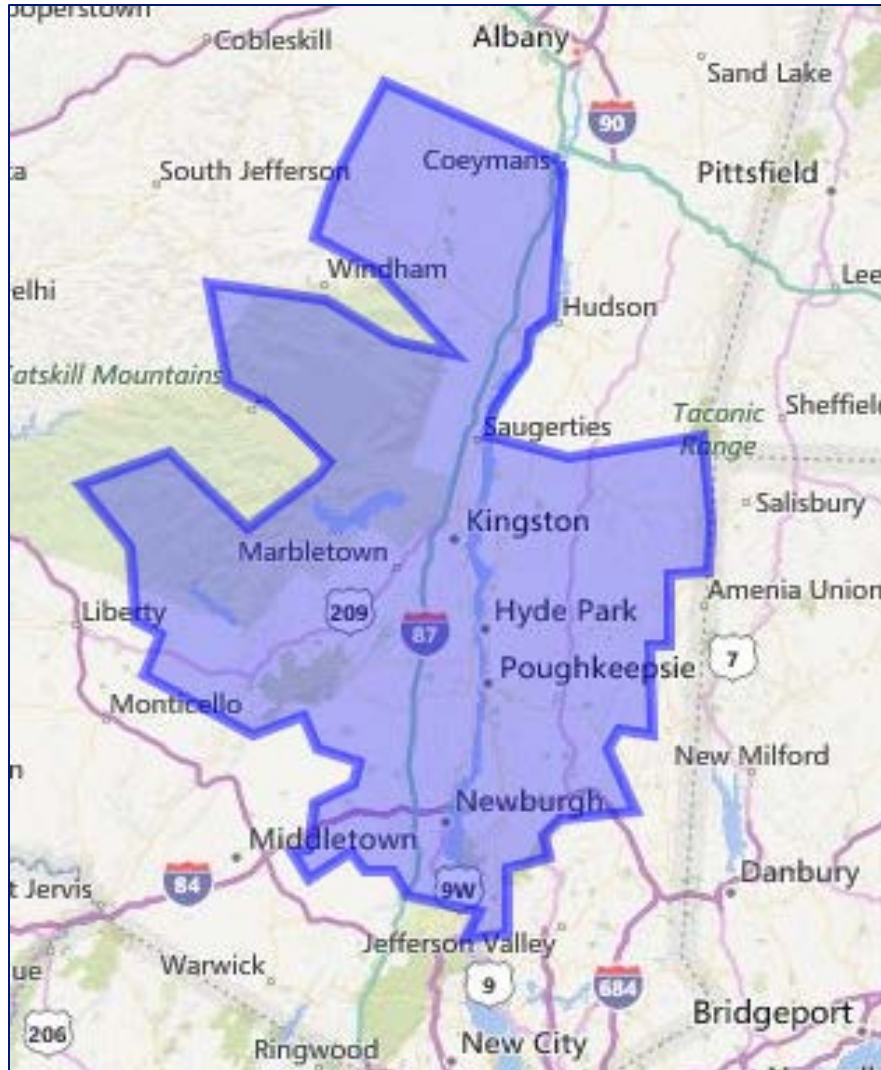# Central Hudson's Hosting Capacity Maps

Stephanie Genesee

Associate Engineer

Electric Distribution Planning

March 27, 2018

Central Hudson Service Territory
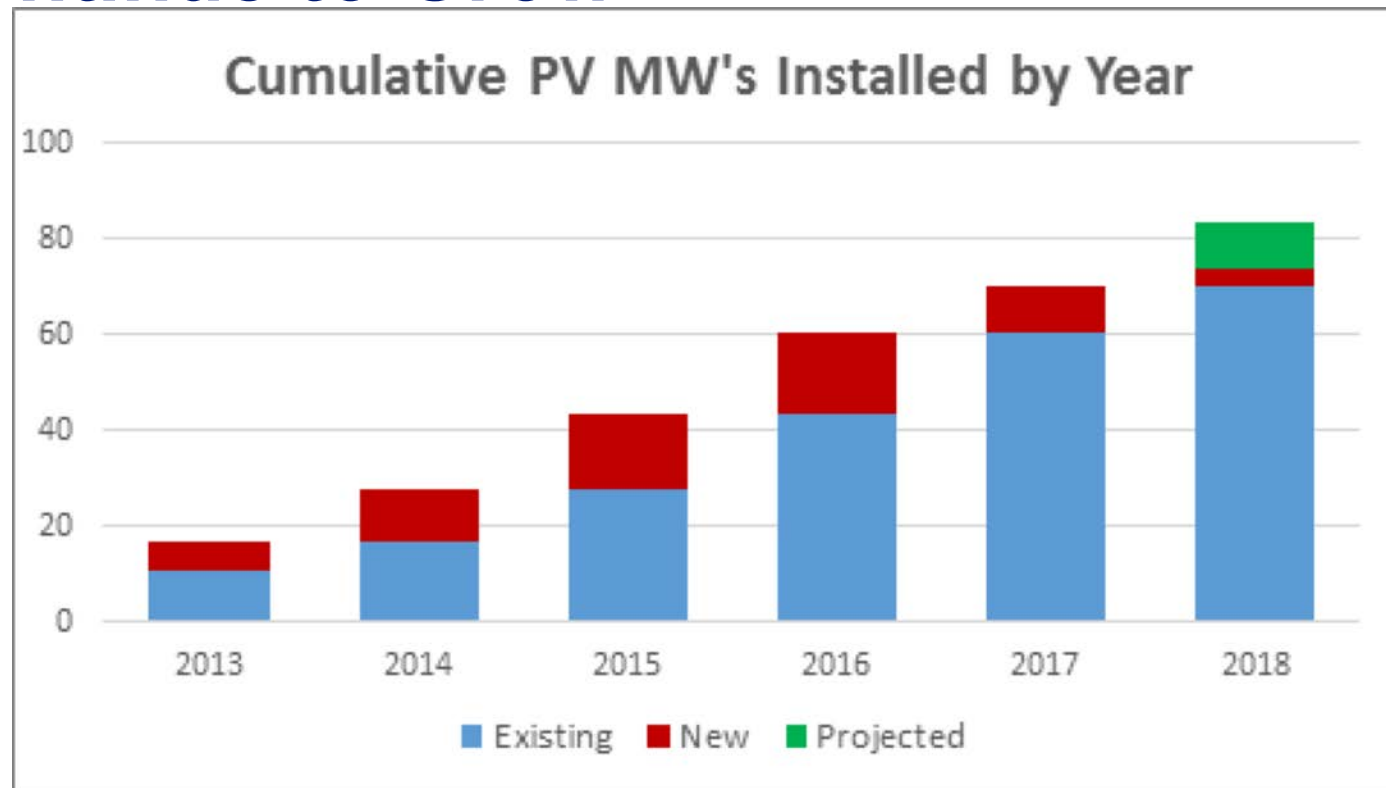

Electric

300,000

Gas

75,000

Distributed Solar PV Installations Continue to Grow

Cumulative PV MW's Installed by Year

Installed 2/28/18	Pending 2/28/18
• 7,800 Systems • 75 MW	• 300 Systems • 134 MW

Significant Driver is Distributed Large, Standalone Solar

- **Remote Net-Metered (RNM)**
  - Largest system installed: 1.584 MW
  - # Approved for Construction:12
- **Community Distributed Generation (CDG)**
  - First system installed: 166.5 kW
  - # Approved for Construction: 30

Interconnection Queue Peak	Electric System Peak
• 774 MW in February 2017	• 1,034 MW in July 2017

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Hosting Capacity: A Tool for Guided PV Deployment

- **Development**
  - NYS Utilities & Electric Power Research Institute (EPRI)
  - "Defining a Roadmap for Successful Implementation of a Hosting Capacity Method for New York State"
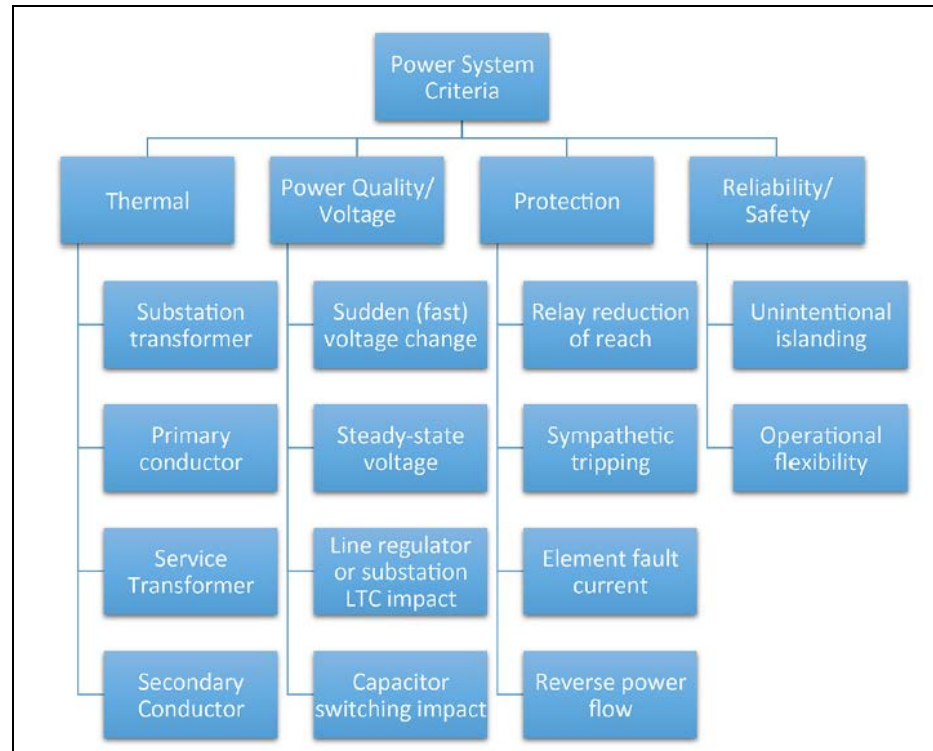- **Methodology**
  - Definition
  - EPRI's Streamlined Hosting Capacity
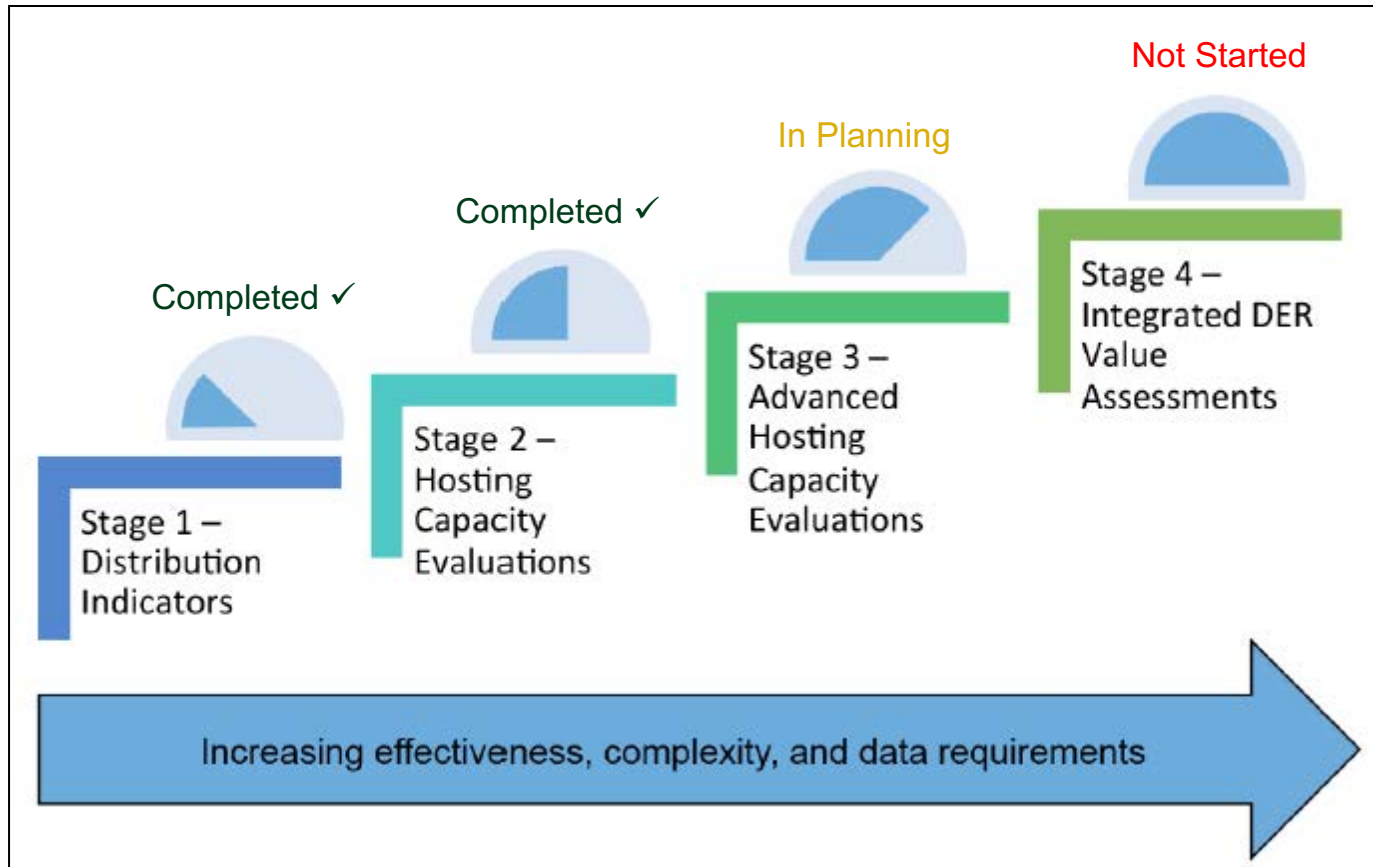 - System Impacts
  - Map display

What is Hosting Capacity?

DEFINITION

"Hosting Capacity is an estimate of the amount of Distributed Energy Resources (DER) that may be accommodated without adversely impacting power quality or reliability under current configurations and without requiring infrastructure upgrades."
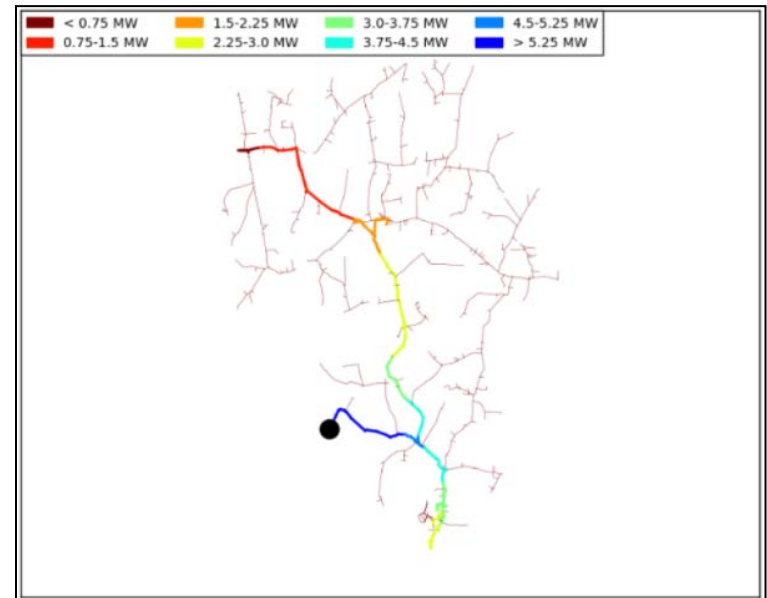
Hosting Capacity Roadmap

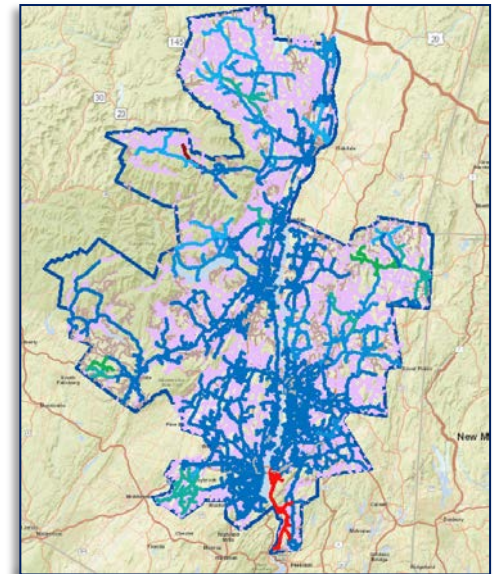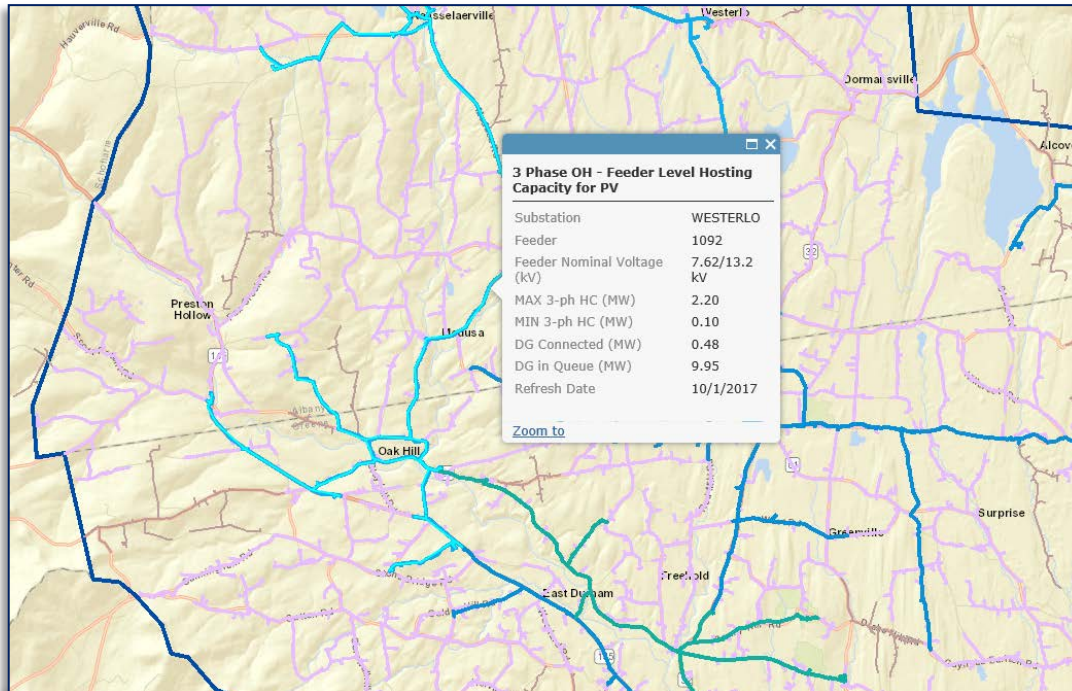# Initial Hosting Capacity Stages

- **Stage 1 Distribution Indicator Map** [completed]
- **Stage 2 Hosting Capacity Evaluations** [completed]
  - Feeder-level hosting capacity
  - Circuits 12kV and above by 10/1/2017
  - Updated annually

Remote Net-Metered 1.368 MW Solar PV

How Can the Hosting Capacity Map Be Used?

3 Phase OH - Feeder Level Hosting Capacity for PV
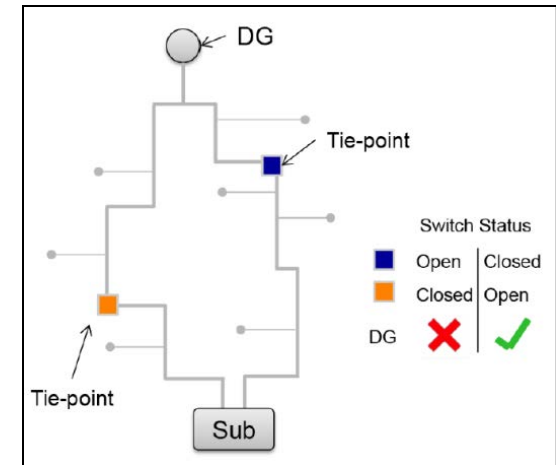
Substation	WESTERLO
Feeder	1092
Feeder Nominal Voltage (kV)	7.62/13.2 kV
MAX 3-ph HC (MW)	2.20
MIN 3-ph HC (MW)	0.10
DG Connected (MW)	0.48
DG in Queue (MW)	9.95
Refresh Date	10/1/2017

Zoom to

Legend

Hosting Capacity

3 Phase OH (MW)

▬	Less than 0.30
▬	0.30 - 0.49
▬	0.50 - 0.99
▬	1.00 - 1.49
▬	1.50 - 1.99
▬	2.00 - 2.99
▬	3.00 - 4.99
▬	Greater than 5.0
▬	NULL

Central Hudson's Hosting Capacity Map:
https://www.cenhud.com/dg/dg_hostingcapacity
Joint Utilities of NY Website:
http://jointutilitiesofny.org/utility-specific-pages/hosting-capacity/

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Future Hosting Capacity Stages

- **Stage 3 Advanced Hosting Capacity Evaluations** [in planning]
  - Evaluation of the hosting capacity on the more granular (node) level including considerations for operational flexibility and transmission constraints

- **Stage 4 Fully Integrated DER Value Assessments** [not started]
  - Hosting capacity assessment combined with DER value assessments that identifies potential benefits including improved efficiency, reliability, and capacity deferral. Means for increasing hosting capacity through use of smart inverters and storage.

Thank You! – Questions?

Residential 13.16 kW