ENVERUS

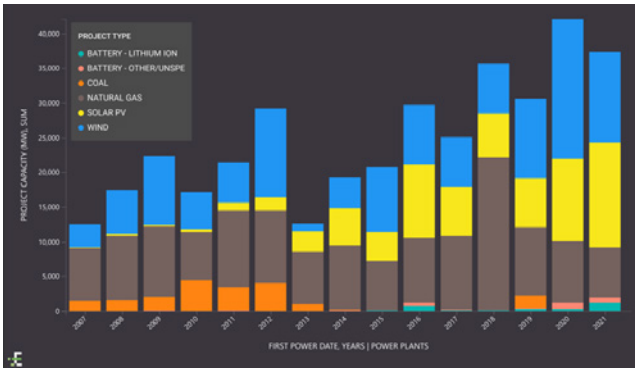
70% OF THE INTERCONNECTION QUEUE WILL BE SCRAPPED.

Who will be a winner?

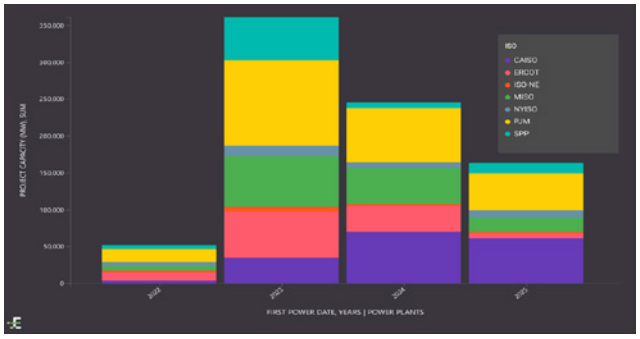
There has been an increase in demand and adoption of renewable power sources in North America. Since 2007, we have experienced a boom of solar and wind power joining the grid, generating a hefty amount of clean power.

In the next four years, ISO queues are crammed with 700 GW of planned projects across seven ISO looking to come online between 2022 and 2025. Many of these proposed projects will not be built – the power demand has grown, but not enough to need 700 GW.

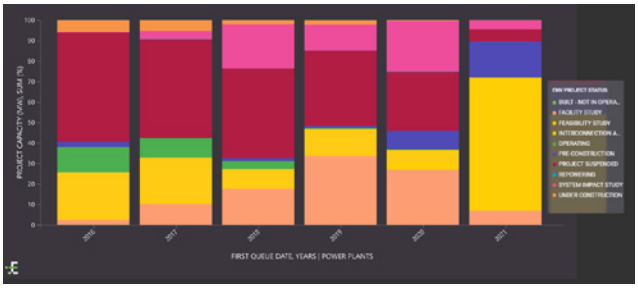
Developers, investors and off-takers are analyzing the current queue in detail for the probability of these plants coming online...and the ones that will fall to the side. Picking the winning opportunities and companies is key to not wasting investment and time. Of the projects in the queue in 2016, only 12.6% of them are currently operating, 30% of the queue in 2020 has already been withdrawn or suspended.



Current operating power generation plants from 2007–2021 color coded by power type in PRISM. Wind in blue, solar in yellow, natural gas in brown.



A forward look at the interconnection queue 2022–2025 coded by ISO and planned project capacity in PRISM. Showing CAISO, ERCOT, ISO-NE, MISO, NYISO, PJM and SPP.



Results of the queue in the last five years in PRISM. Showing project status – operating in green and project suspended in red.

How are ISOs dealing with the backlog of project approvals?

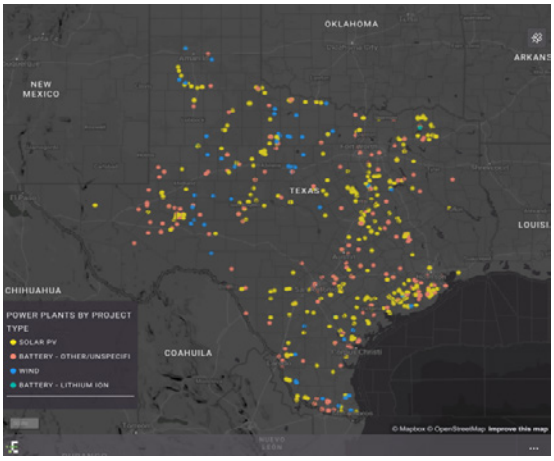
PJM has proposed reform and assembled an Interconnection Process Reform Task Force (IPRTF) to combat the increase in requests. According to the IPRTF:

The volume of New Service Requests has more than tripled over the past three years, causing the number of queue projects under study to increase along with the number of projects that are backlogged. While the on-time rate of feasibility and system impact studies continues to improve, the overall throughput has declined as resources are expended to accommodate this volume. Further, existing cost responsibility procedures require an iterative process for determining the appropriate cost causer for necessary system network upgrades. The increased volume makes the process more unwieldy and provides New Service Customers with less actionable cost information.

The IPRTF committee's approval of the transition plan comes about a month after it endorsed changes to PJM's interconnection review process that aim to shorten the approval times by limiting speculative projects through financial requirements and by requiring applicants to show they control the site where they intend to build their facility. PJM expects interconnection applications could be completed in less than two years under the revised process.

Power and renewables industry stakeholders analyze data to uncover queue winners and losers.

Developers, investors, IPPs and EPCs analyze the queue with scrutiny to make sense of the sea of project opportunities and pinpoint the few potential winners. Determining the best probability of a project is a fine science. It can be explored in the data and analytics of – generation, pricing, congestion, infrastructure, land and competition.



PLANNED GENERATION

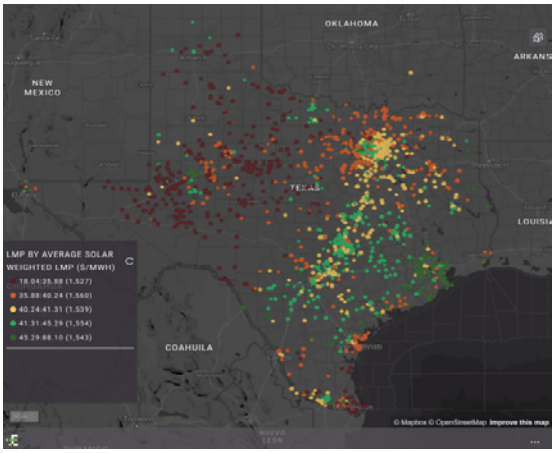
It can be challenging to understand the location of queue positions and map the associated substation or transmission line to the point of interconnection. Find out what locationally has a likelihood of being built, who is building them, the possibility of network upgrade cost, and if they could be at risk for being withdrawn or rejected.

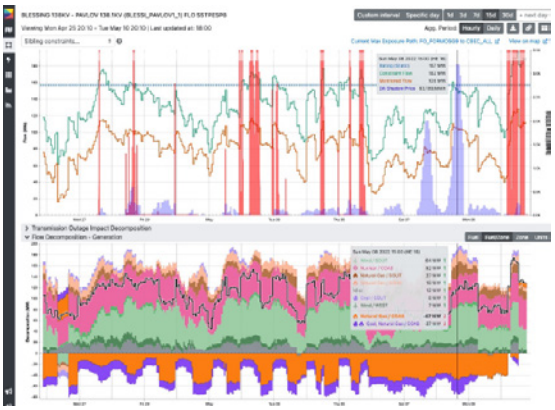
This PRISM example shows power plants in a geographic area coded by project type – solar, battery and wind.

LMP PRICING

Power Purchase Agreements (PPA) are getting shorter, while merchant risk increases. Understanding where assets are in relation to LMP prices is crucial when looking at operating and proposed projects.

This PRISM example shows the nodal locations colored by LMP price based on the last year of real-time LMP in ERCOT. Dark green shows higher solar weighted prices, red lower.





CONGESTION ANALYTICS

Congestion impacts the price and the ability of a profitable power project. Determine the forward impact to wholesale prices, and if the added capacity will alleviate or intensify congestion for the area.

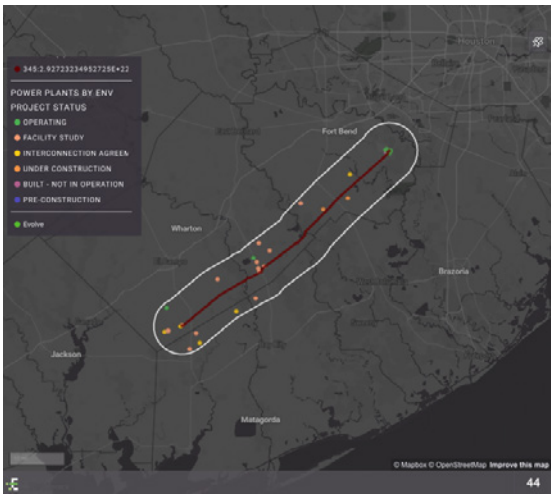
This MUSE example shows the congestion and pricing.

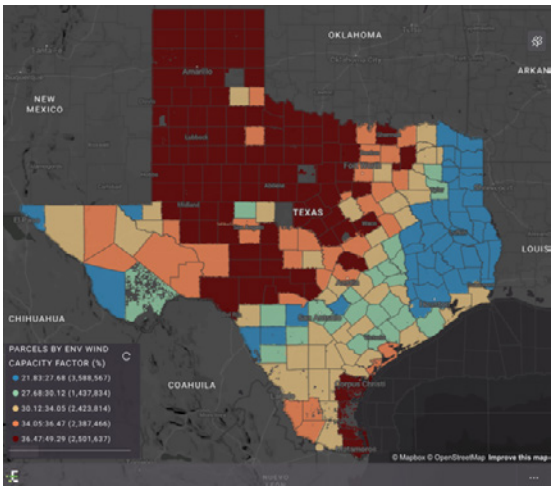
SURROUNDING INFRASTRUCTURE

Point of Interconnection

Determine the POI and the other projects' status–operating, undergoing study, undergoing construction, built (not operating) or pre-construction.

This PRISM example is a micro and look at a POI in ERCOT which has garnered a lot of recent development activity. The WA Parish to Hiljee 345 kV line has more than 6.5 GW of planned or under construction wind, solar or battery projects.





LAND POSITION

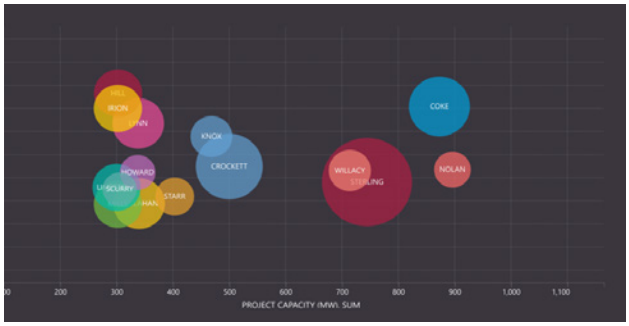
Vital resources and land position impact if the planned assets are in favorable areas. Margins are slim and market participants need to take advantage of solar and wind resources by knowing where high generation occurs.

This PRISM example shows parcels historical wind capacity factor.

MARKET COMPETITION

The operating performance of projects is essential to benchmarking capacity factors by both locations and companies.

This PRISM example shows the capacity factors for operating wind farms in ERCOT.



Power markets are incredibly challenging at this moment in time. The velocity of planned generation has disrupted historical norms and is forcing all stakeholders to examine their positions in the market. As market participants with different business models, finding, using and understanding the vast amount of data available is key to solid decision making. Understanding macro trends, regional activity and localized risk will allow you to optimize your opportunity in this ever-changing energy market.

Enverus Power & Renewables | Project Tracking delivers accurate and timely project data for the power and renewables market. Analyze power projects by parties involved, dates/milestones and location. Our analysts collect disparate, disorganized data and streamline research for energy developers, EPCs, investors, IPPs, traders and utilities.

Enverus Power & Renewables | Project Tracking data can be used in conjunction with other Enverus Power & Renewables modules for deeper analysis and insights.

TO LEARN MORE ABOUT PRISM INFRASTRUCTURE, EMAIL
BUSINESSDEVELOPMENT@ENVERUS.COM
OR CALL **1-800-282-4245.**