



## Southern California Sustainable Landscapes Initiative

### Background

California’s urbanized areas are marked by vast expanses of turf and impervious areas. Half of all water used in California’s urban areas – more than 4 million acre-feet annually – is used outdoors, largely to irrigate turf grass. Runoff from these areas carries fertilizers and pesticides into waterways. Similarly, pavement impedes groundwater recharge, contributes to higher peak flows, and carries oils, metals, and other toxins into rivers, streams, estuaries, and the ocean.

The good news is that there are more sustainable options for California communities. Replacing lawns with low water-use plants that are irrigated efficiently can provide significant water savings. Likewise, installing bioswales, rain gardens, and other forms of green infrastructure can improve water quality, reduce localized flooding, and recharge groundwater aquifers. In addition, these strategies provide other co-benefits, including creating habitat, reducing energy use and associated greenhouse gas emissions, and boosting property values.

To date, sustainable landscaping programs have focused mainly on residential properties due, in part, to the real and perceived challenges of engaging the business community in such projects. Yet, commercial and industrial properties are disproportionately landscaped with water-intensive turf grass and have large impervious areas that provide opportunities for stormwater capture and infiltration. These landscapes represent a highly visual way for the business community to showcase its commitment to sustainability and will help to promote similar actions by residents and others.

The Pacific Institute is partnering with California Forward, and coordinating with the Santa Ana Watershed Project Authority (SAWPA), to advance sustainable landscapes on commercial and industrial properties by:

- (1) assessing the opportunities and benefits of sustainable landscapes on commercial and industrial properties in the Santa Ana River Watershed;
- (2) working with companies to integrate the costs and benefits of sustainable landscapes into their policy and investment decisions; and
- (3) developing tools and resources to advance sustainable landscapes on commercial and industrial properties in Southern California and beyond.

### Project Activities and Timeline

This project is divided into three phases. Phase 1 is focused on assessing the opportunities and barriers to more widespread uptake of sustainable landscapes on commercial and industrial properties. During Phase 2, we will work with the business community to install sustainable landscapes, with a goal of recruiting 5-10 businesses to make these investments and monitor the associated water savings and co-benefits. Phase 3 will focus on cultivating insights, lessons learned, and recommendations. While currently focused on the Santa Ana River Watershed, this work can be scaled to Southern California and beyond.

Activities	Timeline*
1 Research and Analysis	Q1 2018 – Q4 2018
2 Site Assessments and Landscape Conversions	Q1 2019 – Q3 2019
3 Share Insights & Inform Policy; Ongoing Monitoring	Q4 2019 +

\*timeline may change depending on funding schedule



## 1. Research and Analysis

(a) *Benefits*: Through a literature review and discussions with experts, the project team identified site-level and community benefits of various sustainable landscape strategies, such as climate-appropriate plants, rain gardens, bioswales, and green roofs.

(b) *Motivations and challenges*: The project team interviewed companies with facilities in Southern California. For those who had previously made investments, the interview focused on their motivations and any challenges encountered. For those who had not, the interview explored why not and gauged interest and capacity to make such a conversion in the future.

(c) *Geospatial analysis*: The project team mapped where in the basin different landscape changes such as turf removal and stormwater capture can provide maximum benefits. For example, this exercise identifies where groundwater recharge may be feasible or where stormwater capture would be most valuable.

The project team will produce a report to share our research findings, including a preliminary assessment of the benefits associated with sustainable landscaping investments made by businesses in the region, an exploration of barriers to more widespread adoption of sustainable landscapes on CI properties, and research on incentives, including pricing policies, to motivate the adoption of sustainable landscapes. The target audience for this report are water agencies in Southern California who want to engage the business community on initiatives like sustainable landscape installation.

## 2. Install Sustainable Landscapes

In this implementation stage, the project team and interested companies will work with local partners to install, and measure the outcomes of, sustainable landscapes on the participating properties. Companies will be able to choose from a menu of landscape element options based on designs generated by a landscape architect who specializes in sustainable landscapes. The project team will continue to work with the sites to track progress on the new landscapes and collect data needed to support a robust analysis of the conversion over time.

## 3. Use insights to inform policy

Based on outcomes and lessons learned through this initiative, the project team will identify and pursue policies and other strategies for larger scale implementation of the sustainable landscape approach. This work will result in a final report on project outcomes and key policy recommendations. The target audiences for these deliverables are policy and decision makers, water managers, and researchers throughout the United States.

### **About the Pacific Institute**

The Pacific Institute is a global water think tank that provides science-based thought leadership with active outreach to influence local, national, and international efforts in developing sustainable water policies. The Pacific Institute acts as co-secretariat for the United Nations Global Compact's CEO Water Mandate, which is a platform for companies to share best and emerging practices and forge partnerships to address challenges related to water scarcity, quality, governance, and access to water and sanitation. This project engages and leverages partners and networks through both the Pacific Institute and the CEO Water Mandate.

### **About California Forward**

California Forward is the staffing and coordinating organization of the California Economic Summit, which has emerged as the only multi-disciplinary, regions-based civic effort to identify and promote policy choices that will advance a triple-bottom-line future for California. The 2015 California Economic Summit set out an ambitious challenge—one million acre-feet of additional water conserved, captured, and reused each year for the next 10 years—to close the supply gap for urban, agricultural, and environmental needs and support California on the Roadmap to Shared Prosperity.