



NYSERDA

CHG&E Solar Summit

February 16, 2021

Clean Energy Fund (CEF) – Smart Grid

The Clean Energy Fund: Next 5 yrs

- Accelerate the use of clean energy and energy innovation
- Drive economic development
- Meet CLCPA mandates
- Support investments in LT (Local Transmission) & D (Distribution)

Includes:

- Grid Modernization
- Energy Storage
- Advanced Buildings
- Renewable Energy
- Clean Transportation

Smart Transmission & Distribution Systems – Strategy

Invest in research that accelerates realization of an advanced, digitally enhanced and dynamically managed electric grid that results in more efficient asset utilization (e.g., reduced operating margins, reduced power demands, reduced energy losses) and improved reliability, and resiliency to climate change induced weather-events.

- ✓ sensing, communications, diagnostics and controls
- ✓ advanced/improved products and materials (physical asset protection and improved functionality)
- ✓ grid visualization, communication and control systems associated with the interoperability of DER
- ✓ modify regulatory paradigm to *align incentives* with goals

Smart Transmission & Distribution Systems – Objectives

- ✓ Increase system efficiency & asset utilization
- ✓ Integrate /enable large and small scale RE and DER – Energy deliverability
- ✓ Sync w/smart load, smart transportation and advanced clean power technologies(de-carbonize) – Grid flexibility, EV's, & Building electrification
- ✓ Support prediction of faults/quicken restoration - Improve resiliency & reliability

Grid Modernization (Smart Grid) Program

Recent funding opportunities (\$30M):

- PON 4074 – High Performing Grid (2019-20)
- PON 4128 – Future Grid (2019-20)

Future funding opportunity (\$40M):

- PON 4393 – Future Grid (2021-23)

Grid Modernization Program

PON 4074 – High Performing Grid

- 21 proposals selected for award
- Approximately \$17 M in total
- Awards focused on:
 - DER Interconnection (3Vo)
 - PV / ES Integration (DERMS)
 - RE / DER Integration (Energy Deliverability)
 - Grid Flexibility (BA/ ES)
 - DA / FLISR (Reliability /Resiliency)
 - Power Electronics (FACTS)
 - Advanced Weather Modelling (NY MesoNet)

Grid Modernization Program

PON 4128 – Future Grid

- 5 proposals selected for award
- Approximately \$10 M in total
- Awards focused on:
 - Connect DER / EPRI – Con Ed
 - Smart Inverter / ADMS – O&R
 - DERMS – CHG&E
 - Utilidata - NG

Smart Transmission & Distribution Systems – Future Focus

Several issues as being key to achieving CLCPA goals:

- Alleviate transmission system bottlenecks to allow for better deliverability of renewable energy throughout the State,
- Unbottle constrained resources to allow more hydro and/or wind imports and the ability to reduce system congestion,
- Optimize utilization of existing transmission capacity and right of ways, and
- Increase circuit load factor through dynamic ratings.

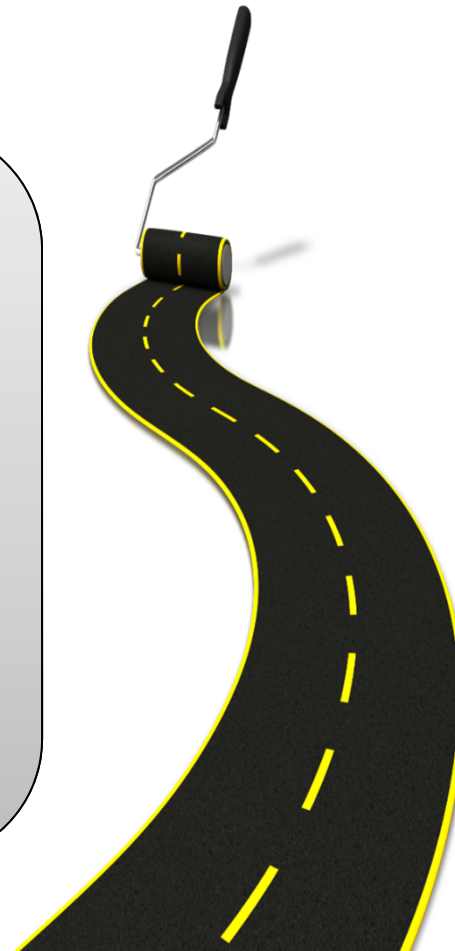
Smart Transmission & Distribution Systems – Adv Technologies

- **Dynamic line ratings and improved transmission utilization**
- **Power flow control devices – distributed and centralized FACTS**
- **Energy storage for T&D services**
- **Improved operator situational awareness**
- **Transformer monitoring**
- **Advanced high-temperature, low sag (HTLS) conductors**

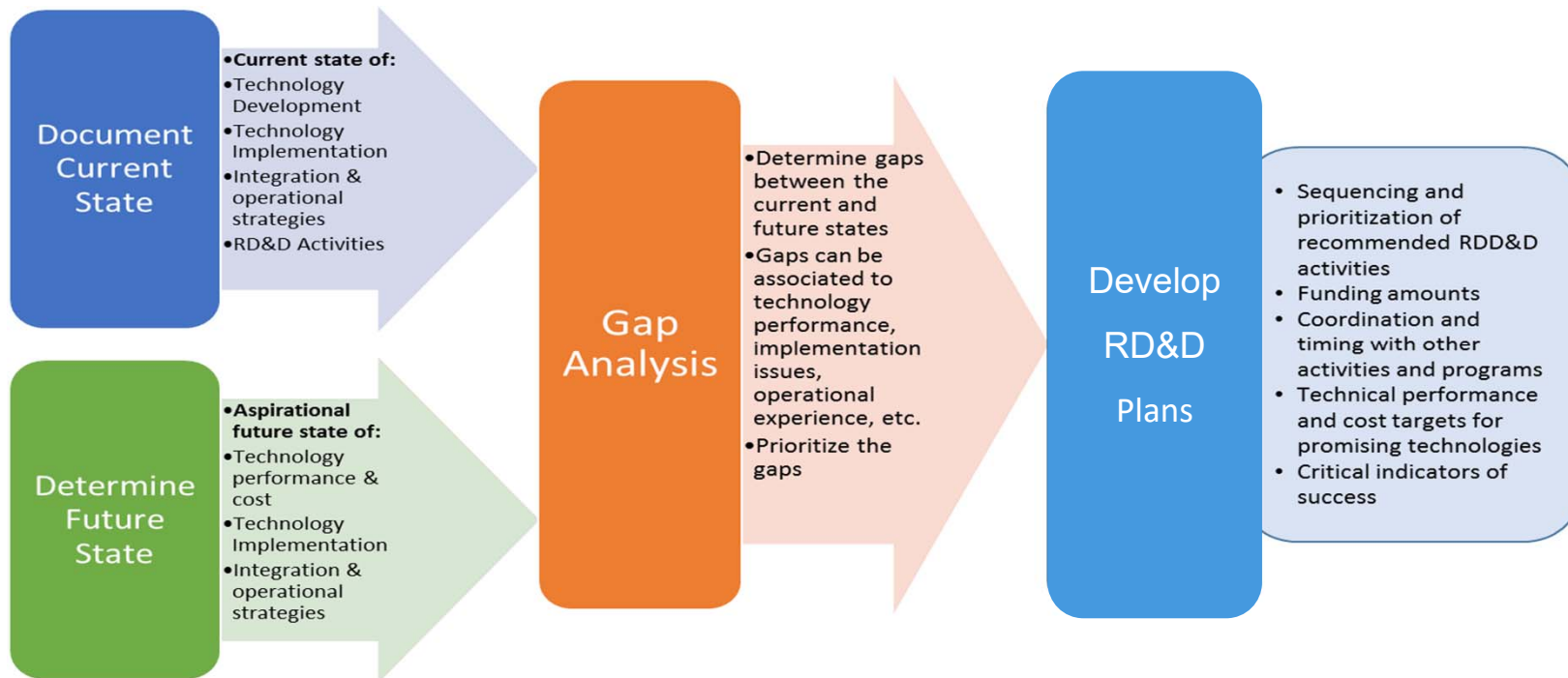
Grid Modernization

Build a roadmap for the development of models, methods, and technologies needed to plan, deploy and operate an advanced electric transmission and distribution system.

Outcome will provide guidance to all NY stakeholders for research, development, and demonstrations (RD&D) opportunities supporting the modernization of the NY electric distribution system.



Grid Modernization



Questions?



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