



# California Data Collaborative

## A data-sharing network of water utilities in California

This case study was developed as part of *Effective Data Sharing: Beyond Platforms*, a study conducted by Athena Infonomics and commissioned by the Global Partnership for Sustainable Development Data. This project was made possible by a grant from Google.org.

### Summary

California witnessed one of its worst droughts from 2012 to 2016. In 2015, the government imposed the first-ever mandatory water restrictions as drought resilience measures in the state, including directing water supply agencies (Agencies) to reduce their water usage by 25 per cent in the coming year. The government required the Agencies to monthly report data on water usage, water conservation and conservation enforcement efforts. However, the Agencies did not have the technical capacity to study granular home-level water usage and identify areas for improvement.

The environmental conditions and the state requirements provided a conducive platform for the emergence of a collaborative such as the California Data Collaborative (CaDC). CaDC is an independent non-profit working as a coalition of Agencies in California to facilitate data-centric water policy and operations. CaDC seeks to make water data analytics central to improved water management. CaDC is staffed with data experts and governed by the Agencies.

The CaDC maintains a secure, cleaned, and standardized water use database for each member agency. Using the data, CaDC creates data analysis tools and develops directly actionable insights, which the Agencies can use through a subscription fee model. The members implement and monitor their progress toward reaching water efficiency targets using CaDC’s tools. Further, CaDC acts as a platform for utilities to interact with each other, learn how to use data and exchange ideas.



Source: California Data Collaborative

## Facts and figures

- Founded:** 2016
- Sector:** Water
- Typology by use:** Public Sector Design and Delivery
- Geography:** California, United States
- Governance Structure:** Data Collaborative
- Number of Entities Involved:** 19 water utilities out of a total of 400 water utilities in California
- Ownership:** Non-profit partnership between participating water utility agencies

## Key Challenge(s) that the initiative was trying to solve

- Develop tools and software to allow Agencies to achieve their state-mandated water usage restriction and disclosure targets.
- Create a collaborative mechanism for the agencies to pool data to enhance operational efficiency.
- Use the insights from the shared data to inform policymaking for water management.

## How are they solving the problem?

The California State Assembly's Open and Transparent Water Data Act (2016) requires the department of water resources to create a state-wide water data platform. As a first step to creating the platform, the Act required Agencies to publish reported data including monthly datasets on water quality, groundwater use, groundwater levels, urban water use, land use, and water management planning. Meeting these requirements proved a challenge. Many Agencies still manage critical water data via paper records or spreadsheets, which are manually shared between the team members and within the organisations. The fragmented agencies would report data in diverse standards resulting in inconsistent and potentially inaccurate data, which could affect the efficiency of the data management system.

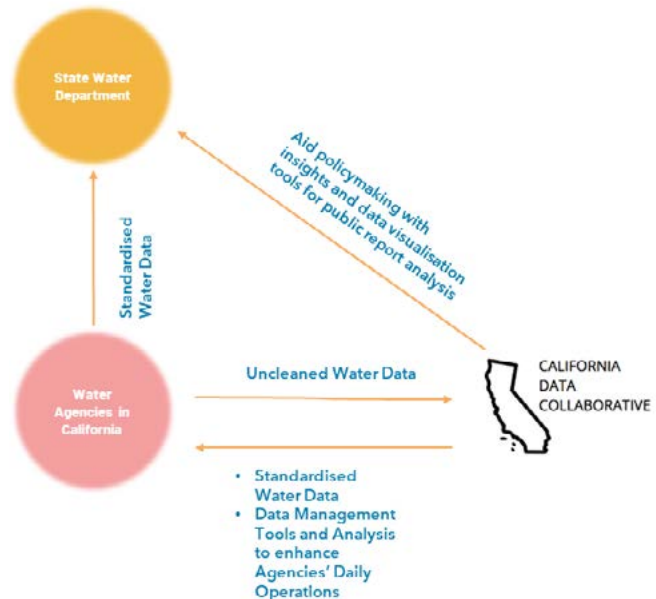
The CaDC aims to mediate the data-sharing transaction by providing a web-based software platform to simplify the everyday tasks of water data management for the Agencies. The CaDC provides a platform where the Agencies can easily upload data, for example – billing data. The platform standardises the data for the Agencies which further share the cleaned data with the state department. Further, the platform stores the data and CaDC analyses it to develop data management tools and advanced data analysis for the agencies to help them in their operations.

**“Once we as state agencies and actors in the space realise that sharing one another’s data to get a better understanding of what’s happening in our communities and watersheds, it would lead us to better decisions and see opportunities that we would not have seen.”**

For Agencies, it is akin to having a research team, bigger than what they could have afforded in-house, to solve their problem at a nominal fee. Through the CaDC they are able to leverage pooled data, a common set of resources, and a commitment to solving a shared problem. The involvement of the CaDC proves beneficial to the state as it assists with advanced analysis to aid in legislative and policymaking. For example, CaDC was able to provide customised analysis on Landscape Area Measurement (LAM) data which helped estimate future water efficiency requirements in the state.

**“We, in the government, have been educated by collaboratives such as this one (CaDC) to understand water data’s promise.”**

## Data Sharing Structure



## What were the key considerations in designing the initiative?

**1. A participatory governance model helped co-develop priorities and trust within the collaborative.** The CaDC is governed by a Steering Committee which has members from all participating Agencies. This Committee decides the research and policy priorities of the CaDC and identifies pilot projects for the collaboratives. In its initial workshops, the CaDC developed a 'trust framework' which included standardized data sharing and data transfer agreements that were available to all. The 'open' agreement, it was hoped, would promote transparency and ensure everyone had access to the same data sharing 'rules'. An equal, transparent mode of governance has contributed to the smooth functioning of the CaDC.

**2. Demonstrating, and communicating, the value-add of CaDC was crucial to participation.** CaDC provided a clear value proposition to its participants - *lowering the transaction costs of sharing data*. The CaDC holds the promise of achieving economies of scale together, reducing the cost that individual Agencies would have to incur to hire independent data talent that could respond to the new requirements. The CaDC was able to ease the *friction* between the Agency and the state on data sharing.

**“Getting people to share their data can be difficult. We needed a carrot – the software and tools that we build that acts as the carrot. There is obvious and immediate benefit from that – then we work with them.”**

Continuous value addition is a key feature of the CaDC. In addition to the standard data sharing and analytics services that it provides, the CaDC has worked to develop software that can ease water data management and analysis. It has also worked with individual data partners to help address specific data questions.

**“One of our partners was debating whether to invest in storage facilities. We looked at their current water use, ran time series analysis to predict future water use. We concluded that they didn’t need more storage - that decision saved 20 million dollars.”**

Through annual water data summits, research partnerships, regular communication and continuous product development, CaDC has improved the value add that a data collaborative can bring.

## Financial Sustainability of the initiative

Most of CaDC’s operational costs are met by the annual revenue fee paid by members. While this makes the CaDC more expensive than a trade association, it is cheaper than the cost each Agency would incur in hiring a data manager/software developer. CaDC also receives grant funding to fund its research projects.

## Lessons Learned

- **Conducive regulatory and economic environment can propel innovation.** Adverse environmental conditions and consequent legislative changes created the impetus for the CaDC. This created a ready use-case and compelled Agencies to consider data sharing which might not have been possible before.
- **Champions/advocates are important in building relationships and partnerships in the foundational stages.** Early advocates for the CaDC included Joone Lopez (GM, Molton Niguel Water District) who championed the value of the data collaborative among the Agencies. This endorsement by an insider allowed the Agencies to overcome initial hesitation in joining the CaDC.
- **A mixed model of a trade association and technological solution provider helped CaDC achieve financial sustainability.** Being a deliberation platform allowed the CaDC to understand the requirements and problems

of the Agencies. Further, they realised that to sustain the data sharing by the Agencies, it must provide them with something viable in return. Hence, using the data of the Agencies it developed relatively inexpensive technological solutions for the Agencies. **A data collaborative can leverage the potential of shared data and resources to improve operational efficiency and impact policymaking.** Focusing on the value-add of the collaborative and its role in bringing down collective costs was important in designing a sustainable and financially viable model.

The CaDC provides a rare example of a financially sustainable data collaborative. The CaDC plays a dual role: it works akin to a trade association where Agencies come together to share ideas and concerns; and it also works as a technology solution provider, which the Agencies can use by paying for it. Through its work, the CaDC has demonstrated the potential of shared data and resources.

## Sources

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