



# ENERGY REPORT

Perspectives  
for the Turks and  
Caicos Islands

## Integrating Renewable Energy and Reducing Carbon Emissions in the TCI

/// **The Resilient National Energy Transition Strategy (R-NETS) will guide FortisTCI and TCI to achieve the agreed renewable energy integration and carbon emissions targets. The R-NETS envisions a reduction in diesel use of 10.3 million gallons annually, or 12.3 percent relative to a business-as-usual case. This can be achieved by increasing renewable energy penetration to 33 percent of total energy production up to 2040.** ///

**ELECTRICITY** in the Turks and Caicos Islands is on a trajectory to be produced to a greater degree from renewable energy sources, principally solar, over the next 22 years. This is outlined in The Resilient National Energy Transition Strategy (R-NETS), the roadmap for renewable energy integration developed and agreed by the TCI Government, FortisTCI and Rocky Mountain Institute.

The R-NETS highlights four main priorities and strategic objectives for future energy production and delivery, namely least cost, reliability, resilience, and environmental sustainability.

Reducing dependence on fossil fuel for energy production and making the transition to more renewable forms of energy is key to environmental sustainability. The Paris Agreement, which seeks to drive a global response to climate change, calls for national and multi-national efforts to limit global temperature rise below 2 degrees Celsius above pre-industrial levels, and to limit increases further to below 1.5 degrees Celsius. The energy sector is seen as having a key role to play in these efforts, hence the push by countries and utility companies across the globe to ramp up their efforts to produce energy from renewable sources.

The Edison Electric Institute (EII), an association that represents US investor-owned electric companies, and which includes more than 65 international electric companies with operations in more than 90 countries, discloses that "over the past five years, more than half of new electricity generation capacity was wind and solar. In fact, EII member companies have quadrupled the percentage of renewable sources in their energy mix since 2005". This data is contained in EII's December 2019 report, 'The Clean Energy Transformation: Electric Companies Are Leading the Way'. EII also reports that "as of year-end 2018, the electric power sector's CO2 emissions were down 27 percent from the 2005 baseline—nearly the lowest level in three decades."

Caribbean governments and utilities in the region have also been working to transition to more renewable energy, reduce carbon emissions and improve the resiliency of their energy systems against shocks, including weather-related impacts that can be linked to climate change. These are important and ongoing steps for the region, which is particularly vulnerable to climate change, which can put at risk their tourism-dependent economies.

Sustainable energy is important to FortisTCI and its parent company Fortis Inc., and that is why FortisTCI has been



A Memorandum of Understanding signed by FortisTCI, the Turks and Caicos Islands Government and the Clinton Foundation in October 2019, will accelerate the development and integration of more clean energy sources throughout the Turks and Caicos Islands.

taking strategic steps to integrate renewable energy sources to the grid since 2016. Like many utilities in the Caribbean and around the world, FortisTCI recognizes a duty to limit its impact on the natural environment and reduce its carbon footprint, while it continues to meet current and future electricity demands in a reliable and safe manner.

The R-NETS and FortisTCI's own strategic plans are in place to help the company and country achieve the agreed renewable energy integration and carbon emissions targets. The R-NETS envisions a reduction in diesel use of 10.3 million gallons annually, or 12.3% relative to a business-as-usual case. This can be achieved through diversification of electricity sources by increasing renewable energy penetration to 33 percent of total energy production, over the 22-year period covered by the R-NETS.

To achieve more renewable energy, the R-NETS recommends that FortisTCI scale up its Utility Owned Renewable Energy (UORE) and Customer Owned Renewable Energy (CORE) programs to "accelerate uptake of distributed solar up to 3 MW over the next five years." **But none of the goals and benefits of R-NETS can be achieved without the right enabling legislation and regulations.**

Nevertheless, action to accelerate uptake of distributed solar is well underway. In 2019, FortisTCI added another half-megawatt (MW) of solar energy generation to its grid in Providenciales, with three rooftop solar installations under the UORE program. The company has now installed 1 MW of rooftop solar PV in partnership with nine customers through its UORE Program. These installations have helped to avoid 1.5 million pounds of CO2 equivalent emissions.

In addition, the R-NETS recommends that FortisTCI should

undertake additional utility-scale solar PV projects and install up to 7 MW of distributed solar PV systems across the TCI within the next four years. The company has plans to install 1 MW of solar at locations in Providenciales, North Caicos, South Caicos and Grand Turk in 2020.

The R-NETS also calls for a reduction in total emissions, with a 12% decrease over the 22 years versus 2018. The R-NETS identifies opportunities to increase system resilience to external shocks, by incorporating distributed and flexible energy sources. Resilience is of particular concern to regional utilities, given the frequency and severity of weather events such as hurricanes and natural disasters. FortisTCI's ability to restore electricity within 60 days following Hurricanes Irma and Maria in 2017 can be attributed to a robust, resilient system, the product of sustained and strategic investments made by the company over many years.

It is worth noting that a resilient system encompasses the entire energy infrastructure, not simply generation and transmission and distribution networks. Assets such as the company's corporate headquarters, built to Category 4 hurricane standards, and which served as a safe space and operationally efficient location during the 2017 hurricanes, proved vital to the quick restoration of service.

In addition to lowering emissions, reducing the use of diesel fuel and increasing renewable energy integration, the R-NETS contains another win-win for the energy sector in the TCI. The R-NETS projects that the total electricity system costs can be reduced by US\$115.2 million by 2040, thereby helping to achieve an energy system that is least cost, reliable, resilient, and environmentally sustainable.

To learn more about the R-NETS, visit [https://rmi.org/wp-content/uploads/2019/03/TCI\\_RNETS\\_ExecutiveSummary.pdf](https://rmi.org/wp-content/uploads/2019/03/TCI_RNETS_ExecutiveSummary.pdf)

FortisTCI continues to integrate renewable energy to its generation mix, and in 2019, 0.5 MW of solar PV was added to grid in Providenciales, bringing the total to over 1MW. At Caicos Depot (pictured) is the largest single installation under the company's Utility Owned Renewable Energy program.