Managing a diversified fleet

Challenge & Opportunities

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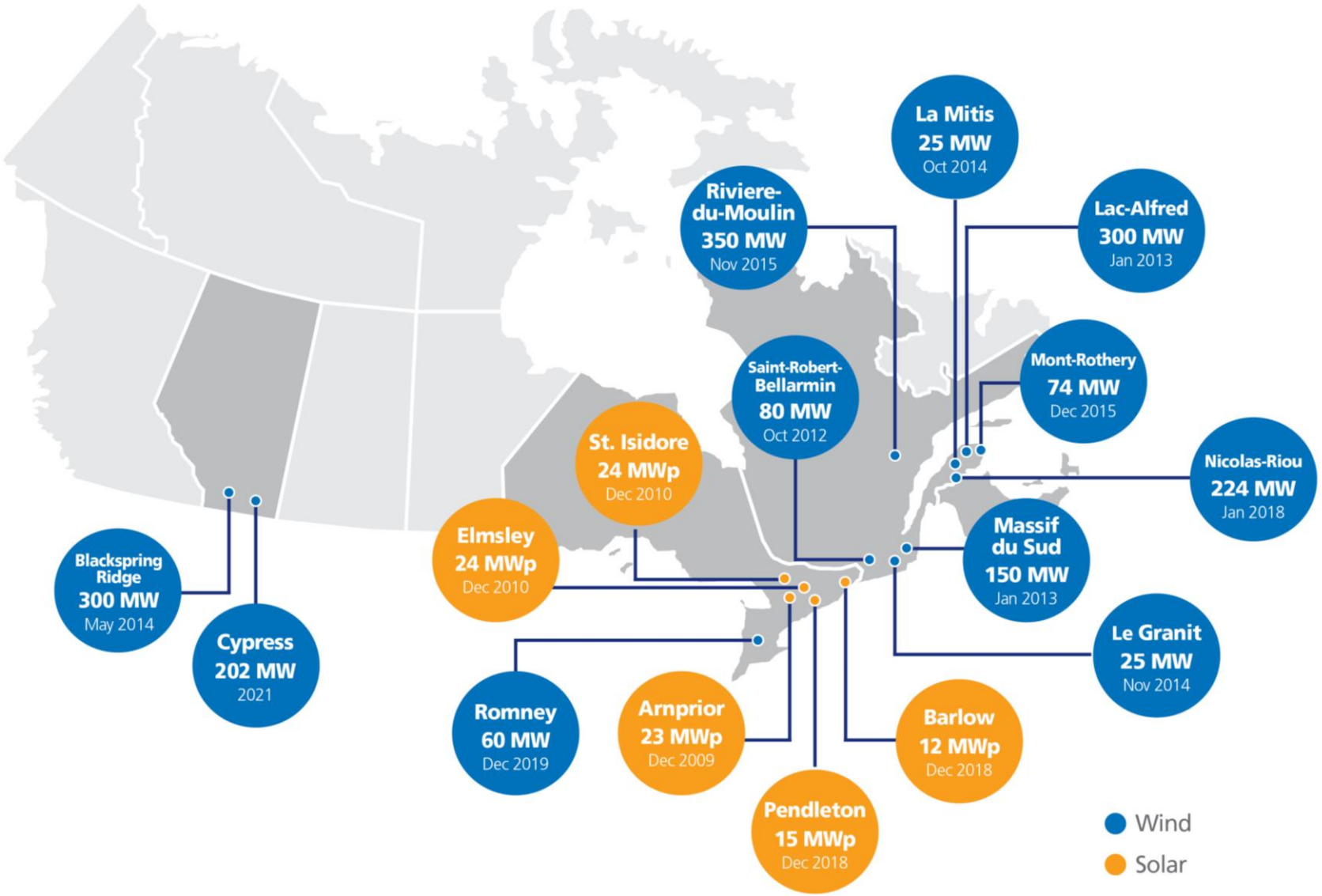
A Global Leader in Low-Carbon Energy

EDF Group, through its subsidiaries in North America delivers results to **utilities, commercial & industrial, and corporate purchasers** through the procurement of renewable energy.

EDF Renewables North America is one of the largest renewable energy developers in North America with 16 GW of **wind, solar, storage and electric vehicle charging projects** developed throughout the U.S., Canada, and Mexico.

EDF Renouvelables is the global renewable energy affiliate of the Group. Present in **20+ countries**, under the brand EDF Renewables, the company develops, builds and operates renewable power plants.



EDF Renewables in Canada

1,888+ MW

Put into Service, Under Construction or Contracted

+ 286 MW of solar and 424 MW of wind as third party O&M service provider

A diversified fleet to manage

- Wind and solar assets
- EDF owned and third party contracts
- Several different wind turbine & inverter models
- 3 O&M suppliers, including EDF-RS
- Various contractual scopes & availability warranties
- 3 provinces with their own regulations
- Older and newer assets pre and post warranty
- Various electrical & SCADA design

Managing various technologies & suppliers

Challenges

- Training
- In-depth knowledge of each technology
- Inventory costs
- Leverage with manufacturer
- Contract specificities

Opportunities

- Diversification
- Benchmarking
- Sharing of best practices

Self Operation VS OEM

Self Operation

- Better control of site management
- Centralisation of inventory
- Development of expertise
- Self reliance

OEM

- In-depth knowledge of the technology
- Access to SCADA, parts and latest software upgrades
- Simplifies warranty management
- Less apperance of conflict of interest with external investors

No perfect solution. It is context specific!

Dealing with different electrical & SCADA designs

Challenges

- Integrating DATA analytics tools
- No catch-all solutions
- Site specific maintenance plan
- NERC and utility compliance

Opportunities

- Tools flexible on hardware
- Renewal of IT infracstructure
- Being innovative!

EDF renewables

Managing aging assets

Challenges

- Obsolescence of certain parts (e.i. modules)
- Leveraging knowledge of legacy technologies
- Payback for CAPEX investments
- Outdated IT infrastructure

Opportunities

- Parts refurbishing
- Repowering?
- Feedback to development/implementation teams


EDF
renewables
Thank You. Questions?
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