



hopara

Hopara Use Case

Explaining the unexpected.



The National Renewable Energy Laboratory (NREL) in the US specializes in the research and development of renewable energy, energy efficiency, energy systems integration, and sustainable transportation. NREL is a federally funded research and development center sponsored by the Department of Energy and operated by the Alliance for Sustainable Energy, a joint venture between MRIGlobal and Battelle. Located in Golden, Colorado, NREL is home to the National Center for Photovoltaics, the National Bioenergy Center, and the National Wind Technology Center.

Industry: Government, Energy

Business Problem: The National Renewable Energy Lab receives ongoing requests from local agencies such as cities and towns for data analytics related to renewable energy facility development, meeting state and federal standards, and working with utilities to better integrate residential and commercial demand with renewable supply sources. However, what remained lacking was a holistic view of renewable generation that also provided detail on specific regions, down to the individual town level.

Solution: Nation-wide visualization of distributed wind generating capacity, overlaid on national, regional, and local zones.

Hopara created a visualization of real-time supply data from a nation-wide network of wind power facilities, with 'birds-eye' view of net generating capacity by region, and allowing detail on demand drill down to individual turbines with capacity and output data, overlaid on a national map with ISO operating territories.



In the image above, the blue dots represent total capacity within that wide area; users can drill down into each area to reveal additional detail down to a single turbine in its specific geolocation.

- Users could visualize net capacity within an ISO operating region, or drill in to a specific load zone
- Pan across regions with data updating in real-time
- Share via email or Slack to communicate NRELS value with an interactive application

Results: The visualization deployed was designed to be used by NREL to demonstrate new capabilities for presentation to myriad local, state and federal agencies across the country. The NREL team was able to share this visualization with city and regional authorities and secure additional/new project work.

Aha Moment!

A single visualization application could be used with multiple clients, and the net value of a single application combining data from all clients revealed greater application, use and utility to all clients than creating a stand alone application for each client.

Bonus Value:

Many stakeholders within client organizations are not sophisticated data analytics users, lacking training and skills in advanced applications. All stakeholders were able to navigate the NREL application using only a mouse to reveal value for their agency.

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