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AEG New York Stakeholder Challenge: Grid Modernization

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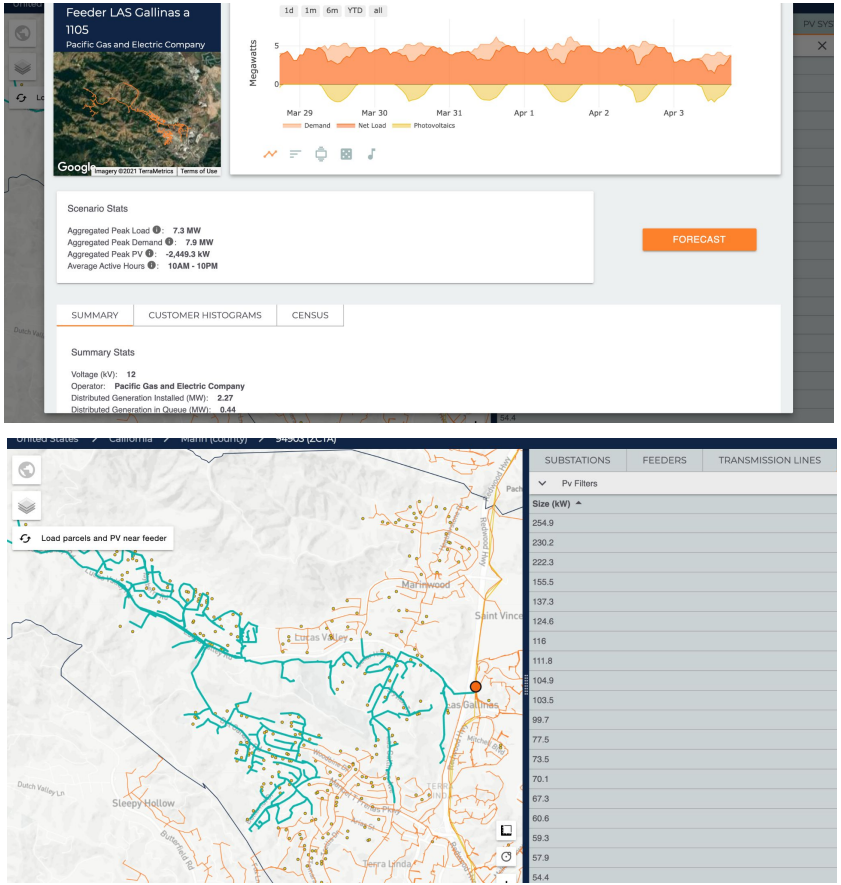
Kevala

- Founded in 2014
- Based in San Francisco
- 100+ employees (~5 in NYC)
- Leading data and analytics provider working to accelerate decarbonization through electrification
- Kevala's platform combines hyper-granular datasets to deliver actionable intelligence to utilities, regulators, IPPs, and more.
- Kevala addresses use cases for integrated grid planning, electrification of transportation, project siting, carbon reporting, cyber security and data privacy.



Examples of Mapped PV Locations and Generation Profile

Some problem statements

To meet the goals of NY, we need to address the following problems:

1. **The Era of Carbon Aware Actions is now:** More and more corporate customers are experiencing pressure to take active steps to reduce their carbon intensity. Optimizing against carbon will occur independent of traditional utility/regulatory controls such as rates, programs, and utility procurement. What does this mean for the sector?
2. **Interconnection**: PV, Wind and other technologies - where is the best place to build? What innovative technical and commercial solutions can we use?
3. **Transportation & Building Electrification**: The addition of significant load could/will require additional capacity, how will we build T and D capacity in time?
4. **Flexibility**: To do this, we need to plan and operate the grid in a different way. We need flexibility in the right places (look to Europe here….).
5. **Data:** More raw grid data isn't the answer, we need sufficient data to support use cases with statistical safeguards in place.

Overcoming these problems

- We can learn some lessons from experience in other places, namely the EU and UK, as to how they deal with these issues:
  1. Establish visibility of locational carbon intensity on the grid
  2. Facilitate flexibility from customers
  3. Remove barriers to flexibility on the grid
  4. Reform markets to reward flexibility
  5. Digitalize the system
  6. Focus on delivery
- An NY framework for “Whole System Thinking” and “Local Area Planning”.
- Our approach at Kevala is to enable coordinated decision making across silos, based on a common data analytics platform that can model scenarios and adoption behavior at a hyper-granular and massive scale.

What if we don’t?

- We leave it too late to act and the sector fails to hit targets (imagine if EV interconnection ends up becoming managed like PV interconnection?).
- We delay, potentially by decades, the infrastructure upgrades needed.
- Trust remains low between the stakeholders who need to collaborate to implement decarbonization at lowest cost.
- We waste $billions on the transition by using traditional approaches (e.g. the UK says that by adopting 30 GW of flexibility by 2030 and 50 GW by 2050, they will save £10 billion each year).
- We use market level carbon data and don’t target priority areas across geographies, time and energy vectors.
- We miss the chance for local engagement and fail to engage communities in ensuring a just, equitable and successful transition.

Closing

Regarding Grid Modernization, to achieve New York's Carbon & Equity goals, a critical obstacle to collaboratively overcome within the next 12 months is:

Creating system flexibility and addressing the lack of holistic thinking about carbon intensity and what the grid needs to become.

We need:

- ***A Flexibility Roadmap*** that defines what flexibility is for NY and how it will help achieve the goals of CLCPA.
- ***A framework*** for whole system and local area planning and coordination that harnesses flexibility.
- ***A localized carbon intensity data resource*** (i.e. not marginal emissions or large averages) that supports the next phase of coordinated whole system and local area planning.