



Driving environmental outcomes through utility reform

“Coupling electrification of heating and transport with significant decarbonization of the power sector... could lead to more than a 70% reduction in U.S. energy-related GHG emissions...”

—Electrification: Emerging Opportunities for Utility Growth, The Brattle Group

Fossil fuels are responsible for more than 75% of heat-trapping carbon emissions across the country.¹ Eliminating the use of this dirty energy resource – decarbonization – is essential to addressing pollution and mitigating the effects of climate change. The electric system is poised to play an essential role in mobilizing the economy to achieve decarbonization. Meeting emissions-reduction goals will require drawing more power from renewable energy sources and electrifying a range of sectors, including transportation and industry. This will call for the electric system, which was built on century-old principles and practices, to change its structure and operations to create significant near-term and long-term environmental benefits.

Bold energy initiatives for New York

New York is at the vanguard. Aiming to reduce carbon emissions 80% by 2050, the state is re-envisioning its energy system to reach a goal of reducing carbon pollution by 40% and generating 50% of its energy from clean, renewable sources by 2030. Its comprehensive energy initiative, “Reforming the Energy Vision” (REV), seeks to align utility earnings and business practices with the creation of a more efficient and sustainable energy system, and to stimulate the market by harnessing the full potential of renewable and distributed energy resources.

EDF’s whitepaper, “*Driving Environmental Outcomes through Utility Reform: Lessons from New York REV*,” looks at elements of electric utility modernization that can accelerate decarbonization.

An electric grid for the future

The aftermath of major storms like Superstorm Sandy and Hurricanes Irene, Harvey, and Irma is a painful reminder of how heavily we depend on electricity. Technological advancements and changing energy use patterns will only increase our need for affordable, reliable energy. Grid modernization to improve resiliency and future-proof the electric system needs to occur

“The company expects to achieve [32 MW of] load relief through installation of efficiency measures at over 6,400 small businesses, 1,560 multi-family buildings, and 12,768 1-4 family residences.”

—Q3 2017 Report, Con Edison

¹ Energy and the environment explained: Where greenhouse gases come from. U.S. EIA (July 2017), https://www.eia.gov/energyexplained/index.cfm?page=environment_where_ghg_come_from.

simultaneously alongside decarbonization efforts.

To accommodate these changing needs, the grid must do more than deliver electricity to customers. It needs to provide new business opportunities and values to stakeholders and to society, and support a transformation that yields tangible environmental outcomes.

Accelerating the elimination of fossil fuels

Hastening decarbonization requires:

- *Building a smart platform:* The Distribution System Platform is a transactional overlay to the grid. It will help utilities and the market

deploy energy resources to maximize efficiency and minimize costs.

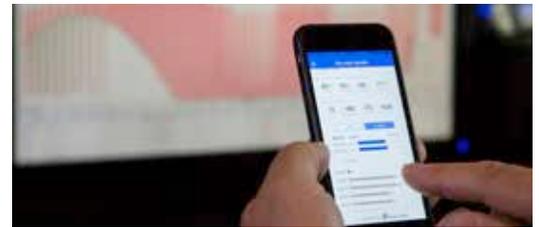
- *Aligning utility earnings with environmental outcomes:* Historically, electric utilities have made money by building infrastructure and selling electricity. Their earning opportunities should align with marketplace outcomes that support environmental results.
- *Engaging customers as market participants:* Customers who can generate electricity or manage their demand will play a key role. Market signals and timely access to electricity use data will be essential to ensure participation, including that of residential customers from disadvantaged communities.

Opportunities to engage



The Neighborhood Program

In 2014, Con Edison launched The Neighborhood Program, previously known as the Brooklyn-Queens Demand Management Program. The program aims to motivate customers to reduce energy use during periods of high demand to relieve stress on the grid. By combining the use of energy efficiency, solar, and batteries with energy management programs, the utility improved its operations and suspended the construction of a \$1-billion substation in Brooklyn. Instead of earning a return on investment, Con Edison will receive performance incentives tied to cost-savings from postponing the substation. The program has achieved 32 MW of load-relief commitments so far.



Advanced Metering Infrastructure

In 2016, the New York Public Service Commission approved Con Edison's plan to install advanced meters with more than 4.5 million electric and gas customers in New York City and Westchester. This rollout will make meter data available to customers and include piloting more sophisticated pricing for electric service. Advanced meters are a key component of a smart platform, and enable significant benefits to the marketplace. They help utilities operate more efficiently through increased automation, which helps detect power outages faster and reduce operation costs, and better voltage management, which reduces wasted energy and emissions.

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