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The Power Forward Challenge - Natural Resources Canada and the UK Department for Business Energy & Industrial Strategy Reward Innovation

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Natural Resources Canada's (NRCan) and the UK Department for Business Energy & Industrial Strategy's (BEIS) *Power Forward Challenge* is meant to galvanize the path toward a more sustainable future by exploring innovative smart grid technologies. Canadian and U.K. companies are competing to transform our means of accessing clean, flexible, and reliable energy by improving our electrical grid. As described below, a team led by Utilismart Corporation was shortlisted for the *Challenge*.

NRCan and BEIS stated four key objectives to the *Challenge* [Pg. 2]:

1. To demonstrate technology solutions to manage “complex groups of distributed energy resources to support grid flexibility, stability and reliability”;
2. to “build on Canadian and United Kingdom (UK) strengths in smart grid technology and bring together innovators from both countries to design solutions for the grid of the future”;
3. to create opportunities for Canadian and UK firms to expand into international markets; and
4. to “support Canadian and UK leadership and competitiveness in clean technology and innovation and the anticipated market opportunities for smart grid technologies in 2030 and beyond”.

These are important objectives for companies looking to be efficient and competitive in our digital age - the exponential increase in technological advances calls for sustainable solutions to increasingly complex issues in the energy sector. New technologies including “electric vehicles (EVs), smart devices, storage systems, [and] remote connectivity” place ever-increasing demands on Canadian electricity grids, which must adapt. The *Challenge* is one way to propel innovation in Canada and the UK and to encourage solutions that will bring value to the end user and the grid.

Certain team proposals will be selected in June by NRCan and BEIS to receive up to \$3 million each which will help them conduct a pilot-scale demonstration of their smart grid solution. A number of criteria are then considered before the final winner will be announced in March 2021 and awarded an additional \$1 million, including: the feasibility of the project; an evaluation of the consortium created/Canada-UK partnerships; the level and content of technological innovation; interoperability of the project; the viability of the business model; and an assessment of the project's consumer engagement plan.

Utilismart Corporation of London, Ontario was shortlisted for the *Challenge*. In collaboration with Canadian and U.K. companies including Essex Powerlines Corporation, Oakville Hydro, Planview Utility Services Limited, First Derivatives Plc, and Digital Engineering Ltd., the team's project seeks to efficiently connect grid operations, engineering planning, and in-field asset management while facilitating the use of smaller renewable generations and users. They are seeking to provide utility companies with a better look into their overall asset health and operational performance via efficient data analysis. This will move utility companies away from the traditional fixed interval maintenance programs and toward more transparency into the performance of their transformers, breakers, and switches. With grid intelligence insights into the market, weather data, and forecasting of generation and customer loads, the project has the potential to allow utilities to maximize market and customer value. You can see their full press release [here](#).

The March 2021 announcement is an exciting event for the *Challenge* participants and for electricity consumers alike. Not only is innovation necessary to enhance companies' competitive edge in the energy

industry, but electricity consumers will reap its benefits by gaining access to more transparent, sustainable, and efficient electrical grids.

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