

JULY 2023

EBCE Technology and Analytics Update

Special Board Retreat

Taj Ait-Laoussine, SVP & CIO



Agenda

- Team Mission / Meet the Team
- Complex Data Ecosystem
- Modern Technology Infrastructure
- Enabling a Data-Driven Organization: Use Cases
- Information Technology & Security
- Collaboration with Other CCAs
- Looking Forward

Team Mission & Objectives

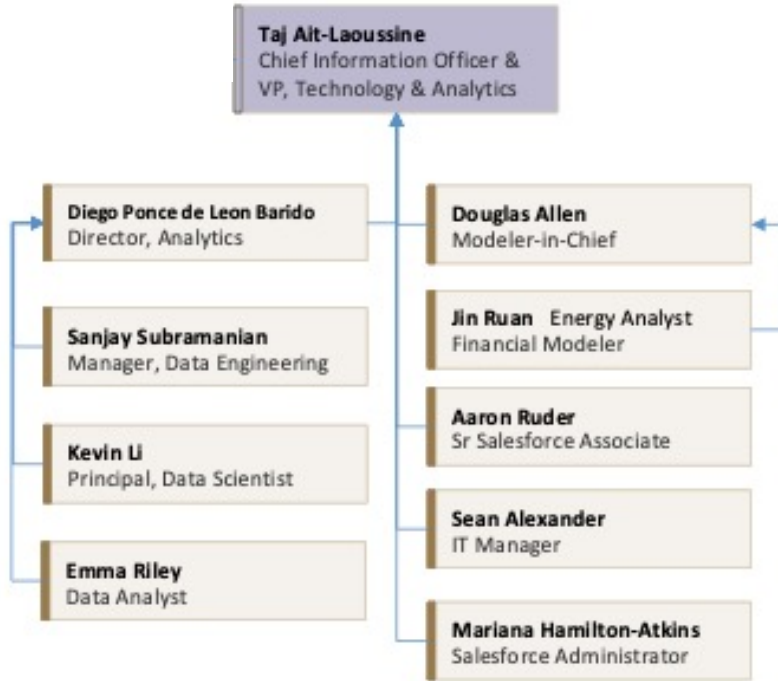
Mission

The Technology and Analytics team manages data, processes and systems to ensure that EBCE operations are grounded in data and driven by analytical insights. We ensure that all EBCE staff are equipped with the best and most secure information technology.

[EBCE shall] develop an in-house integrated data platform and analytical capabilities to conduct ongoing load research and analysis.

- Key recommendation, EBCE Local Development Business Plan

Meet the Team



Aaron Ruder
Senior Salesforce Associate
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Diego Ponce de Leon Barido
Director, Analytics
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Doug Allen
Modeler-in-Chief
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Emma Riley
Data and Technology Data Analyst
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Jin Ruan
Financial Modeler Energy Analyst
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Kevin Li
Data Scientist
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Mariana Hamilton-Atkins
Salesforce Administrator
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Sanjay Subramanian
Data Engineering Manager
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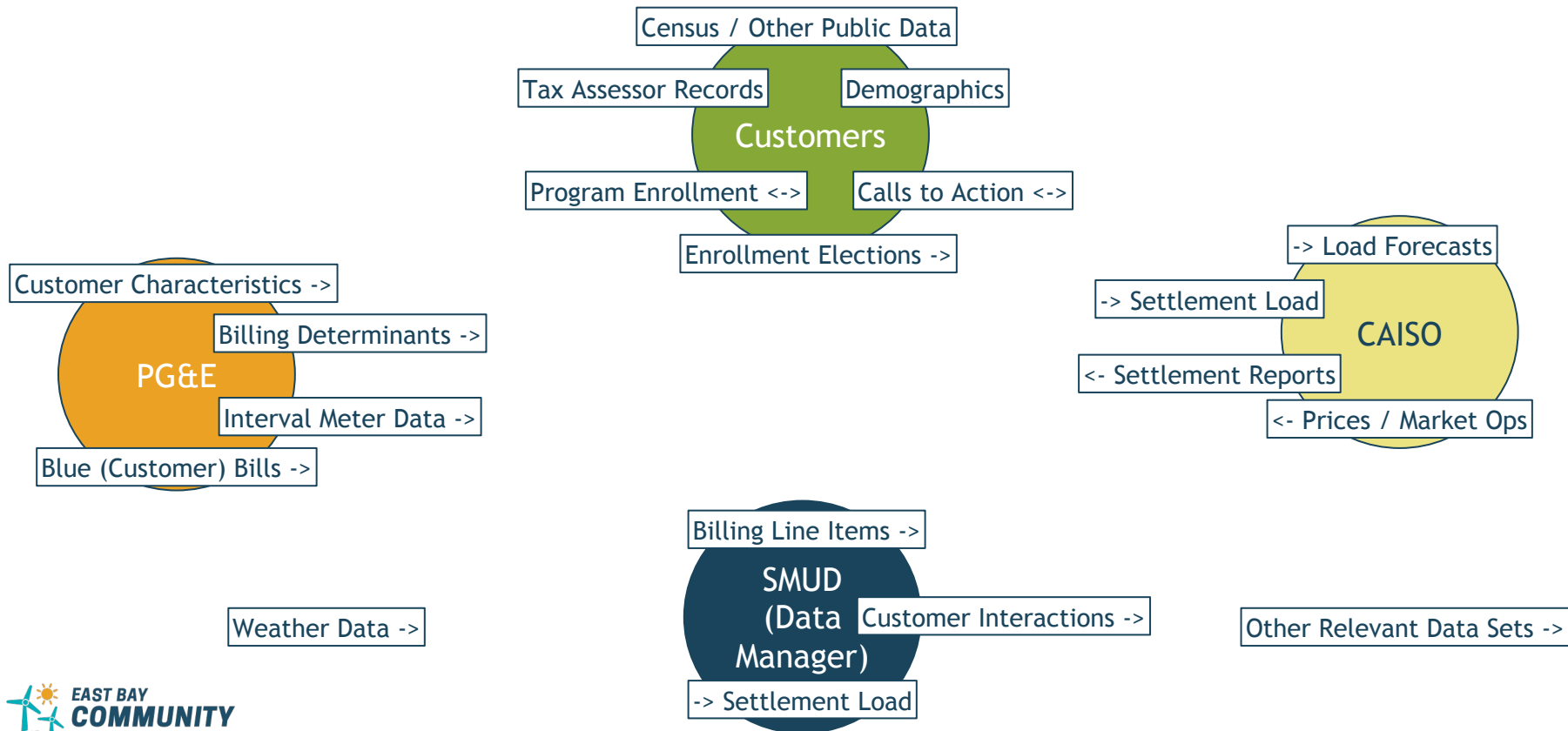


Sean Alexander
IT Manager
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Taj Ait-Laoussine
Vice President, Technology and Data Analytics
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Complex Data Ecosystem



Modern Technology Infrastructure



Google Cloud

- ✓ Modern Cloud Infrastructure
- ✓ Secure Affordable Storage
- ✓ Powerful Query Capabilities
- ✓ Advanced ML / AI



- ✓ State of the Art CRM
- ✓ Highly Configurable
- ✓ Advanced Marketing Support
- ✓ Low Barrier to Adoption



- ✓ Version Control
- ✓ Code Repository



- ✓ Ticket Management
- ✓ Documentation

Use Case: Accurate Load Forecasts

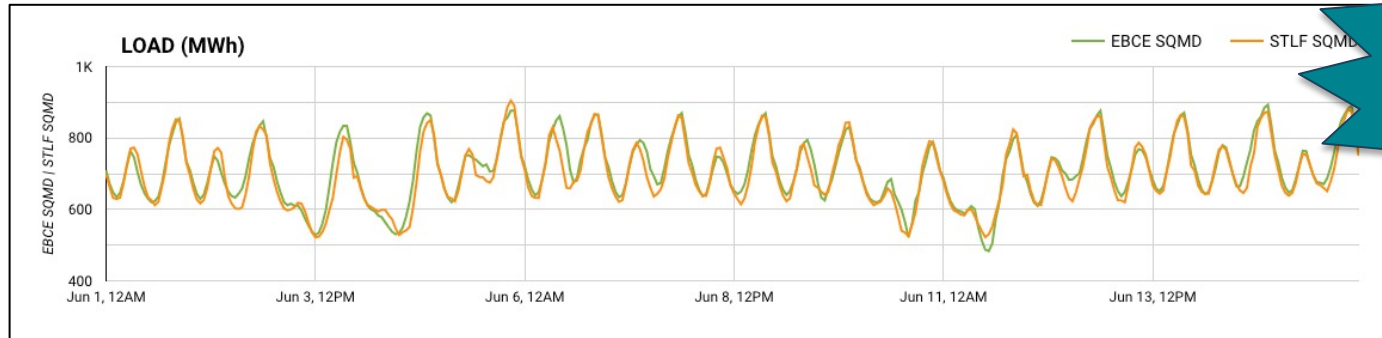
Context:

- EBCE is required to post day-ahead forecasts of its expected hourly load to the CAISO daily.
- EBCE load is disparate: there is no single meter than can capture the total load of our service area given opt outs / distribution infrastructure.
- Historical customer meter data is available on a meter basis, but with delays and gaps.



Solution:

- Use EBCE Data Platform to create a dynamic bottoms-up aggregation of historical load for 640K meters.
- Estimate missing load based on past trends.
- Incorporate Weather Forecasts.
- Apply Machine Learning Algorithm.



Target: <4% Accuracy

Use Case: Modeling Revenue Impacts

Context:

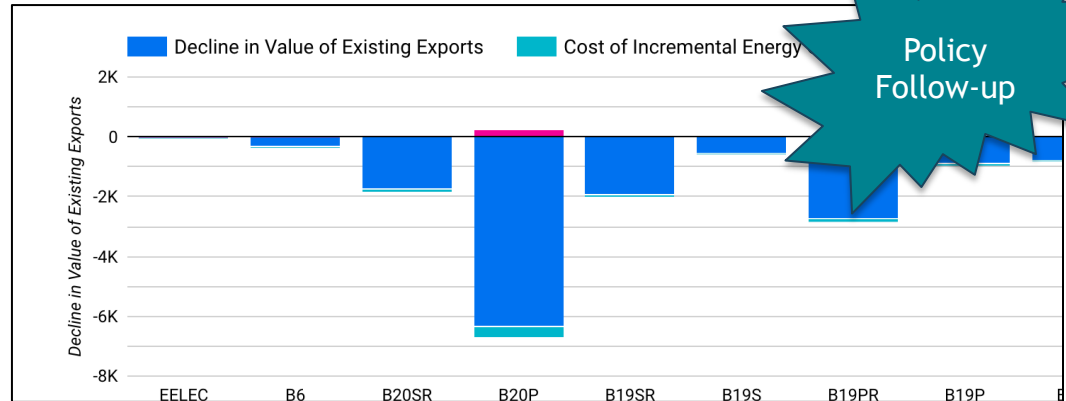
- EBCE is subject to complex regulatory constraints that can have significant impacts on revenues (PCIA / PG&E Rates).
- Executive Staff and Board need to understand potential implications of different scenarios.
- High level analysis (Excel) can miss important nuances.



Solution:

- Use EBCE Data Platform to create a bottoms-up revenue model that can model any scenario.
- Apply cloud computing resources to enable quick iteration and model outputs.
- Provide iterative scenario outputs to help understand potential revenue impacts.

How much will revenue change with NEM 3.0?



Use Case: Targeting Customers Efficiently

Example:

- EBCE seeks to proactively help customers that are at risk of frequent disconnections.
- EBCE want to pre-emptively reach out to such customers and focus its resources where most needed, to prevent disconnections.
- So how can EBCE predict customers at risk of disconnection?



Solution:

- Develop a machine-learning model specific to at-risk census tracts.
- EBCE data infrastructure provides platform to ingest data, perform computations, and export candidates into program campaigns.
- Generate target lists that contain more relevant leads.



With Model

40%

2.5X 

Without Model

16%



Help more customers!

Use Case: Streamlining Program Enrollment

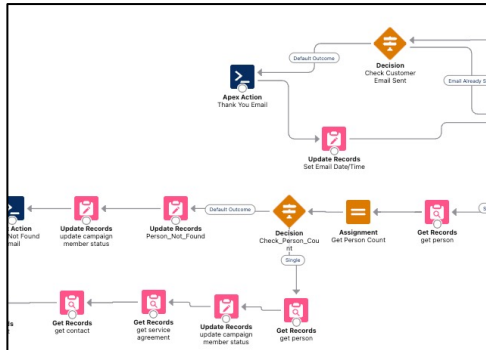
Context:

- EBCE wants to encourage customers to participate in programs without undue barriers to enrollment.
- Most customers don't know their account numbers, can't find their bills, and give up when the enrollment process is complicated.
- Streamlined program enrollment = higher participation.



Solution:

- Reach out to customer with communications and enrollment forms that directly link back to CRM.
- Prefill forms with customer enrollment codes to avoid need for any account lookup or complex form instructions.
- Make forms as simple as possible!



=

EAST BAY COMMUNITY ENERGY

Percentage of Income Payment Plan (PIPP) Online Enrollment Form

Google Translate

Enrollment Code (Your personal enrollment code can be found on the letter or email you received from East Bay Community Energy)*

First Name*

Last Name*

Phone*

Exceed Enrollment Objectives!

Use Case: Fast & Innovative Data-Driven Actions

Context:

- EBCE must at times quickly respond to changing market conditions or regulatory calls to action (for example - help mitigate a heat wave).
- Response often requires quick data analysis and ready access to data insights.
- Innovation is key - data doesn't always exist in the format you want.

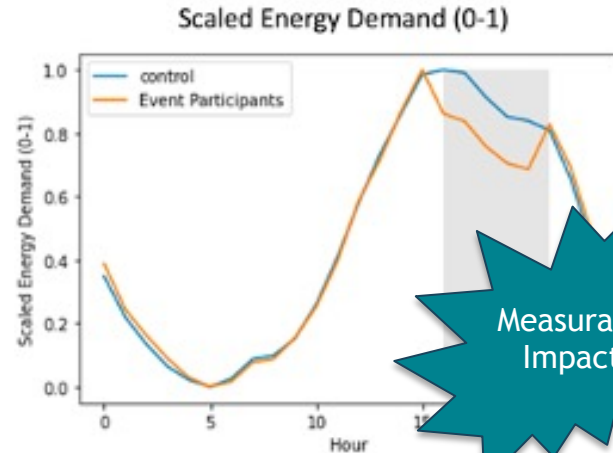


Solution:

- EBCE GCP platform provides quick and comprehensive access to entire EBCE data lake in one centralized location .
- Industrial scale computational power with BigQuery.
- Nimble response enabled through technology.

How can we help avoid blackouts in this heat wave?

Targeted Call to Action for likely AC Users: Conservation



Measurable Impact!

Information Technology: Security

The team is also in charge of all things IT, providing support and infrastructure with a focus on security.

- Ensuring device / network security
- Enforcing customer confidentiality policies
- Maintaining key policy documents:
 - Security, Appropriate Use, Generative AI, Data Retention, Credential Policies
 - Incident Response Plan
 - Disaster Recovery Plan
 - Cyber Insurance
- Providing & supporting a modern security infrastructure

Collaboration with Other CCAs

As a leader in the space, EBCE is pushing for the adoption of CCA-wide best practices in Data Analytics:

- Encouraging the adoption of efficient cloud platforms
- Providing support to other CCAs to replicate EBCE processes
- Developing shared resources
- Pushing for a common ecosystem

As CCAs push for data innovation in our industry in a concerted manner, we gain greater leverage on the regulatory front.

Looking Forward

- Supporting increasingly complex customer journeys
- Developing an EBCE Customer Portal?
- Supporting real-time pricing / interval billing
- Cost-of-Service modeling
- Applying ML / AI technologies
- Staying one step ahead in security
- Expanding CCA collaborations / leadership

Questions / Discussion

Thank you!