



# CCA DATA CHALLENGES AND OPPORTUNITIES

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# Overview of Technology and Analytics at EBCE



*The EBCE Technology & Analytics team provides expertise, infrastructure and capabilities to deliver data-driven insights and support continued innovation.*

- **Team** – energy and data experts with deep capabilities in data science, data engineering and software development
- **Infrastructure** – EBCE built its own Integrated Data Platform using Google Cloud technologies:
  - Leverages state-of-the-art data management and processing resources
  - Boasts a highly secure, scalable and flexible architecture
- **Results** – cost-effective large-scale data processing for robust cross-functional analytics:
  - **Data Access:** all data sources centralized in one system; significant capacity to process more
  - **Big Data:** cloud technologies support vast data volumes and rapid large-scale data processing
  - **Modeling:** all models can support highly accurate bottoms-up analysis rather than top-down assumptions.



# A View from the Ground Level

## Challenges

- Access to timely and accurate data feels perennial
- Disparate and unequal treatment is dampening innovation
- Data quality continues to drive business risk

## Opportunities

- Science based approach, backed by data to inform customer engagement
- Using big data to advance decarbonization
- Centralized data repository?

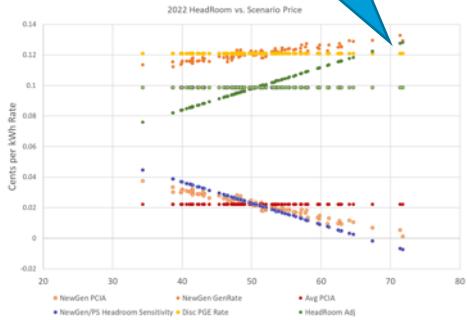


# Silicon Valley Clean Energy

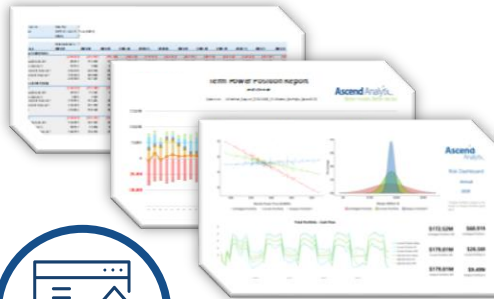
- SVCE serves 270K customers in Santa Clara County
- In order to support data-driven decision-making, need to store, clean, and manage growing volumes of data
- DAISY – cloud-based data analytics platform
- Launched pilots/programs that rely on key data systems
  - **Data Hive** – Green Button Connect platform for authorized data sharing
  - **GridShift: EV Charging** – managed charging app for residential EV drivers

# Having data is not enough. What are you doing with it?

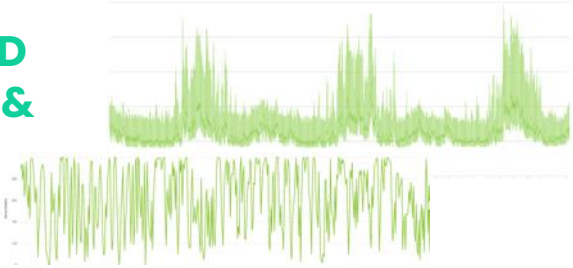
Do your models tell you what the low probability high impact event does to your CCA?



**REPORT CREATION & DELIVERY**



**RATES, LOAD FORECAST, & RESOURCE UPDATES**



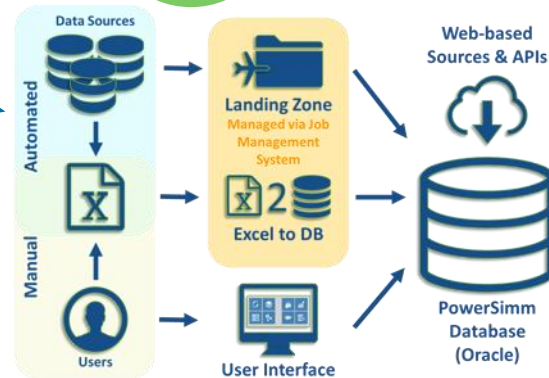
**HEDGE and PPA UPDATES**

START DATE	END DATE	PEAK PERIOD	QUANTITY	PRICE	ADJUSTMENTS
01/01/2022 12:00:00 AM	02/01/2022 12:00:00 AM	ATC	50 MW	\$40	n/a
02/01/2022 12:00:00 AM	03/01/2022 12:00:00 AM	ATC	50 MW	\$40	n/a
03/01/2022 12:00:00 AM	04/01/2022 12:00:00 AM	ATC	50 MW	\$40	n/a
04/01/2022 12:00:00 AM	05/01/2022 12:00:00 AM	ATC	50 MW	\$40	n/a
05/01/2022 12:00:00 AM	06/01/2022 12:00:00 AM	ATC	50 MW	\$40	n/a
06/01/2022 12:00:00 AM	07/01/2022 12:00:00 AM	ATC	50 MW	\$40	n/a
07/01/2022 12:00:00 AM	08/01/2022 12:00:00 AM	ATC	50 MW	\$40	n/a
08/01/2022 12:00:00 AM	09/01/2022 12:00:00 AM	ATC	50 MW	\$40	n/a
09/01/2022 12:00:00 AM	10/01/2022 12:00:00 AM	ATC	50 MW	\$40	n/a
10/01/2022 12:00:00 AM	11/01/2022 12:00:00 AM	ATC	50 MW	\$40	n/a
11/01/2022 12:00:00 AM	12/01/2022 12:00:00 AM	ATC	50 MW	\$40	n/a
12/01/2022 12:00:00 AM	01/01/2023 12:00:00 AM	ATC	50 MW	\$40	n/a

**MODELING**

Is your data management automated or manual?

**AUTOMATED CURVE & DATA HARVESTS**



**DECISION MAKING**

For all the data you collect and observe, do you make it something useful for executives and board members?

# CalCCA Data Team: What's On Our Minds?

- How do we **forecast rates** (PCIA? Bundled?) with imperfect information?
  - Public data gets you pretty far, but there are confidentiality limitations (costs, RA positions) and uncertainty around forward prices
- How do we **assess competitiveness** vs IOUs and CCAs?
  - FERC Electric Quarterly Reports Data (many terabytes) showing contracts and market transactions—thank you Ben Dawson! ([link](#))
- How do we **plan our procurement** to keep costs down for our customers, keep the grid reliable, and preserve procurement autonomy?
  - Spinning up PLEXOS modeling shop
- Elephant in the room: How will **climate change** affect our operations?
  - Climate Data Project—thank you Jon Martindill!