Hosting Capacity Stakeholder Webinar

(May 18, 2022)

Engagement Group Ground Rules*

- All stakeholder engagement (Advisory Group and Engagement Group) meetings, webinars and information exchange are designed **solely** to provide an open forum or means for the expression of various points of view **in compliance with antitrust laws**.

- **Under no circumstances** shall stakeholder engagement activities be used as a means for competing companies to reach any understanding, expressed or implied, which tends to restrict competition, or in any way, to impair the ability of participating members to exercise independent business judgment regarding matters affecting competition or regulatory positions.

- Proprietary information **shall not be disclosed by any participant** during any stakeholder engagement meeting or its subgroups. In addition, no information of a secret or proprietary nature shall be made available to stakeholder engagement members.

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- AG & EG discussions will be **open forums without attribution** and no public documents by the AG or EG will be produced unless publication is agreed upon by the group.

Ground Rules adapted from the JU Advisory Group

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Agenda

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Meeting Goals

The JU has four goals for this stakeholder session.
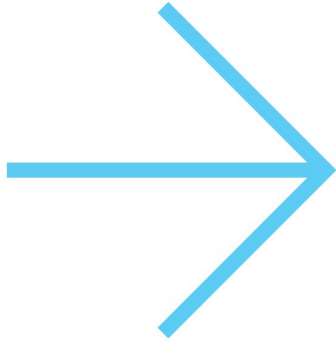
Hosting Capacity: HC
Hosting Capacity Analysis: HCA

Review Features

Share what's included in the storage hosting capacity map at stage at a high level and how it can benefit stakeholders.

Identify key functionality features

Show functionality of key featured reviewed with images from National Grid's Storage Hosting Capacity Map.

Share Roadmap Vision

Provide current thinking on next steps and the long term–vision for the storage hosting capacity roadmap

Solicit Feedback

Garner thoughts and suggestions on the roadmap. Take questions on the stage 1 storage hosting capacity map.

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Evolution of the Roadmap

The Joint Utilities, with guidance from stakeholders developed a four staged Hosting Capacity implementation roadmap. This was incorporated into New York Utility filings.
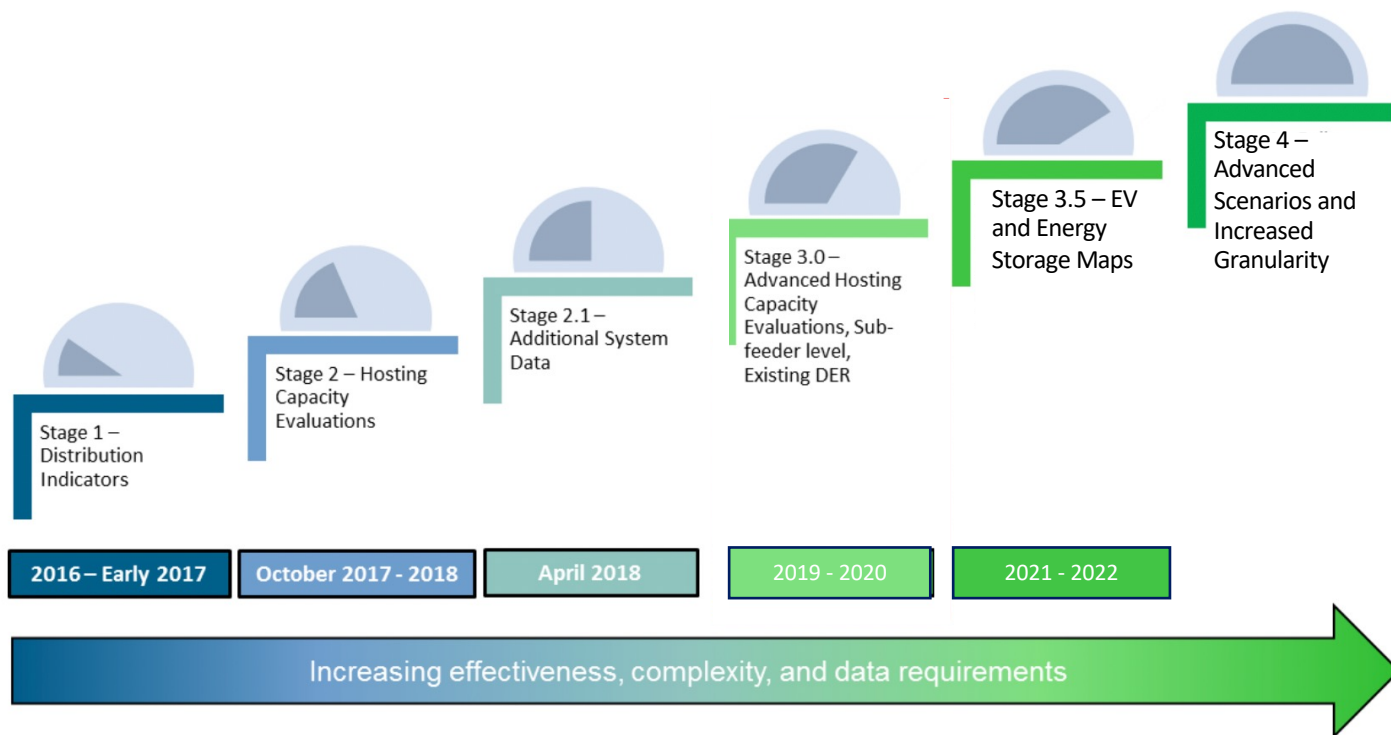
Overview: Stage 1

In 2021, the JU proposed Stage 1 of the HCA maps show...

1	Feeder–Level Hosting Capacity (min/max)
2	Additional System Data
3	Downloadable Feeder–Level Summary Data
4	Reflect Existing DER in Circuit Load Curves and Allocations

Due to stakeholder feedback, all map views now also show...

- post sub-transmission circuits that are available to host distributed generation on their individual portals to help developers best evaluate options for storage connections.

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Daytime Minimum Load and Peak Load
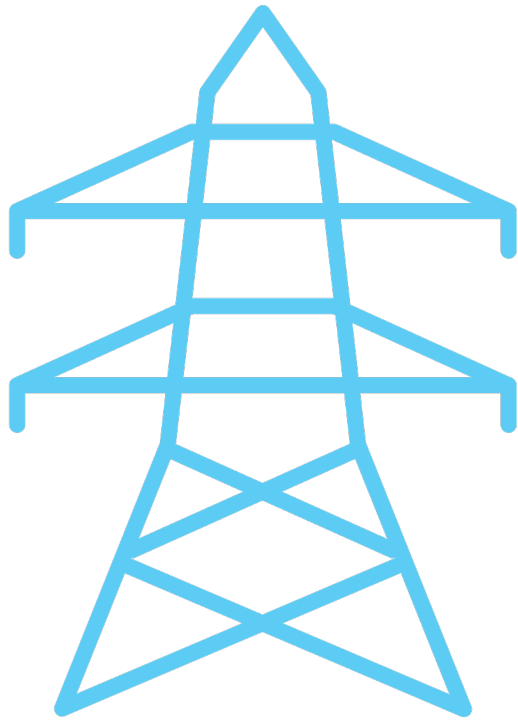
The JU have discussed the use of one or two input load files tied to:

- Daytime minimum load
- Peak load

The JU has agreed to the following outputs:

- From the storage run in DRIVE, an output file providing charging limits (from peak load analysis) and discharging limits (from daytime minimum load analysis)

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Approach to Creating Separate Displays

Providing separate displays for load and generation hosting capacity should help initially address requests for greater transparency on the analysis criteria violation.

Color is based on the min of the maxes, but min of min will also appear on pop-up with more information.

DRIVE output file based on summer peak load	→	Min / Max for **charging** criteria	→	Storage Load HCA Map	***Example Feeder HCA*** Min: 800 kW Max: 1200 kW
DRIVE output file based on off-peak daytime min load	→	Min / Max for **discharging** criteria	→	Storage Generation HCA Map	Min: 200 kW Max: 600 kW
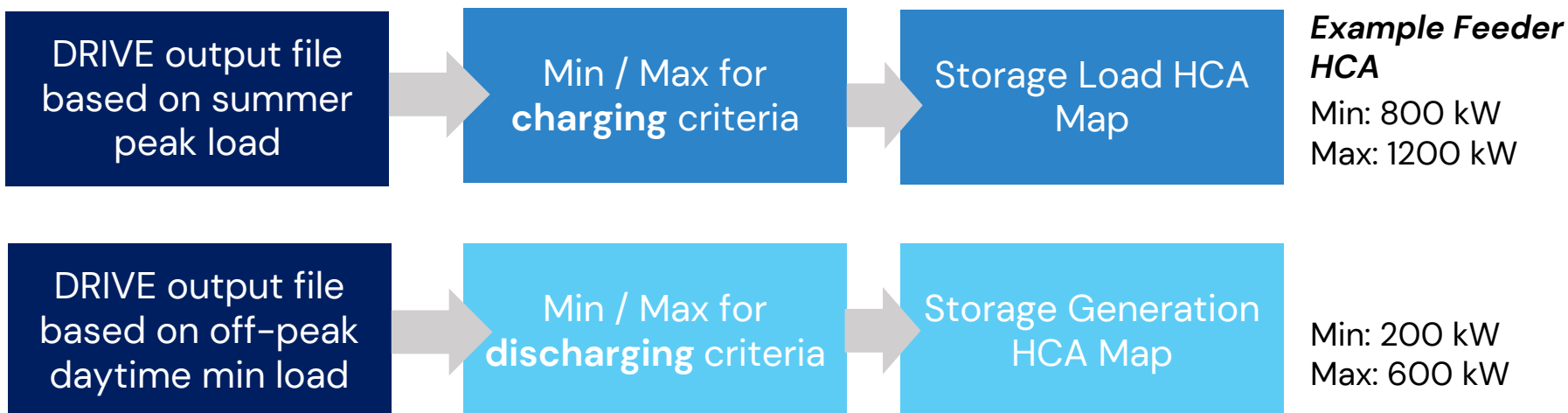
Note: The min/max generation criteria will be specific to storage and not solar PV. This includes changes in fault current contribution and potential voltage changes.

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Breakpoints and Color

Breakpoints	Discharging Color	Charging Color
> 5.00 MW		
3.00 – 4.99 MW		
2.00 – 2.99 MW		
1.50 – 1.99 MW		
1.00 – 1.49 MW		
0.50 – 0.99 MW		
0.30 – 0.49 MW		
0.00 – 0.29 MW		
ESRI Base Layer		

The breakpoints are the same as the PV maps.

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Pop-up Items

All Utilities

Date.

Local hosting capacity (MW). Depending on the map view. the popup will either show the min/max hosting capacity for charging or the min/max hosting capacity for discharging.

Substation/bank name. The substation that the selected feeder is connected to.

Feeder. The selected circuit's name/number.

Substation/bank rating (MW). The substation / transformer bank design rating in MW.

Feeder voltage (kV). Voltage level of the selected feeder.

Most Utilities

Anti—islanding HC limit (MW). Except for National Grid, all utilities will also show anti–islanding HC value (it will not be used to color the feeder range for hosting capacity).

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Disclaimer/Awareness

When the Hosting Capacity Tab is selected a screen appears showing a legal disclaimer.

- The maps represent the feeder level energy storage hosting capacity only and do not account for all factors, such as other loads in queue, that could impact energy storage interconnection costs.
- The maximum hosting capacity value is indicative of the available hosting capacity at a specific location across the feeder segment, most often located at the beginning of a feeders three-phase mainline.
- The minimum hosting capacity value is indicative of the available hosting capacity across the length of the feeder and most often defined by the hosting capacity value located at the end of the three-phase mainline.
- This data is being provided for informational purposes only and is not intended to be a substitute for the established customer application process.

The Disclaimer links to ESS Hosting Capacity Analysis Methodology and Assumptions

- This document explains the assumptions and methods used in calculating the hosting capacity values and sheds light on how the results should be interpreted

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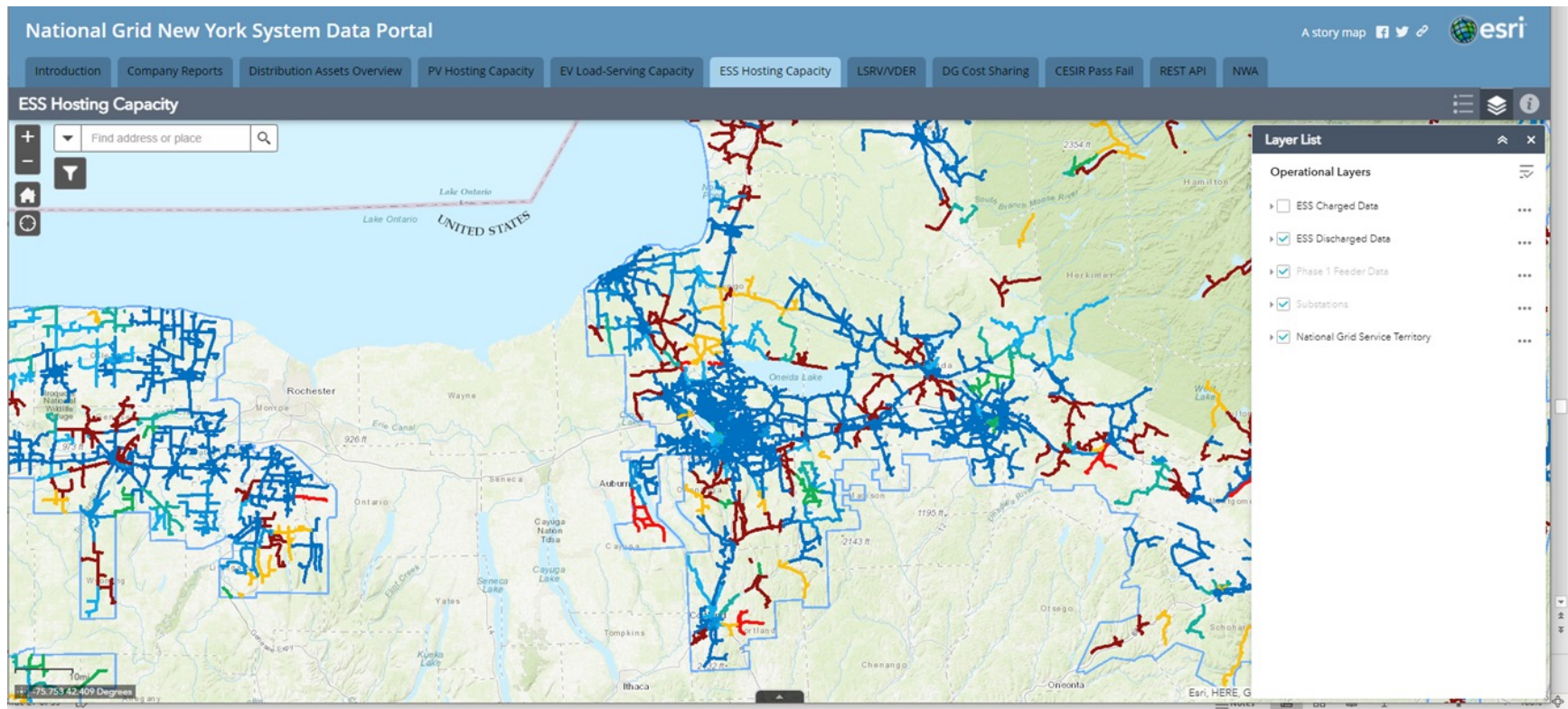
Layer 1: Discharging

The ESS Hosting Capacity has two layers.

- Discharging is for exporting Power onto the Grid
- The data is mapped for the feeder ESS Hosting Capacity max.
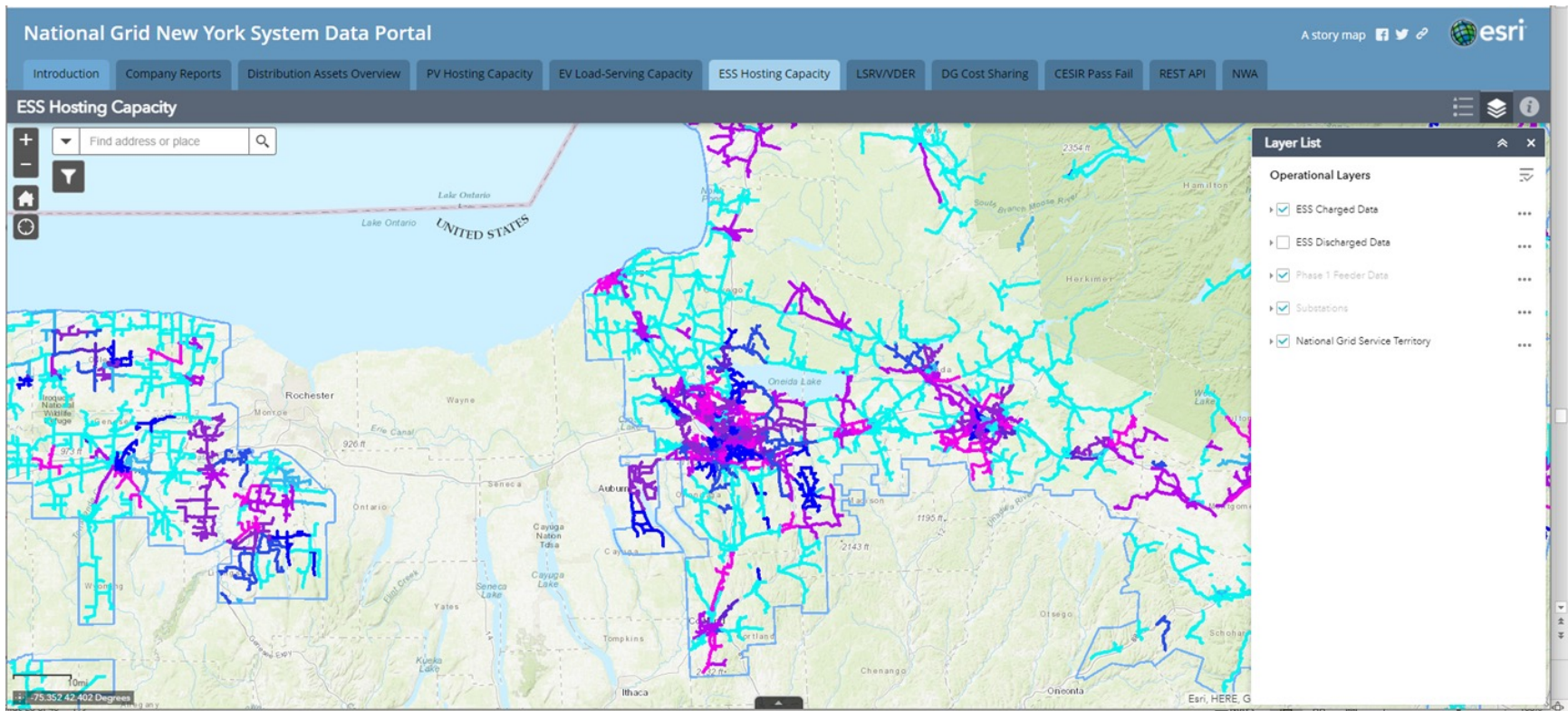- The min Hosting Capacity is provided in the popup.

Layer 2: Charging

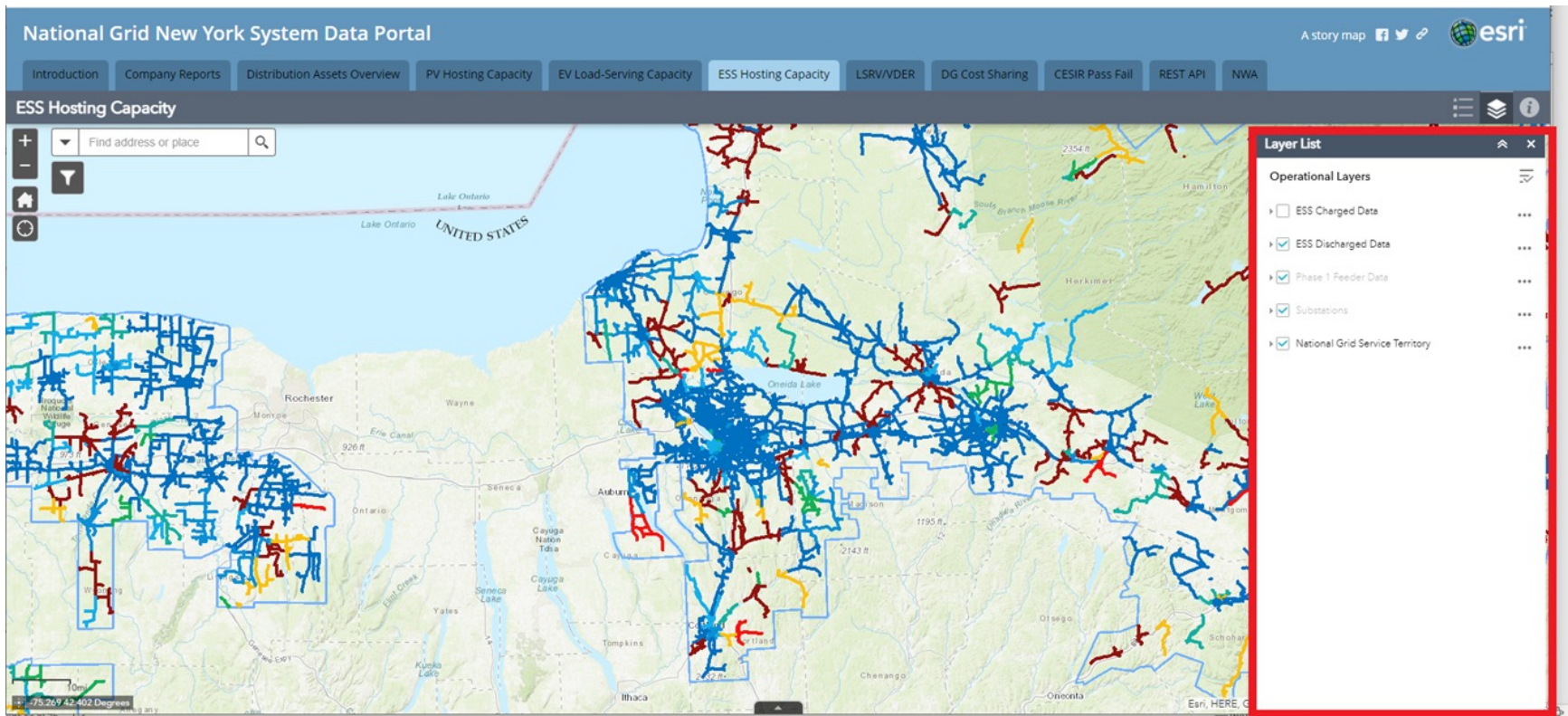## The ESS Hosting Capacity has two layers.

- This layer is for using the Grid to charge an Energy Storage System.
- The data is mapped for the feeder ESS Hosting Capacity max.
- The min Hosting Capacity is provided in the popup.

To toggle between displays…

Go to the layer list and select which mode you which to view charge or discharge.

Pop-Up Data

Popup data is provided for feeder for more information.
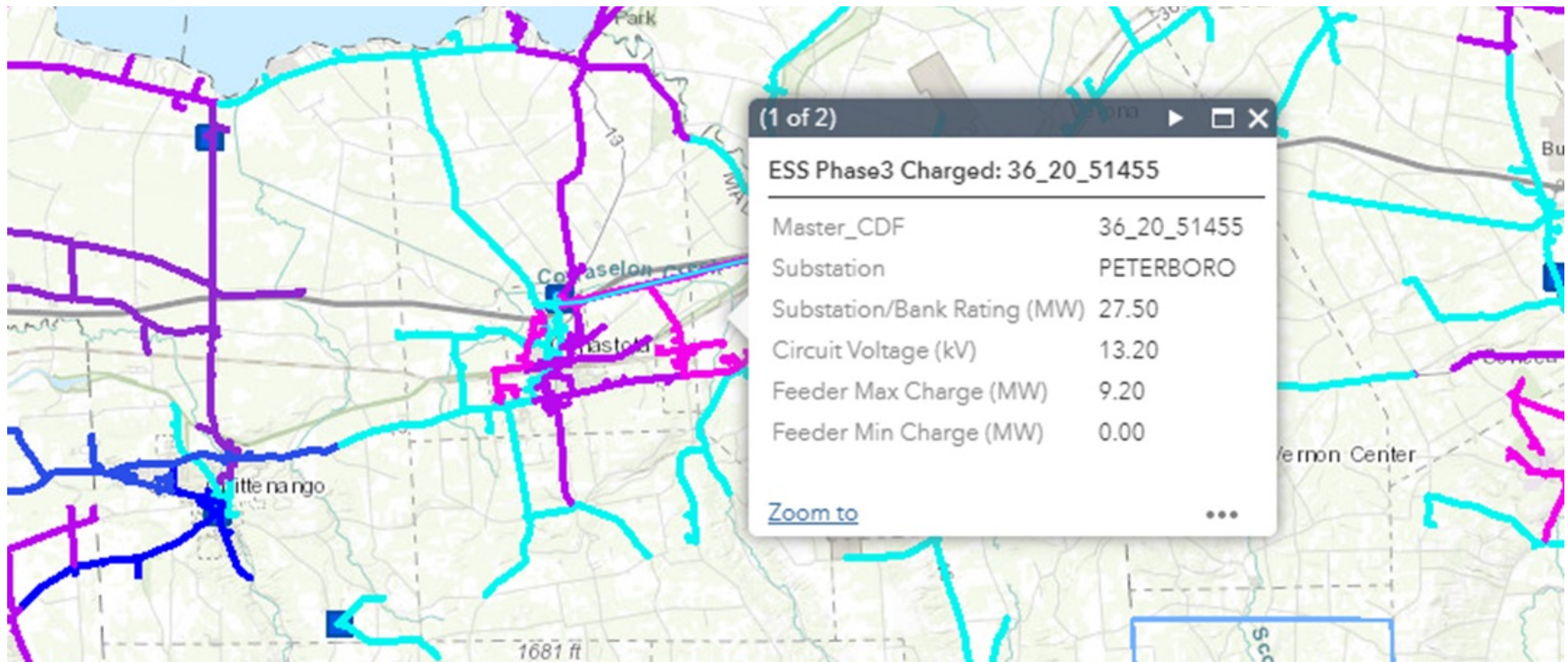
Color Schemes

Different color schemes were selected to differentiate between the modes of operation.
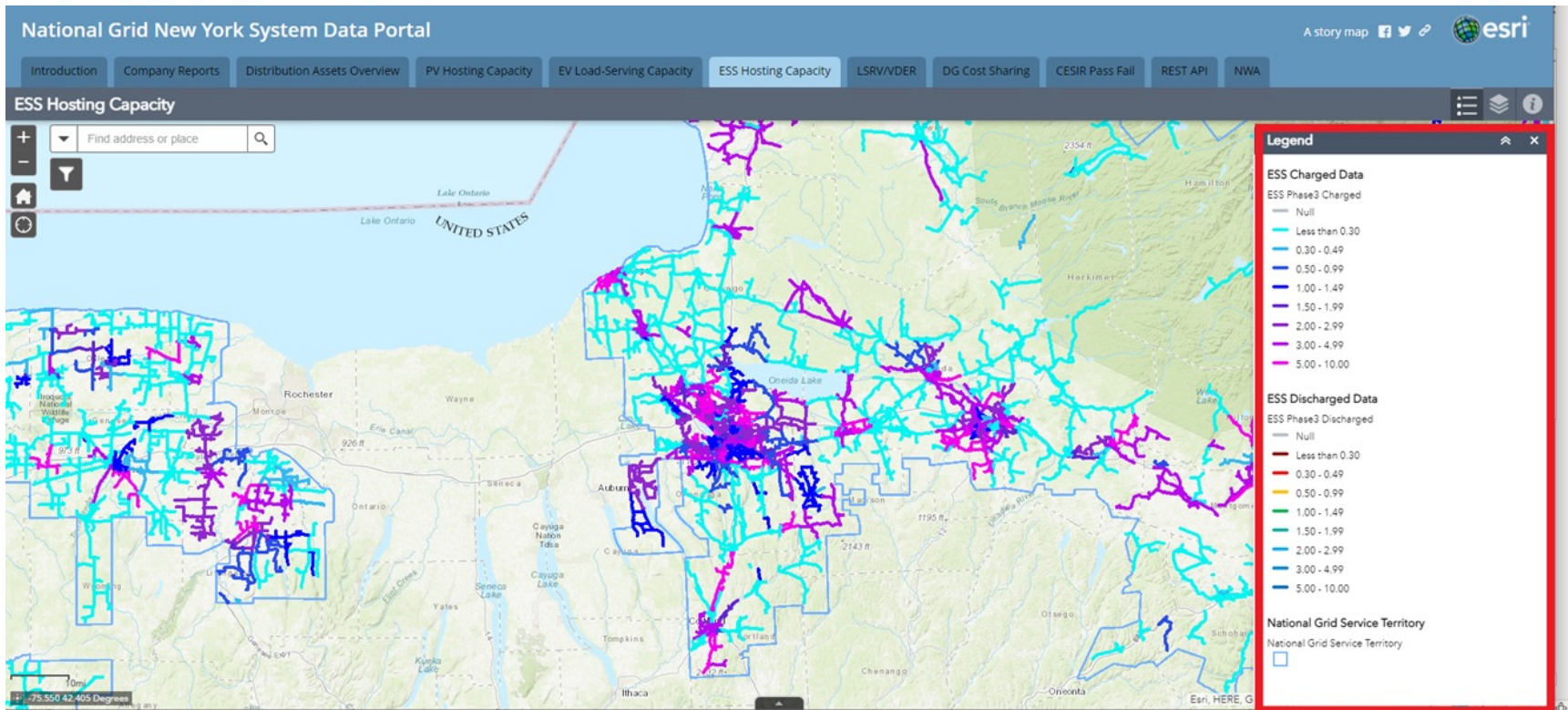
Downloading Data

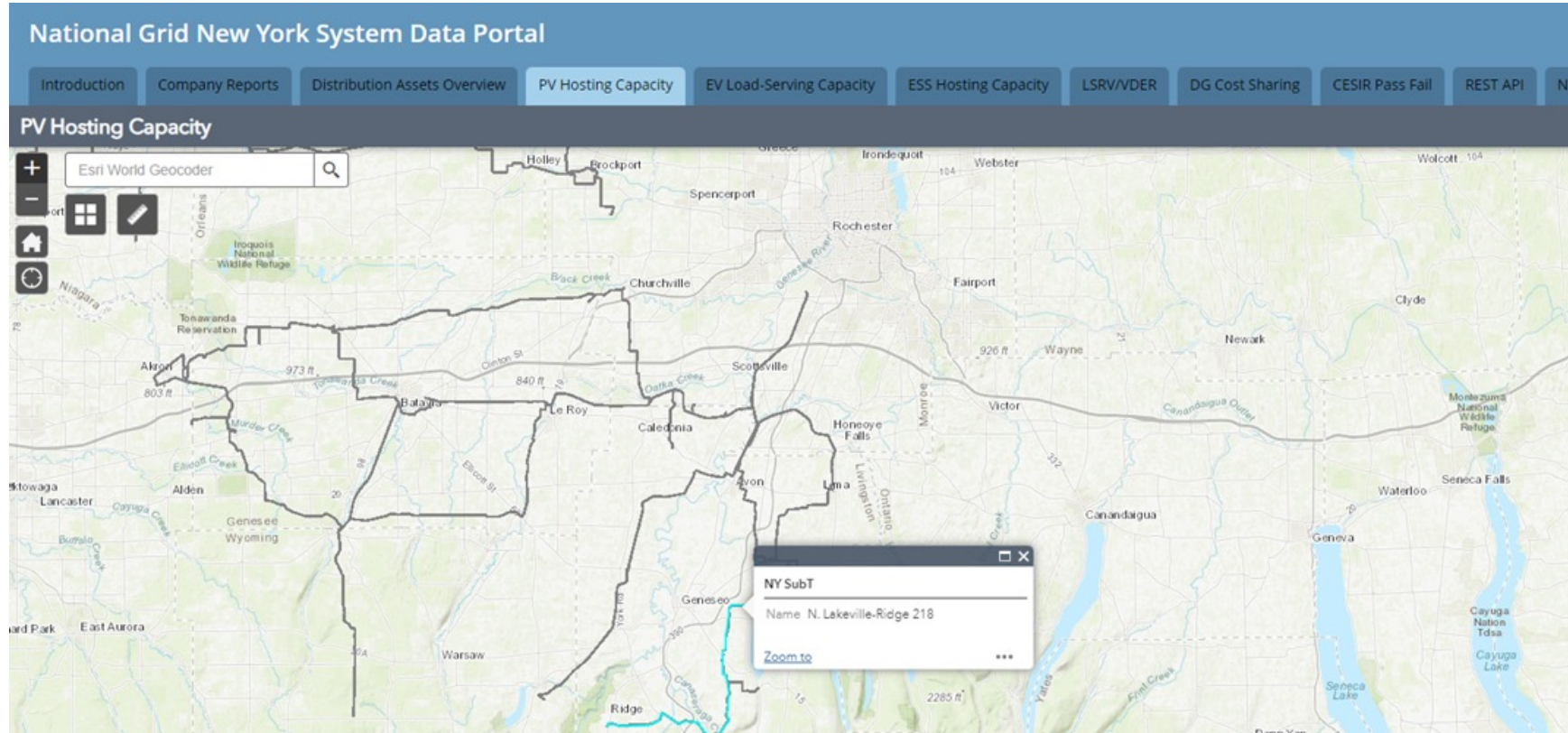The data can be downloaded as a CSV from the attribute table and filtered.

Additional Data: Sub-Transmission Lines

The Sub-Transmission lines available for interconnection have been added to our Hosting Capacity maps.

Cost–Sharing Mechanism: Additional Draw–down Items

- **Substation.**
  A planned upgrade's location

- **Hosting Capacity Upgrade.**
  Anticipated impact of project in terms of capacity availability

- **Anticipated Service Date.**
  The in–service date of the upgrade

- **Estimated Cost.**
  Known or estimated costs of that capacity
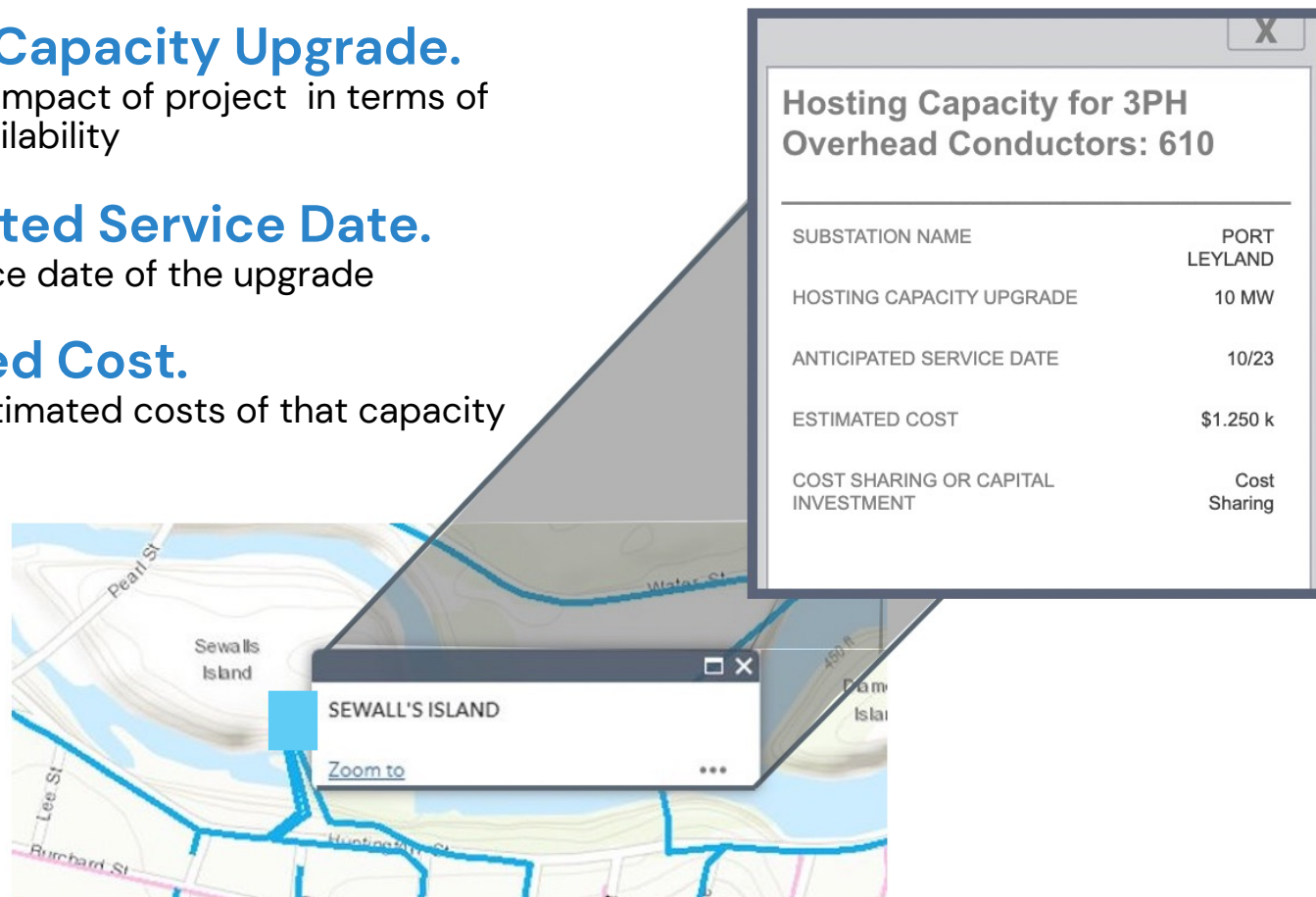
Hosting Capacity for 3PH Overhead Conductors: 610

SUBSTATION NAME	PORT LEYLAND
HOSTING CAPACITY UPGRADE	10 MW
ANTICIPATED SERVICE DATE	10/23
ESTIMATED COST	$1.250 k
COST SHARING OR CAPITAL INVESTMENT	Cost Sharing

SEWALL'S ISLAND
Zoom to

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Storage Roadmap

Immediate	Interim Step	Next Steps
2023	**Late 2023–2024**	**TBD**
- Sub Feeder Level HC - Incremental Feeder Level Installed Since HCA Refresh - Six-month Update for Circuits that Increase in DG > 500kW - Continue to implement Cost Sharing 2.0	- Seasonal load profiles - Additional 'scenarios' based on stakeholder input	Continued granularity

At the interim, the JU proposes a seasonal, granular look at load profiles; offering data points outside of the most restrictive interconnection point throughout the year.

To provide different 'scenarios' in a year, beyond peak and minimum load, the JU would like **industry feedback** on additional 'scenarios' to run.

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Lookahead: 2022

Full Update PV Hosting Capacity Maps
October 2022

Stakeholder Session
November 2022

Q&A

info@jointutilitiesofny.org

Utility	Contact
Central Hudson	Distributed Generation Group • Email: dg@cenhud.com • Phone: 845–486–5215
Con Edison	Joe White • dgexpert@coned.com
National Grid	Monitored mailbox • IMAP@nationalgrid.com with the subject line: **NY System Data Portal**
NYSEG RG&E	Monitored mailbox • distributedgenerationadmin@avangrid.com
O&R	Monitored mailbox • ORHostingCapacityMap@ORU.com

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