

## DOCKETED

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*Comment Received From: Patrick Atwater*

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## **Using data science to improve demand management**

*Additional submitted attachment is included below.*

## ARGO's plan achieve 1 MAF permanent conservation by making beautiful California native landscaping mainstream

While we should hope for the best, we need to prepare for the worst. As bad as the drought is today, Southern California only has had to endure a lack of water from the State Water Project, one of two major imported supplies. If that the Colorado River also goes into a low allocation next year, we're talking about a lot more than 25% urban conservation.

This summer water managers are focused on removing ornamental turf through mandates and rebates to comply with the Governor's statewide 25% target. Looking ahead to the fall and winter when natives can take root, water managers have a golden opportunity for a positive, proactive strategy to make native landscaping mainstream and achieve 1 MAF permanent conservation regionally.

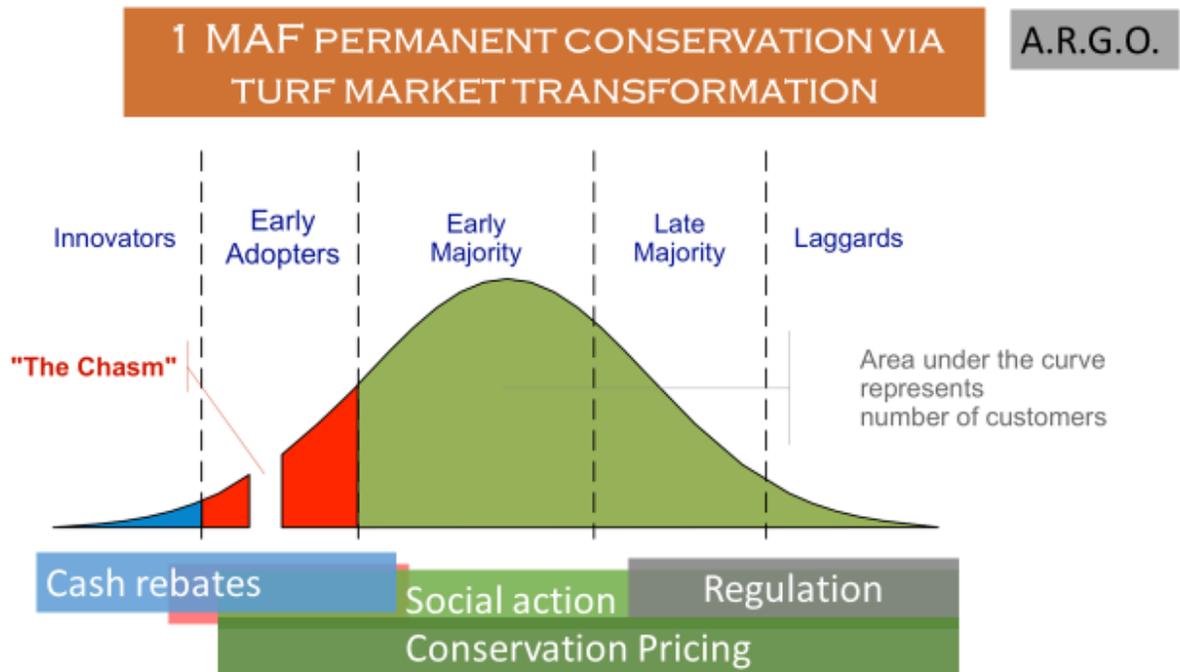
Southern California's dramatic recent expansion in turf rebates still only represents well under one percent the total residential turf market. ARGO's plan detailed below aims to scale California native landscaping adoption from the 10's of thousands to well over a million households as the centerpiece of achieving 1 MAF permanent conservation.

In the last major drought two decades ago, Santa Barbara tore out its turf only to put lawns back in when the rain returned. Let's not repeat that mistake.

### Making California native landscaping mainstream: winning hearts as well as minds

Lush green lawns reflect deeply held attitudes about how ownership and what it means to achieve the California dream. The challenge we face in shifting outdoor landscaping attitudes is more than merely technocratic. We need to pioneer a new California dream that reflects the water supply realities of the world we live in.

ARGO's plan integrates a transformative social action campaign with strategically timed, data driven incentives to win both hearts and minds to the cause of California native landscaping.



- **Cash rebates** – Met should maintain consistent clear regional incentives that do not work at cross purposes with the executive order. Turf removal rebates have always been targeted towards early adopters and should be slowly drawn down over a long period of time with clear milestones to incentivize Californians to act sooner rather than later.

- **Win hearts and minds** – make California native landscaping mainstream through a transformative social action campaign (win hearts) that integrates with improved conservation pricing incentives (win minds). The goal is to transform a million California households to native landscaping as the centerpiece of the broader effort to achieve 1 MAF permanent So Cal water conservation.
  - Develop a broad coalition of local community California native landscaping allies and provide targeted messaging using methods similar to those employed by Obama’s notably data driven 2012 campaign.
  - Coordinate a network of nonprofit allies using modern digital tools like Nation Builder and an integrated spectrum of community workshops, volunteer days and other creative locally targeted California native landscaping opportunities.
  - Integrate that local “boots on the ground strategy” with ongoing regional paid and earned media efforts on television, radio and the web.
  - Explore direct to market rebates for California native landscaping through retailers and the landscape contracting community.
  - Offer cutting edge analytics to water managers looking to move to allocation based rate structures and incentivize water conservation.
- **Regulation** – work with cities, SCAG and local water retailers to develop a drought tolerant landscaping model ordinances and strategically time those rules to align with the first two phases.

For the past year, ARGO has been studying residential turf rebates and building a broader water usage data parsing pipeline for Moulton Niguel Water District in South Orange County. Over the summer, ARGO will expand that effort with a few key utilities to inform decisions about how to phase this strategy to make California native landscaping mainstream.

**Tackling this challenge like a startup: focused on over 10x the results for less than 10% the cost**

Over the last five years, roughly ~50k households have converted to California native landscaping at cost of hundreds of millions of dollars. After many So Cal lawns go brown over the summer, this fall and winter we have a golden opportunity to radically scale that effort to make California native landscaping mainstream. Our goal is to achieve a million California native landscaping from August 2015 to February DATE, 2016 – roughly over 20x times in 6 months – for well less than 10% that cost.

We propose to build from that hard pioneering work to win early adopters and supplement existing efforts utilities, nonprofits, cities, business and other actors are engaged in with a lean, agile team combining the best and brightest from the water community with California’s unparalleled tech and creative talent. Here’s the team we envision:

- **Building from the Water Community’s Best and Brightest**
  - Analysts equally comfortable in R and excel that knows water rates inside and out as well as other key water utility management drivers
  - Conservation coordinators skilled in design and GIS that understand everything there is to know about California native landscaping
  - Local utility liaisons that can speak the language of retailers and community groups to coordinate operations
- **Tapping into California’s World Beating Tech and Creative Community**
  - Data engineers who leap out of bed at the idea of unstructured data integration challenges that will involve not only existing messy government administrative data but new vegetation machine visioning classifications and the digital exhaust of a modern social action campaign
  - Data scientists that can both serve as on the fly analytical generalists as well production level purists who hunger to test and build an unparalleled water demand predictive analytics system to support water managers looking to move to conservation rate structures
  - Campaign creatives that can translate data insights into actionable operations on the fly and who can converse equally well with technical data nerds, community nonprofits, media professionals, civil servants and everyday Californians you’d meet on the street.

We'd keep the small and focused and target around a dozen people. Beyond those role specific qualities, we'd need people with the courage to pioneer a new way of managing water demand, the flexibility to not just work but thrive in a cross sector team and the maturity to understand the gravity of this challenge.

We will also have ARGO's NYC IoT lab ready to rapidly prototype creative hardware systems using a straightforward raspberry pi / makerbot stack to pilot potentially game changing technologies like ARGO's affordable SQUID integrated accelerometer and imagery pothole detection solution [\[LINK\]](#).

This initiative would be nothing if not an experiment yet can we really afford to accept the status quo when so much more needs to be done to address the new normal of California water? As Governor Brown has often said, conditions like the drought serve to elicit the best of us and we can achieve greatness if we tap into California's unparalleled pioneering spirit.

Just what needs to be done.