

Cloudwick's Amorphic Data Cloud for AWS provides a State Energy Office an energy ecosystem data cloud to achieve their clean energy goals



Executive Summary

The State Energy Office is committed to ending its state's dependence on fossil fuels by creating a 100 percent clean energy economy by 2045. The transition to renewable energy supports the state's economy by generating new quality jobs, expanding investment opportunities, and accelerating overall economic growth. To achieve these goals, the State Energy Office had to find a way to consolidate the consumption and curation of energy-related data across numerous disparate data sources, and to communicate the results of its programs directly to energy stakeholders and the public.

With Cloudwick's Amorphic Data Cloud for AWS, the State Energy Office is now able to ingest data from heterogeneous sources, present the transformed data in an accessible and understandable format, and share key information with stakeholders. Actionable data from Amazon Quicksight is presented in easily consumable dashboards, enabling the agency to effortlessly track and share progress towards the state's clean energy goals.

Customer Challenge

As with many organizations, data at the State Energy Office was siloed, with data management semi-automated at best, often requiring manual intervention. Data teams had to check new data at the source and manually trigger corresponding scripts to load and process data. Many extra steps were required to clean, process, and store transformed data.

The agency had been unable to find a third-party solution to consolidate data or create dashboards for denormalized datasets. The time, cost, and skill required to build a home-grown solution was prohibitive. The State Energy Office was looking for a way to automate data ingestion from a variety of sources, manage all their data in a single location, and share high quality information throughout the organization. It also needed to enable sharing of visual analyses to communicate progress to key stakeholders and citizens.

About the Customer

The State Energy Office is a division of the state's Department of Business, Economic Development and Tourism. The agency is leading the state's charge towards clean energy independence with a goal to reach 100 percent renewable energy generation by 2045. Through effective policies and innovative programs, the Energy Office has positioned its' state as a leader in clean energy innovation.

CUSTOMER QUOTE:

"Amorphic on AWS has enabled us to manage data as a strategic asset and operationalize analyses and processes that were formerly ad-hoc and highly manual. The platform neatly integrates a wealth of AWS services, with pre-configured best practices and design patterns to facilitate rapid production and reduce maintenance overhead. Without a Cloud Solutions Architect available to us in-house, the turn-key solution of Amorphic was a natural fit for our office's use case." – **Data Science Specialist, State Energy Office**

The Solution: Cloudwick's Amorphous Data Cloud

With the Amorphous Data Cloud for AWS, the State Energy Office gained a centralized cloud data cloud for migrating, managing, transforming and the ability to act on data instantly using 60+ on-demand AWS data and analytic services. The agency now can automate data ingestion from heterogeneous sources – SFTP servers, AWS S3 buckets, external APIs, relational data, and weblinks for lookup data – and load raw data directly into the Amorphous Data Cloud. With Amorphous's support for multiple file types such as Parquet, flat files, etc., the ingestion process has been streamlined. Data cleansing, CDC, data transformation, and denormalization are now automated processes and are a part of end-to-end data pipelines.

Amorphous enables data ingestion and processing natively with AWS using Amazon Glue for serverless data pipelines. Once data is stored in a structured and denormalized format on Amazon Redshift, the State Energy Office team achieves an end-goal of creating performant and insightful dashboards using Amazon Quicksight to share progress.

Customer Success Metrics

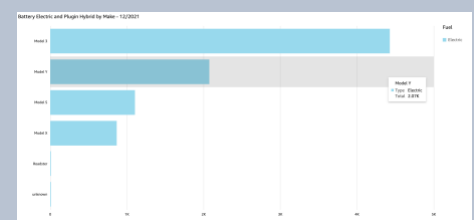
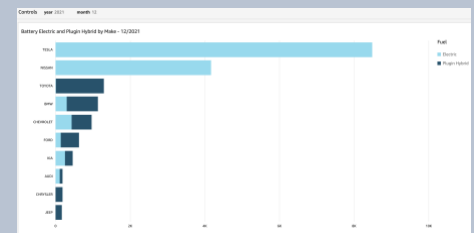
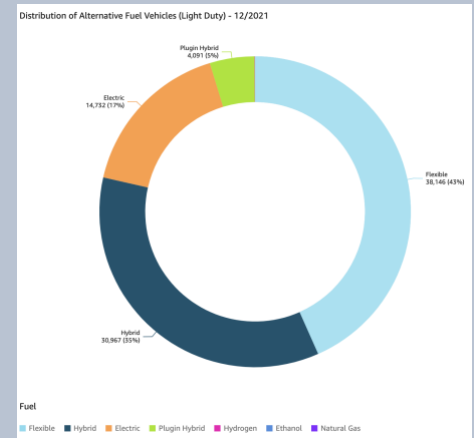
A key criterion for success was the ability for the State Energy Office to use the Amorphous Data Cloud to build dashboards with drilldowns in Amazon Quicksight. With Amorphous managing the infrastructure, the agency sought to embed these dashboards into the State's website to share progress metrics directly with its' citizens, giving 50,000 daily visitors access to these metrics. The dashboards provide data regarding the number of newly registered plugin EVs by geo, maps of alternative fuel stations, and tracking of vehicle fuel efficiency.

For dashboards requiring geospatial capabilities, location intelligence was added to specific datasets by leveraging publicly available zip code data and applicable latitude/longitude information. Amorphous was able to partition the data and exclude unnecessary details.

To enable detailed vehicle data analysis, Amorphous was able to clean source data by identifying faulty VIN numbers using Vehicle Descriptor data provided by the National Highway Traffic Safety Administration (NHTSA) as the source of truth.



Amorphous Data Cloud Dashboards



Key AWS Technologies

- ✓ **Amazon Redshift**
- ✓ **AWS Glue**
- ✓ **Amazon S3**
- ✓ **AWS Lake Formation 2.0**
- ✓ **Amazon SageMaker ML**
- ✓ **Amazon Kendra**
- ✓ **Amazon Textract**
- ✓ **Amazon Forecast**
- ✓ **Amazon QuickSight**
- ✓ **Amazon OpenSearch**
- ✓ **Amazon EC2**
- ✓ **AWS CloudWatch**
- ✓ **AWS CloudTrail**
- ✓ **AWS DMS**
- ✓ **AWS Lambda**
- ✓ **AWS CloudFront**
- ✓ **Amazon Appflow 2.0**

Why AWS & Amorphic?

The State Energy Office's team approached AWS with its requirements. AWS recommended Cloudwick's Amorphic Data Cloud since Amorphic natively integrates over 60 AWS services and was available through Carahsoft, an experienced government IT solution provider for AWS. Cloudwick successfully demonstrated Amorphic's ability to drive forward key goals: 1) to transform and analyse data, quickly and easily with support for multiple data types and data sources, 2) to provide role-based access control for users, 3) to build dashboards with complex drill-downs to track progress, and 4) to provide a repository for collaborative coding.

Customer Benefits of the Amorphic Data Cloud for AWS

- No IT skills required to build and manage a data cloud on AWS
- A centralized data cloud as a single source of truth to transform and analyze data, natively integrated with 60+ AWS services
- Department and system data from multiple sources organized into usable domains
- Support for multiple data types (CSV, Parquet, etc.) and data sources (SFTP, S3, Rest APIs, RDBMS)
- Role-based access control for users to share and consume datasets
- Ability to transform data across multiple stages of the pipeline
- Automate end-to-end data pipelines with no manual intervention
- Code-Commit repository for collaborative coding
- Easy access to tools for location-based dashboard creation
- No IT cost to develop and no support barriers for migration and modernization

About Cloudwick's Amorphic Data Cloud:

Cloudwick's Amorphic Data Cloud helps organizations gain deeper insights from their data. Amorphic is an AWS ISV Certified data cloud that makes any data sharable, searchable, and analyzable by any user. Encompassing a built-in data catalog for search and sharing, enterprise-grade governance and security, and Machine Learning (ML) and AI capabilities for advanced analytics, Amorphic is a production ready, self-service data cloud for all data and all workloads, natively integrating over 60 services on AWS with "single pane of glass" simplicity for better data-driven decisions with near zero IT development or support required.

About Cloudwick:

Cloudwick is an AWS-certified APN Advanced Consulting Partner and Technology Software Partner offering the Amorphic Data Cloud for AWS. Cloudwick's Professional Services provides organizations with trusted and high impact data and analytic migration and modernization outcomes.

Founded in 2010 in Newark, CA, Cloudwick has six AWS Competencies and 210 technology professionals with 400+ Big Data certifications and over 100 AWS Certifications serving customers throughout the US, EMEA, and APAC. Cloudwick's Amorphic Data Cloud is available direct, through the AWS Marketplace and through select resellers.

Cloudwick

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