Collaborative Utility Solutions (CUS)
WWW.CUSLN.ORG
Non-Profit DER Registry Overview

There are four things stakeholders in the energy ecosystem must know about a DER for it to be effectively enabled into the grid and markets:
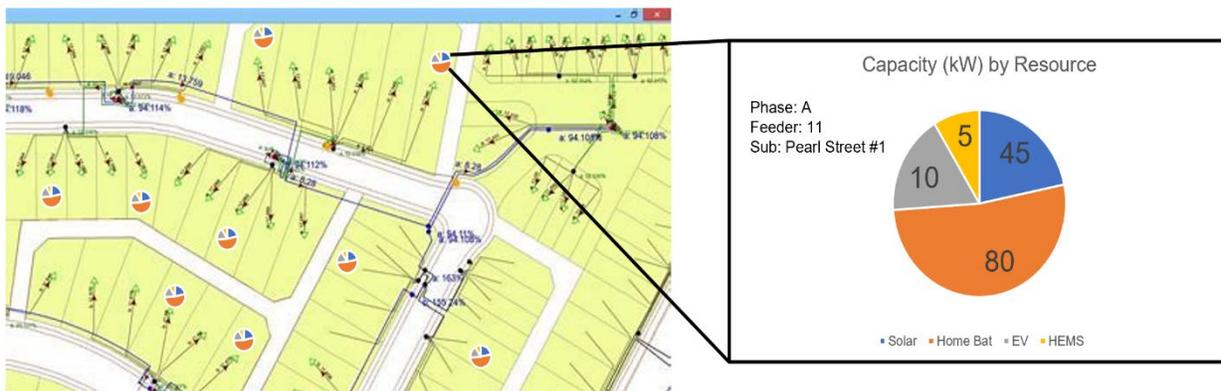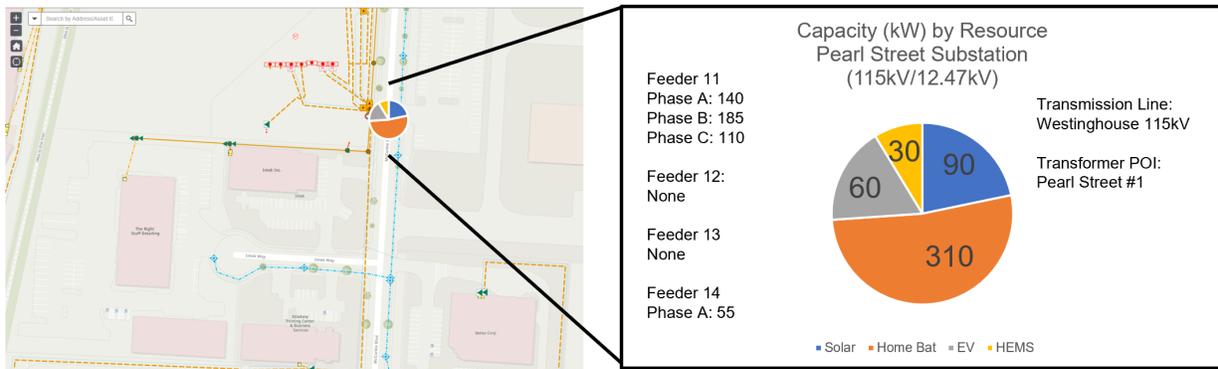
WHAT IS IT?	• Solar, wind, battery, EV, mix of several, etc.
WHERE IS IT?	• Geospatial coordinates with premise address, utility meter, and Geospatial Interface. Electrical position in the network: Premise-Meter-Transformer-Feeder-Sub-Transmission-ISO Node/Region.
WHAT CAN IT DO?	• Capability and dispatchability.
WHO OWNS IT?	• Who can register and market?

While there are many other aspects to aggregating, operating, and managing DERs, these fundamental few things are the necessary attributes of DERs that are required to enable DERs. With this information, everyone (customer, utility, ISO, regulator, aggregator, market) has a single point of truth for these core items. All stakeholders have this common interest. With this common interest and alignment, it makes much more sense to have a non-profit, shared-cost system that makes this information available to the stakeholders each regulatory authority deems should have access to the information. If we do not do this, the industry will spend billions of dollars for competitive systems that are uniquely tailored to each utility/ISO and will not interface or talk to each other effectively, much less to the various stakeholder systems. The electric industry and its stakeholders must put aside differences and work collaboratively with a shared DER Registry. Consider the two different approaches to implement a DER registry in our industry: first, through the industry's 'business as usual' disaggregated and specific method; and second, through a 'non-profit,' collaborative shared-cost approach.

Business as Usual – For Profit	Collaborative Non-Profit
• Multiple Vendors/Platforms with no common requirements or control	• Single common platform with member defined requirements/control
• 3000+ Utility/ISO RFP processes, requirements and customizations	• Collaborative requirements and developed for consistent use and application
• Estimated at $20-$40 Billion in cost over 10+ years for utility adoption and implementation	• <$100 Million in cost for full deployment to all utilities and ISOs in a few years
• Proprietary Data structures requiring integration cost to any other system	• CIM based platform to eliminate software integration to existing utility/ISO systems
• Cost continually escalate over time	• Costs continually decline with scale
• Barrier to entry for customers/aggregators requiring multiple integrations across multiple jurisdictions and organizations	• Rapid market entry for any resource as any aggregator or consumer has a single, known interface to market/utility/ISO

Collaboration is not always possible, but enabling DERs through collaborative efforts vs 'business as usual' has multi-billion-dollar implications for the cost of energy

CUS has worked with a broad cross section of the industry and standards groups for the past several years to develop this registry for the industry. We released the first version in March. The DER Registry is provided at no cost for ISO and regulatory agencies. However, each regulatory agency will have complete control of each data element in the registry and which market participants have access to each data element. For more information on the registry and the member guided structure of CUS, please visit https://www.cusln.org/resources/publiclibrary to view the DER Registry Overview.

The DER Registry is built upon IEC Common Information Model (CIM) principles to allow the data to be easily incorporated into existing utility systems without the cost of interface. By providing the data in a CIM compliant fashion, it will map directly to existing utility systems. In addition, all data is provided visually through the Esri ArcGIS product set that most of the industry uses today. Access via each of these data paths provides a simple, easy, and low-cost method for each stakeholder to be able to view and manage the data elements necessary to enable DER participation on the grid and in markets. Below are two sample graphics of the data visualization.

The reliability of the grid is at stake. For the last several decades, mankind's most reliable machine ever built – the electric grid – has fueled every aspect of human innovation, security and safety. Australia, Germany, Ireland, and now areas of the United States and other countries, are seeing cascading reliability issues with these inverter-based resources as their volume increased on the grid. It is not possible for grid operators to continue to maintain the grid without full knowledge of the resources that are attached to it.   Visibility is required for DER resources to maintain our electric grid. DERs will prove to be an important part of a more reliable and cleaner energy future, but we must work together to enable them effectively to our grid and markets by providing all of the stakeholders in our electric ecosystem with the necessary data.