

Emera EMERA NEWFOUNDLAND EMERA NEW & LABRADOR **BRUNSWICK EMERA INC** NOVA SCOTIA POWER **EMERA ENERGY** NEW MEXICO GAS TAMPA ELECTRIC GRAND BAHAMA POWER PEOPLES GAS BARBADOS LIGHT & POWER

Emera Technologies

Emera, a \$32 billion energy company, created its skunk works division to understand the disruptive forces in energy and their impacts on the industry.

Business, residential, and military customers want cleaner and more reliable energy as we become more dependent on energy for daily and critical needs.

New technologies are opening transformational opportunities in the energy landscape.





DoD is focused on ensuring military operations with ongoing efforts that enable resilient, efficient and cyber-secure energy for the joint forces, weapon systems and installations

New Mexico Can be a National Security Model Leadership in Clean Energy, Water Security, Education, and Job Creation

(1)

RESILIENT ENERGY:

- Physical Security
- Cyber Security
- Energy/Resource Security

TECHNO-ECONOMIC APPLICATIONS:

- Energy Storage
- Microgrids
- Blackout Recovery
- Fossil Retirement
- Renewables Integration
- Energy/Water Infrastructure
- Disaster Response (natural/human caused)
- Transportation
- Hydrogen

BUILDS ON SANDIA WORK:

- California
- Alaska
- Hawaii
- Puerto Rico/US Virgin Islands
- Texas



Military Interest is Robust

Sandia National Labs Engagement on DC Microgrids **CRADA Signed**

CRADA Amended to include DOE-OE \$200K commitment Tours with U.S. House Members Haaland and Smith; Col. Miller interview in Albuquerque Journal

Q1 2018 Q2 2018 Q3 2018 Q4 2018 Q1 2019 Q2 2019 Q3 2019 Q4 2019 Q1 2020

Cooperative Research and Development Agreement ("CRADA") Initiated

Meeting with Office of Electricity; \$200K DOE Commitment

Demo installed, ribbon cutting;
Sen. Heinrich tour

Demo commissioned; TCF¹ cyber application; \$8.5M SETO² grant awarded

² Technology Commercialization Fund

³ Solar Energy Technology Office



Kirtland Airforce Base Resiliency Project

BlockEnergy launched eight months ago. The smart platform has operated without interruption, helping pave the way for a more resilient future.

BlockEnergy has also entered a Collaborative Research and Development Agreement (CRADA) with Sandia National Labs, (the country's energy thinktank). Sandia will be stress testing the resilience of BlockEnergy's system under various conditions such as lightning, fault conditions, and a sudden loss of grid power.

12+ Months of autonomous operations

Accelerated construction timeline (in months)

100 Kilowatts of installed rooftop solar

200 Kilowatt-hours of battery storage

