EXPERTISE TO ENABLE GRID TRANSFORMATION

GridLAB

GridLAB

Oakland Clean Energy Initiative: A Case Study

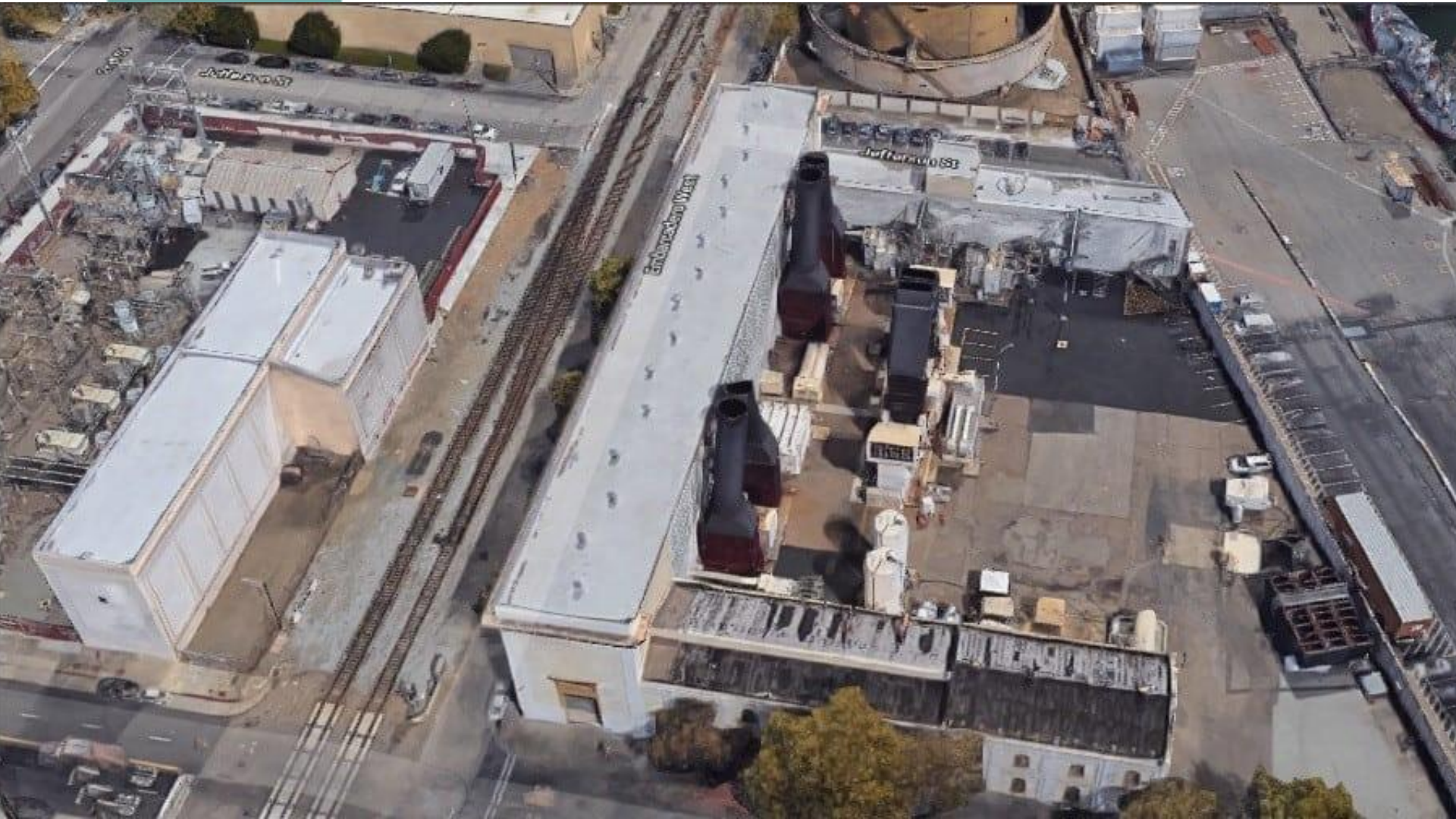
Can we do this better?

- Introduction to OCEI
- Structure & Revenue model
- Lessons Learned

GridLAB

The Challenge

- Aging 1970's jet fueled power plant in downtown Oakland, California, owned by Dynegy/Vistra, 165 MW, three units, 33,000 heat rate
- Plant is critical for grid reliability under transmission planning criteria (N-1-1) by CAISO (grid operator). Plant has a reliability must run contract (RMR).
- Plant runs a handful of hours per year, but is polluting, and impacts low income communities and communities of color.
- CAISO and PG&E (Transmission and distribution owner) need a reliability solution
- East Bay Community Energy (EBCE), the local Community Choice Aggregator (load serving entity), needs local resource adequacy.


Jefferson St
Jefferson St
Jefferson St

GridLAB

Potential Solutions?

- ✓ Gas generation not compatible with state goals, local air permits.
- ✓ 230kV transmission upgrade costly
- ✓ *In 2018, PG&E and EBCE issue a joint all source RFO, seeking solutions, including:*
  - ✓ *Batteries*
  - ✓ *Demand Side options*

GridLAB

Solution = Storage!

- 2019: PG&E Executed contract with Vistra for a **20 MW/80 MWh** energy storage system, product is “reliability” e.g. contingency relief.
- 2019: EBCE executes contract with Vistra for resource adequacy.
- Project is front-of-meter, distribution interconnected, adjacent to PG&E substation.
- 2020: Vistra Contracts with PG&E and EBCE increases to **36.25 MW / 145 MWh**.
- 2020: New contract with esVolta/Tierra Robles for **7 MW/28 MWh**.
- **January 2022** - Expected online date
- *Demand side options not selected*

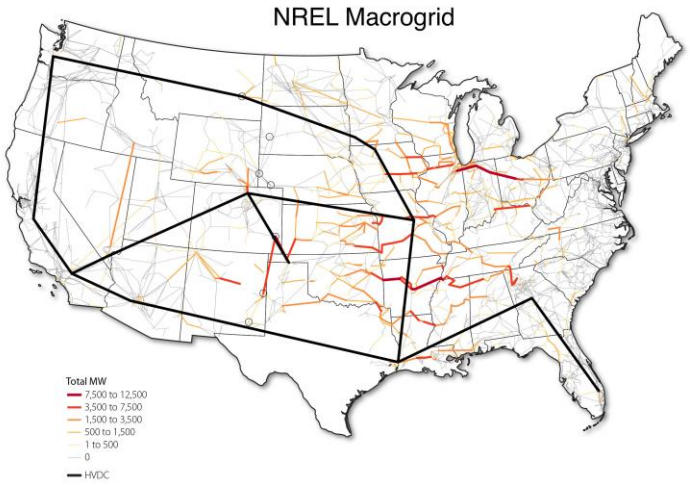
GridLAB

Structure and Business Model

- PG&E – Transmission Owner
  - Battery serves as a Non-Wires solution, replacing a required transmission upgrade to meet an N-1-1 requirement
  - Battery at 100% State of Charge from 0600 to 2000, maximum 50 cycles per year
- EBCE – Load Serving Entity
  - Battery serves as resource adequacy, e.g. generation capacity
  - In CA, 4-hour battery has 100% ELCC (capacity credit)
- Vistra – Asset owner

GridLAB

How can we replicate OCEI?



Do our planning processes allow for these sorts of projects?

Is storage considered as a solution for transmission issues (contingency, voltage, others)

Can we structure dual-use contracting to unlock storage potential?

Does it have to be this hard?

GridLAB

THANK YOU

Ric O'Connell
ric@gridlab.org

www.gridlab.org
@GridLab_Energy