 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.

## 13 GW operations & maintenance

- On-site Preventative and Corrective Maintenance
- Balance of Plant (BOP) Management
- Major Component Repair / Replacement
- Engineering Support

## 10.4 GW under OCC monitoring

- 24/7/365 Remote Monitoring
- Performance Reporting
- Fault Reset / Notification Curtailment
- SCADA / NERC Compliance Support

## 7.8 GW assets under management

- Manage Cash / Debt Equity
- Ensure Contractual Compliance
- Monitor / Limit Market Risk
- Identify / Remedy Underperforming Assets
- Manage Power Purchase Agreements (PPA)

## 400+ asset optimization experts

# ONSHORE WIND

Wind power is a limitless, non-polluting resource that consumes virtually no water, and the power it generates is even more affordable than ever, with a 47% reduction in cost over the last 10 years.

*Source: www.cleanpower.org*

# Generating reliable energy, jobs and revenue.

When we operate our wind facilities, we provide long-term, fixed pricing in an environment where prices are constantly increasing, while also reducing $CO_2$ emissions, the most abundant greenhouse gas in the atmosphere.

Our wind projects support the local communities in which we work through landowner payments and tax revenues, while simultaneously creating jobs in construction and wind project operations. EDF Renewables' operating wind plants are among the top performers in the industry.

If you are a utility, municipality, cooperative or corporation, EDF Renewables can formulate a deal structure that meets your specific renewable energy goals.

We offer traditional Purchase Power Agreements (PPAs), Virtual Power Purchase Agreements (VPPAs), Design Build Sell (DBS) and a number of other offtake arrangements including hedges and renewable block products.

ONSHORE

10 GW
developed

72
projects

3
countries

# OFFSHORE WIND

Offshore wind is a vast energy resource in the United States, with a national target of 30 GW by 2030.

*Source: https://cleanpower.org/*

# New opportunities, new ventures in wind.

We are taking advantage of our many years of experience from onshore projects in order to guarantee an optimal level of operation for our offshore facilities.

Harnessing America's offshore wind resources presents an enormous opportunity to:

- Create tens of thousands of highly skilled jobs
- Revitalize coastal communities
- Deliver large amounts of clean, reliable energy to the country's biggest population centers

OFFSHORE

3 GW
in development

ATLANTIC SHORES
offshore wind

**In 2018, EDF Renewables North America and Shell New Energies formed a 50/50 joint venture, Atlantic Shores Offshore Wind, LLC, to co-develop a lease area with the potential of approximately 2,500 MW of offshore wind energy - enough to power close to one million homes. Both companies come with decades of experience developing onshore and offshore projects across the globe. Atlantic Shores Offshore Wind is composed of over 100 experts dedicated to delivering its 5+GW portfolio, strategically positioned to meet the growing demands of multiple East Coast Markets.**

# SOLAR

Solar energy is a sustainable, indefinite renewable resource for energy consumption, experiencing continued growth as solar PV prices have dropped 52% over the last 10 years.

*Source: www.seia.org*

# Producing sustainable energy to meet demands.

We design and build solar projects both on the distribution and grid-scale level. We contract with offtakers for long-term agreements or turnkey solutions — for customers who desire to own the asset.

EDF Renewables is also a leading developer of environmentally sensitive sites, revitalizing former landfills, brownfields and wastewater treatment plants into solar facilities.

Our tailor-made solutions meet the growing energy needs and demands of utilities, municipalities, cooperatives, universities and corporations.

**5.7** GW
developed, constructed or contracted

**634**
grid-scale, distribution-scale and onsite projects constructed and operating in North America

**3**
countries

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## Clean and affordable energy, right where you need it

An onsite solar system is just as good for business as it is for the environment. Market data suggests that the average commercial property owner in the U.S. can slash overall energy costs by 75% by going solar. That's because producing your own electricity with solar at your facility means you'll greatly reduce your utility power consumption and the costly peak demand-based charges that come with it.

Since an onsite solar energy system is physically located at the point of use, it doesn't rely on the massive system of utility transmission and distribution lines that are increasingly vulnerable to extreme weather and other threats. Our PowerFlex brand offers customers onsite clean technology with flexible solutions.

**375**
projects across the United States

**440** MW
installed

# STORAGE

Storage systems help energy and facility managers to forecast, manage and reduce operational energy costs and hedge against rising costs as much as 5-10% annually.



*Source: Southern California Edison (SCE), Pacific Gas & Electric (PG&E), SDG&E: San Diego Gas & Electric (SDG&E)*

# Adding value, cost control and energy security.

Reducing operational cost is in higher demand than ever before. EDF Renewables strives to bring our business customers solutions that fit their specific requirements. Storage may be the right solution for your business as a standalone system or bundled with a solar package. In addition to lowering operational energy costs, storage can help control and forecast long-term energy budgets and increase energy reliability.

There are several options when it comes to adding storage – direct purchase, power purchase agreement, shared savings or power purchase agreement with shared savings. Each solution comes with a different set of factors. We can help you navigate these options and find the best solution for your business and bottom line.

EDF Renewables delivers storage on both the distributed and utility scale. It's not just commercial solar shoppers who benefit from installing energy storage. In fact, utility-scale battery storage is increasingly playing a major role in the operation of the electric grid, providing cost savings, environmental benefits and new flexibility for the grid. We specialize in providing the design, financing, installation, and operation of energy storage and solar solutions in order to help businesses and utilities reach their long-term goals.

We are at the forefront of this cutting-edge technology leveraging our global energy storage experience.

**2,500** MW / **9,800** MWh in various stages of development

# EV CHARGING

EV Charging is rapidly accelerating within the United States. In 2020, electric car sales reached a record 3 million vehicles, up 40% from 2019. Over the next 10 years, it's estimated that 60% of new car sales will be for EVs.

*Source: https://utilityanalytics.com/2022/05/forecasting-the-future-of-electric-vehicles-predicting-the-grid/*

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# Electric vehicle smart-charging systems – large scale, cost effective, load managed.

Charging solutions must be implemented in the right places and quantities to sustain the growth of Electric Vehicle (EV) adoption.

To meet the scale required of the current adoption trends, businesses are confronted with substantial upgrades to their electrical systems, making EV charging installations financially burdensome and lengthy in time, if not completely infeasible.

PowerFlex created Adaptive Load Management (ALM), a software algorithm that optimizes power consumption across a large network of charging stations. ALM optimizes each station's output to meet user demand while only using a fraction of the aggregate power traditionally required.

This allows businesses to shave as much as 60% off the cost of electrical system upgrades and peak-demand charges, paving the way to larger and more affordable charging networks that ultimately meet or exceed the adoption pace of electric vehicles.

Workplaces
Campuses
Municipalities
Fleets

11,318
deployed

Design | Hardware | Software | Installation | Maintenance

# MICROGRID

Power outages are estimated to cost the U.S. economy $150 billion annually. A microgrid is a zero-capital-cost energy solution that delivers energy resilience, reliability, lowers utility bills and achieves sustainability commitments.

*Source: Department of Energy*

# Clean Technology, Flexible Solutions

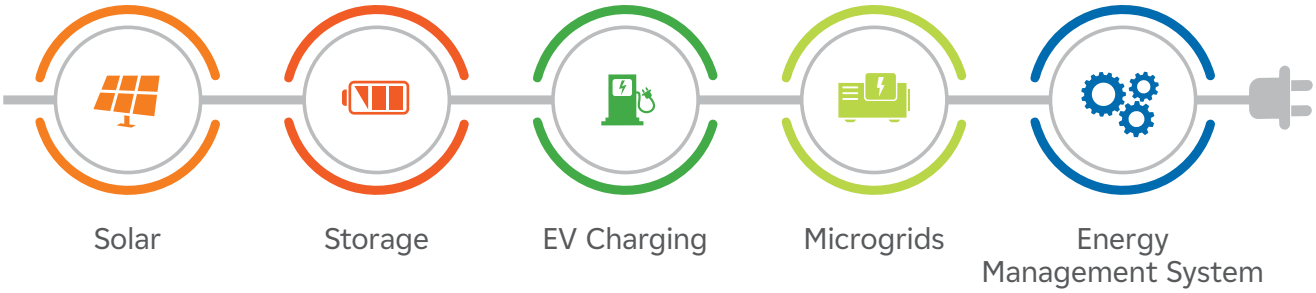
PowerFlex brings all of your clean energy needs under one roof. PowerFlex is a national provider of renewable energy infrastructure with a comprehensive suite of flexible, turnkey solutions designed to transform any organization into a clean-energy facility.

**Go Beyond the Grid**

Our scalable offerings include onsite solar, battery storage, electric vehicle charging, microgrids, and energy management systems. Whether standalone or working in concert as a bundled system, these technologies bring clean, reliable, and affordable carbon-free power when and where it is needed, helping our clients reduce their long-term energy costs, increase resiliency, and achieve sustainability goals.

**Multiple solutions, one point of contact**

When you work with PowerFlex, you have access to a full menu of renewable energy options that allows you to generate, store, and utilize zero-emissions electricity right on your own property. Our experts will design and build a dependable and long-lasting system that's not only tailor-made to your current needs but also has the ability to expand as those needs evolve. Best of all, you only need to interface with a single, reliable partner—PowerFlex.



# OUR AFFILIATES

**EDF renewables**

Grid-Scale Power
Distribution-Scale Power
Asset Optimization
Onsite Solutions

**EDF**

Wholesale Trading

**dalkia EDF GROUP**

Building Energy Services

**powerflex EDF Renewables**

Solar for Corporates
Storage
EV Charging
Microgrids
Energy Management

# OUR OFFERINGS

## Partners in energy innovation.

EDF Renewables' and EDF affiliates' coordinated offerings allow our clients to meet their sustainability goals while saving them money.

Developing a clean energy roadmap with a full range of services to solve any energy challenge, no matter the complexity, is what we do best. The collaboration across our teams gives our customers access to an entire suite of options under one roof.

- Solar Carport
- Solar Rooftop
- Solar Ground-mount
- Electric Vehicle Charging
- Operations & Maintenance
- Energy Efficiency
- Energy Management Systems
- Retail Energy Supply
- Thermal Generation
- Research & Development
- LED
- Storage

# EDF RENEWABLES, HEADQUARTERS

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Photo credits: Jim Brady, Jamie Dickerson, Damien Guy, Frederic Neema, Neil Ever Osborne, Daniel Peters, Joan Sullivan

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