



Helping Local Communities Conserve: The Water–Energy Community Action Network

Governor's Office of Planning and Research
Best Practice Pilot Program

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The Governor’s Office of Planning and Research developed the Best Practice Pilot Program (BP3) to formalize the process of providing technical assistance to local and regional partners while capturing the design and implementation of best practices. The BP3 acts as a mechanism to institutionalize the production of case examples of piloted policies or programs recently recommended or required by the State. To learn more about the Best Practice Pilot Program, please visit the Governor’s Office of Planning and Research website. This report is one of a series of case studies supported by CivicSpark, a Governor’s Initiative AmeriCorps Program, administered by the Local Government Commission in partnership with the Governor’s Office of Planning and Research.

The Santa Ana Watershed Project Authority’s Water-Energy Community Action Network is made possible with the support of these partners and stakeholders:



Introduction

The Santa Ana Watershed Project Authority (SAWPA) designed and is implementing the Water-Energy Community Action Network Program (WECAN) throughout the Santa Ana River Watershed (Watershed). This program assists members of overburdened communitiesⁱ in the Watershed to save water and energy at home. WECAN will replace fixtures with more efficient versions and turf lawns with climate-appropriate landscapes for eligible residents at no cost. This multi-faceted program is funded in-part by a grant from the Department of Water Resources from the California Climate Investments Program, and benefits from assistance and support of project partners and the CivicSpark program.

This report reviews WECAN including design, implementation, and lessons-learned, and was developed in collaboration with the Office of Planning and Research as part of their Best Practices Pilot Program, which highlights successful and innovative model programs throughout the State of California that were supported by a CivicSpark fellow.

Selected Highlights of WECAN



CivicSpark

[CivicSpark](#)ⁱⁱ is a Governor’s Initiative AmeriCorps program administered by the [Local Government Commission](#)ⁱⁱⁱ in partnership with the [Office of Planning and Research](#)^{iv}. CivicSpark pursues a mission to build capacity for local governments across the State of California as they address climate change and water management needs. Dozens of CivicSpark fellows directly support climate mitigation projects and initiatives of various types and at various scales. These projects range from educating community members and benchmarking energy use to updating water management plans and implementing water efficiency incentive programs.

In partnership with one of its member agencies, the Inland Empire Utilities Agency, SAWPA benefits from the CivicSpark program due to a grant provided by Wells Fargo. This grant allows the two agencies to share the support of CivicSpark Fellow Arya Moalemi. At SAWPA, Arya assists Mike Antos, the Watershed Manager, with the implementation and community engagement components of WECAN.

Arya holds a master's degree in City Planning and Regeneration from the University of Glasgow in the United Kingdom and a bachelor's degree in International Studies from the University of California, Irvine. Along with his international experience, he has experience working with community-based non-profits as well as with city planning departments.

Santa Ana Watershed Project Authority

Formed in 1968 to plan and build facilities that protect the water quality of the Santa Ana River Watershed, SAWPA is the only public agency in California with a service area defined by an entire watershed. The SAWPA service area covers over 2,840 square miles in Southern California, spanning four counties, 63 cities, and is home to over six million people. As a joint-powers authority SAWPA has five member agencies: Eastern Municipal Water District, Inland Empire Utilities Agency, Orange County Water District, San Bernardino Valley Municipal Water District, and Western Municipal Water District.

SAWPA promotes a sustainable, resilient Watershed that provides clean and reliable water resources while maintaining healthy ecosystems and open-space opportunities achieved through collaboration. [The One Water One Watershed 2.0 \(OWOW\) Plan](#)^v articulates this vision by emphasizing the importance and value of community, government, and agency cooperation. OWOW is SAWPA's innovative Integrated Regional Water Management Plan which builds on successful watershed planning in the past to ensure that all water interests in the region have a voice in the planning process.

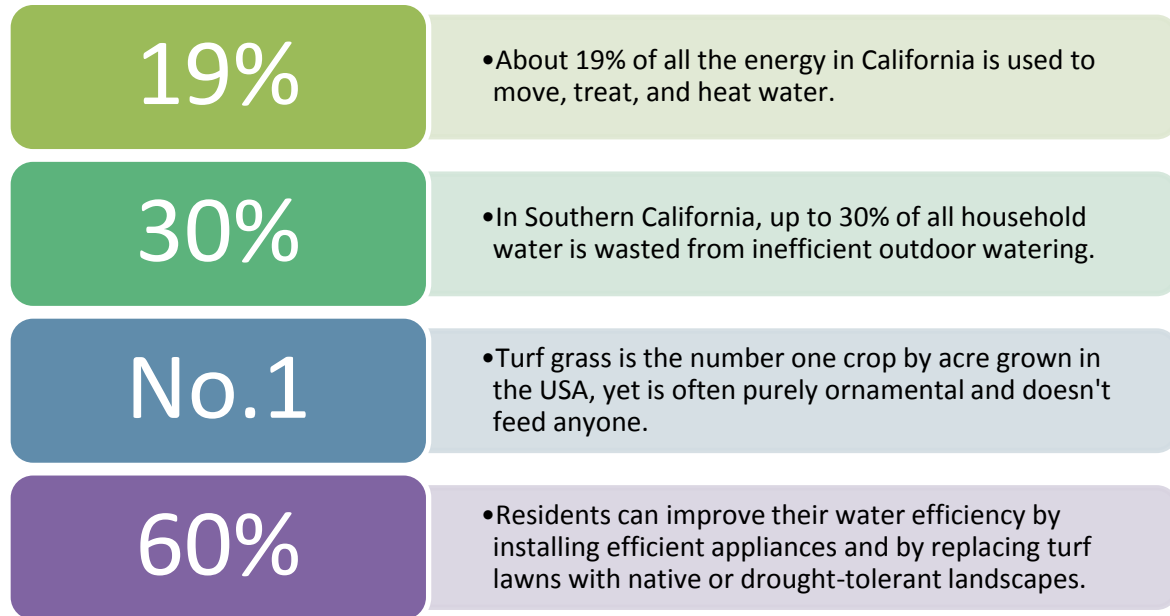
Why SAWPA?

SAWPA as an agency, and OWOW as a planning framework, are well-positioned to implement WECAN because taking a watershed approach allows for varied communities to benefit from WECAN. Following the collaborative vision set by the OWOW plan, WECAN is a multi-sector collaboration including water agencies, private businesses, community groups, and non-profit groups. The program benefits from and strengthens relationships in the Watershed, building social capital, and therefore enhancing community resilience. Working primarily with water and land managers at the watershed scale, SAWPA rarely works directly with residents, so this program is forward-thinking and novel for the Authority.

Water–Energy Community Action Network

SAWPA designed the Water-Energy Community Action Network (WECAN) to support the resilience of overburdened communities in the Watershed through no-cost indoor fixture and front-yard turf replacement. This program will conserve water and energy and result in carbon reductions. WECAN in the Santa Ana River Watershed is a sister program to the WECAN led by the Local Government Commission in Fresno, California.

Problems to be Solved



As emphasized by the recent years of drought, and as projected in the OWOW 2.0 Plan, the future Southern California climate will be characterized by higher temperatures and increasingly variable rainfall. To adequately respond to an increasingly uncertain future for water (and energy) availability and more numerous extreme heat days, encouraging responsible water use is wise and necessary to maintain health and well-being. In response to statewide mandates, water agencies in the region have implemented water conservation measures. While recently, the restrictions have loosened, WECAN is an opportunity for SAWPA to contribute to long-term water and energy savings for the Watershed and in-turn contribute to the carbon emission reductions sought by California policy.

At the core of WECAN is recognition of the reciprocal nature of the water-energy nexus, in that saving water saves energy, and saving energy saves water. Water and energy are inextricably linked. In fact, [UC Davis](#)^{vi} researchers found that as a result of the water savings spurred by Governor Brown's emergency conservation program, from June 2015 to February 2016, the electricity savings from water conservation equaled the combined impact of all energy efficiency programs offered by major investor-owned utilities—and at a third of the cost. This savings totaled 922,543 megawatt hours—enough to power 135,000 homes for a year^{vii}.

“...the electricity savings from water conservation equaled the combined impact of all energy efficiency programs offered by major investor-owned utilities in California—and at a third of the cost.”

A specific focus on overburdened communities is a key feature of the WECAN design. These communities are often most vulnerable to climate change impacts and least able to implement mitigation and adaptation

measures. Being offered for no cost, WECAN addresses a critical issue found with existing water and energy conservation rebate programs that incentivize plumbing or landscape replacement. Because rebates require homeowners to spend money up-front and then await reimbursement, and often provide cost-share, low-income residents struggle to make effective use of those programs. By combining grant and local funds and by directly employing contractor teams to conduct the work on client properties, WECAN provides retrofits at no cost to participants. By designing the WECAN program such that a resident can receive assistance without having to spend money, SAWPA and their partners are confident that residents who otherwise would be unable to access assistance programs will be able to take part.

Goals

Foremost, WECAN seeks an enhancement of community resilience. Carbon savings achieved through water and energy conservation is the output, while strengthening engagement with low-income and overburdened communities in the watershed is an outcome. These goals are closely interconnected and mutually support each other. Replacing indoor fixtures and appliances with more efficient versions and replacing turf lawns with climate-appropriate landscapes allows residents to use less water and less electricity. These savings equate to reduced carbon emissions in the Watershed. Importantly for residents, this also translates into lower electricity and water bills. WECAN presents an opportunity for SAWPA to work closely with our partnering agencies and with residents to build a stronger foundation for increased engagement in the future. This program is designed to support families and communities in the Watershed and, because all efforts in the Watershed are linked, it supports the health and resilience of the entire Watershed.

Funding

The WECAN program is made possible by a California Climate Investments (CCI) grant awarded to SAWPA by the Department of Water Resources (DWR). SAWPA will receive up to \$2,339,823 from the grant. The grant stems from AB 32, which promotes climate change mitigation and carbon reductions. The grant funds entirely support the fixture replacement component. For the lawn replacement component, in addition to the grant funds, four water agencies and one water wholesaler together contributed a total of \$520,000 to support implementation.

The Program Components

The WECAN program is comprised of two components: fixture replacement and turf replacement.

Fixture Replacement

For the fixture replacement component, SAWPA has partnered with the three Community Action Partnerships (CAPs) of [Orange](#)^{viii}, [Riverside](#)^{ix}, and [San Bernardino](#) Counties^x. The three CAPs have existing weatherization and energy saving home retrofit programs, and WECAN has added water and additional energy devices to their programs that retrofit eligible residents' homes for no cost. The WECAN activity varies by county and includes toilet replacements, showerhead replacements, water heater replacements, faucet aerator installations, thermostatic shut-off valves, and water heater blankets. Ultimately, about 1,700 residences will have new water and energy saving devices installed.

Turf Replacement

For the turf replacement component, each selected eligible resident will have 750 - 1000 square feet of front-yard turf removed and replaced with a climate-appropriate landscape for no cost. In total, 260,000 square feet of turf in the Watershed will be transformed. About 300 residences will benefit from this program.

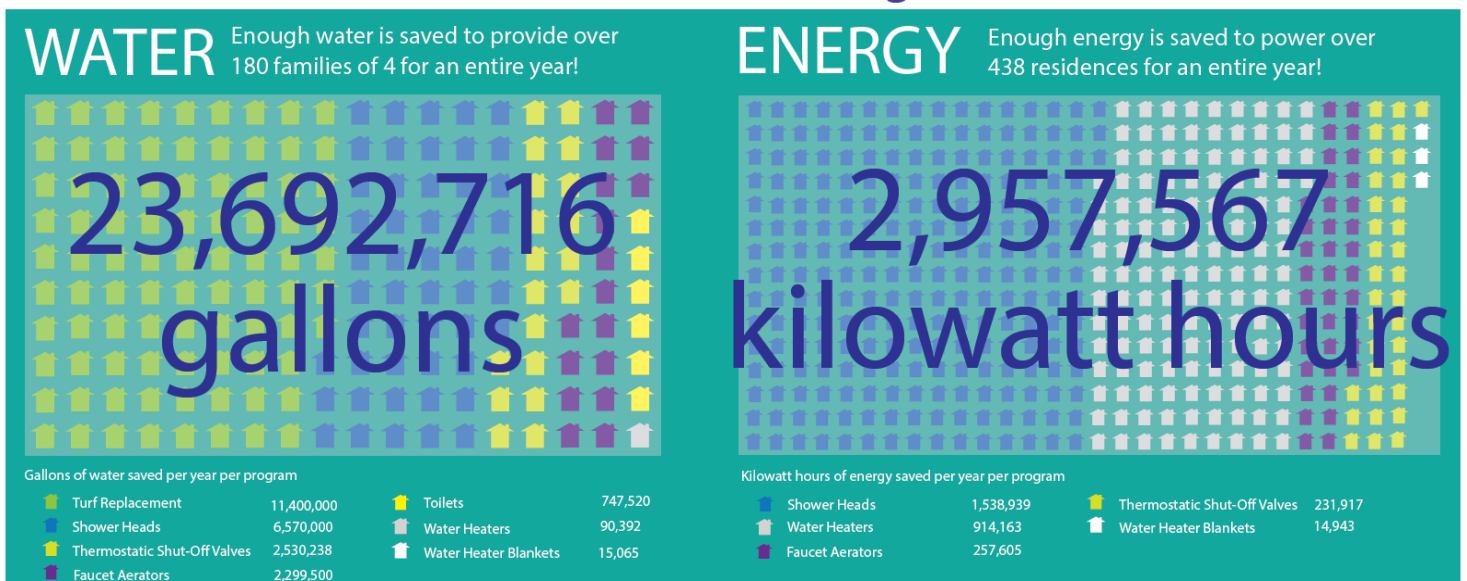
Turf replacement occurs in the service areas of the four partnering water agencies: City of Anaheim, Fontana Water Company, Jurupa Community Services District, and West Valley Water District.

To implement the lawn replacement component, SAWPA issued requests-for-proposals and retained two contractors and added to an existing partnership with one non-profit group. Outreach and enrollment of all eligible residents for lawn replacement is the responsibility of the community engagement contractor, [Green Media Creations](#)^{xi}. Working alongside the participating water agencies, Green Media Creations provides service in English and Spanish to residents. All landscape design and implementation is the responsibility of [EcoTech Services](#)^{xii}. As part of the program, residents choose one of four themes for their new landscape, and based on the selected theme, EcoTech Services develops a landscape design which the homeowner approves. To help ensure ongoing success of the new landscapes, [Orange County Coastkeeper](#)^{xiii} will provide training sessions and bilingual landscape care manuals.

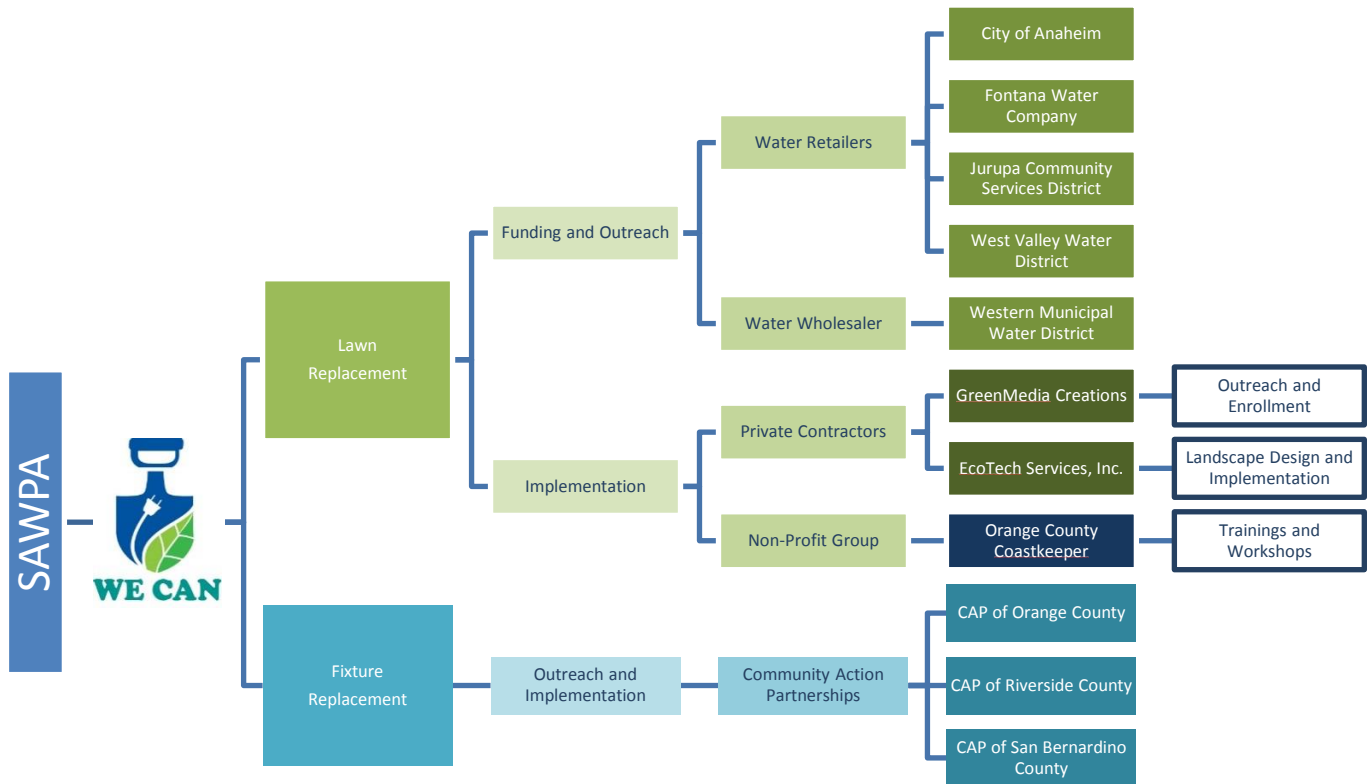
Savings

Once fully implemented, SAWPA anticipates that WECAN will directly save over 23.6 million gallons of water per year, reduce energy use by 2.9 million kilowatt hours per year, and yearly prevent over 5,500 tons of carbon dioxide from entering our atmosphere. For purposes of the grant calculations, these figures only take into account direct water and energy savings. Given the inherent energy and water savings available at the water-energy nexus, the water and energy savings from WECAN are likely much higher.

The Annual Savings



Key Stakeholders and Partners



Resident Eligibility

In response to the CCI grant requirements, and to ensure that overburdened communities benefit from the program, residents must live in a census tract identified by [CalEnviroScreen 2.0](#)^{xiv} as having a score of 76% or higher, and live in the Santa Ana River Watershed. Over 23% of SAWPA’s service area meets this criterion.

The lawn replacement component also requires that residents be a customer of one of the four partner water agencies. To ensure that low-income community members directly benefit from the lawn replacement, residents must own and occupy their house and must self-certify an annual household income below \$49,000.

The CivicSpark Role

Working alongside Mike Antos, the Watershed Manager at SAWPA and lead for the WE CAN project, Arya Moalemi, in his capacity as a CivicSpark fellow, provided support for project implementation. He designed outreach materials for the project, including signs and flyers; developed training sessions for program partners and contractors; and conducted necessary research. Additionally, he created and presented a poster outlining WE CAN at the Statewide Energy Efficiency Collaborative (SEEC) Forum in Riverside, California on July 16, 2016. Involvement in the SEEC Forum presented an opportunity for SAWPA to introduce the energy-saving benefits of WE CAN to agencies involved with energy conservation and to highlight the potential to further connect water and

energy conservation efforts. Conference attendees were impressed by the amount of savings involved with WECAN (both water and energy) and by the fact that this program is offered for no cost.

Outcomes

At the time of this report, WECAN in Santa Ana River Watershed has entered its initial community engagement phase to register participants for the two components. Further detail and lessons learned from the implementation will be available in the coming months.

What has worked so far

No-cost programs for low-income residents

Residents have been very receptive to the no-cost program versus a rebate option. This was highlighted in outreach efforts from one partner water agency, Jurupa Community Services District (JCSD). JCSD conducted initial customer outreach to enroll residents in the free lawn replacement component of WECAN and received interest greatly in excess of what rebate programs have in the past garnered. This example underlines the effectiveness of offering no-cost options for low-income communities.

Well-Coordinated Contractor-Team for the Entire Turf-Removal Program

For the lawn replacement component, by contracting a single landscaping firm, EcoTech Services, to perform the work for the region—a total of 260,000 square feet of turf will be replaced—SAWPA was able to negotiate competitive prices for landscape retrofits. This has the additional benefit of working with one point of contact for the considerable amount of work involved in the lawn replacement component of the program.

SAWPA also contracted one community outreach firm, GreenMedia Creations, to contact and register eligible residents. Ultimately, their scope of work evolved as water agencies played a stronger role in initial resident outreach. This firm provides all information for residents, outlines the program to residents, and enrolls them in the program and connected them with the landscape firm. Residents contact the firm via email and a toll-free number during the week and weekends. All services are offered in English and in Spanish. Importantly, GreenMedia Creations works closely with EcoTech Services to ensure a smooth transition of services (enrollment to implementation).

In order to support long-term success for the landscape component, SAWPA engaged the Orange County Coastkeeper to provide training workshops and bilingual landscape care manuals so that homeowners who receive new landscapes will be empowered and successful at caring for them.

Utilizing Existing Programs

In developing WECAN, SAWPA specifically looked for partners with existing programs in place or with appropriate expertise. For the fixture replacement component, SAWPA partnered with the three Community Action Partnerships because these organizations have existing fixture replacement programs

already in place. So, instead of having to completely develop a new program, SAWPA was able to build upon their expertise and experience. By providing the finances necessary, these organizations were able to expand their existing programs to support eligible residents within the Watershed.

Project Lessons

During planning and preparation for implementation, several lessons have already been learned.

First, the need for a water and energy conservation program designed to assist low-income and overburdened communities was clear to SAWPA, its member agencies, and its partners across the Watershed. The willingness for local agencies to support the program with community engagement and local funding reveals its importance.

Second, programs that seek both conservation and a focus on members of disadvantaged communities must adjust the metrics of benefits to cost. Benefits per dollar spent are a customary metric for understanding the effectiveness of a program, particularly state-grant-funded programs. However, when seeking to assist low-income communities with conservation, there is usually already below-average

“Wealthier neighborhoods use far more energy per capita than their low-income counterparts...”

(<http://www.latimes.com/science/la-me-1001-ucla-energy-data-20151001-story.html>)

per-person resource use baseline, prior to the conservation program effort. As shown by the data in the [Energy Atlas](#)^{xv} created by the [UCLA Center for Sustainable Communities](#)^{xvi}, low-income communities, driven by the cost of resources, are already strong conservationists in per person energy use^{xvii}. So, the amount of savings available through an expenditure of resources is smaller per dollar than it would be in a more affluent community where the baseline resource use is higher. Providing programs that build resilience and equity for overburdened or low-income communities is vital and clearly a public policy priority in California. Funding agencies should consider appropriate changes to benefits calculations with these goals in mind.

Third, to date, the most complex part of this program has been developing the agreements between the many involved agencies and organizations. In particular, the sensitivities around collecting, storing and sharing customer and user information between the partners have added time and complexity. These sensitivities regarding customer information were the reason that water agencies played a stronger role than originally planned with initial resident outreach. These challenges are likely not unique to WECAN, and could benefit from policy and legal guidance at the state level. For the time being, partnerships of public and private agencies seeking to execute community engagement programs must factor these sensitivities involving sharing data into budgets and schedules.

Fourth, given SAWPA’s existing partnerships and due to the grant being issued by DWR, WECAN is grounded on the water side of the water-energy nexus. Programs like this could be strengthened through greater involvement from municipal and investor-owned utilities in partnership with water utilities and agencies. Linking conservation programs from the different water and energy agencies could create more efficient programs, and assure that the best-value conservation approach is undertaken when engaging with community members.

Paths to Success

Regional Approach

SAWPA is committed to the watershed approach in its management and planning. This means two important things. First, working at the watershed scale means that the whole natural and social system is considered holistically; involving society, water, and land and the dynamics between them. By working at this scale, the policies, plans, and programs can benefit a social and ecological system by encouraging resilience.

Second, the watershed approach encourages a commitment and awareness that changes in one location impact the entire system in some way. So, strengthening the resilience of one community necessarily strengthens the resilience of all communities. Acknowledging the interdependence of social and natural systems in the Watershed leads to more effective, equitable, and resilient solutions.

Existing Collaborative Institution

In the 1990's, SAWPA piloted integrated water management in California and has been at the forefront of the State's Integrated Regional Water Management Program. The existing partnerships that link land, water, ecosystem, and health management institutions and stakeholders play a critical role in the approach of all programs that SAWPA undertakes. This multi-dimensional collaborative and concerted effort, central to the transition management embedded in the Authority, moves away from the single-purpose, siloed water and land management of the twentieth century in favor of an approach that acknowledges and incorporates the linkages previously left external to most management systems. For example, over 100 partners contributed to SAWPA's OWOW 2.0 Integrated Regional Water Management Plan. The contribution of these partners results in more inclusive and more holistic solutions to challenges in the watershed, and strengthens community resilience. WECAN has brought this ethic into new partnerships, and like all new relationships there is a necessary period of investment at the outset. Scheduling and funding this part of the process is critical.

WECAN includes public agencies at regional and municipal scales, private utilities, special districts, non-profits and private companies. This is one of its features, but also one of the challenges. The investments in these relationships will benefit WECAN and will be long-term beneficial outcomes for the region.

Recommendations

Promote the Water–Energy Nexus as a Climate Mitigation and Adaption Measure

Working at the Water-Energy Nexus fits clearly into carbon emissions reduction strategies. Mitigation however is only half of our challenge, and water-energy nexus programs can benefit both mitigation and adaptation strategies. As the impacts of the changing climate become more present in the day-to-day

lives of overburdened communities, it is critical that programs always seek not just the water-energy nexus, but also the mitigation-adaptation nexus.

Develop Community-Specific Population Tools

Using CalEnviroScreen 2.0 to highlight overburdened communities is an important policy tool. However, because it relies on US Census boundaries to describe communities, it can overlook or improperly categorize particular people as belonging (or not belonging) to a community. People's lived experience is a much better predictor of community identification, and in the long-term, CalEnviroScreen should be adapted to more sophisticated ways for identifying communities, just as the rigor with which it identifies burdens has strengthened over time.

Replace Rebates with No-Cost Programs

The most important element to replicate may be to switch some rebate programs to the WECAN model of no-cost retrofits for low-income residents through the use of agency contractors. Providing these services for no cost to residents is key to most effectively target overburdened communities. For certain residents, paying for utilities is already a difficult burden (it is a higher percentage of their income than for residents of other communities). Removing this barrier will likely increase participation in programs designed to provide support.

SAWPA collaborated with partners (including funding partners) to provide these services for no cost. Similarly, water and energy utilities can form partnerships and hire contractors to provide programs. Additionally, statewide programs can be included to assist with the management of these programs. SAWPA was able to use CivicSpark as a resource. The California Conservation Corps, for instance, may be an organization to which the utilities could turn for this work.

Replicable Elements

What elements could be replicated elsewhere?

The capacity provided by the Community Action Partnerships in this program has been critical. In other areas of the State, this capacity could be engaged or built to assist mitigation and adaptation programs. The Community Action Partnerships in the Santa Ana River Watershed were each already performing homeowner retrofits for energy and climate savings. Having that program to expand to water improves the potential outcomes in the Watershed, and creates another programmatic link between climate, energy and water change. Other regions without existing programs will need time and resources to create them.

This program (particularly the fixture replacement component) benefited from an understanding of existing programs and expanding upon these organizations' capacities. This has the dual benefit of involving organizations who are already experts and to benefit and help grow these organizations.

Challenges

Not all regions of the State are equally capable of moving to regional management strategies. Over six million people live in the Santa Ana River Watershed, and with that density of population comes significant public sector capacity (though not evenly distributed). Notably, given the opportunity to work at the watershed scale, the size and population provided sufficient economies of scale to financially support such an encompassing program. Additionally, SAWPA was able to implement WECAN given the collaboration with (and building upon) existing partners, and particularly funding partners, in addition to the grant funds. These opportunities may present challenges for other regions working at smaller scales, targeting smaller populations, or areas with greater funding challenges.

Conclusion

The lessons learned thus far from WECAN are a helpful guide for agencies interested in creating similar community programs. There is a confluence of programmatic ideas that WECAN represents. First, the program exists given California's climate policy and the funds made available by the State for mitigation efforts. In order to accomplish the goal of carbon, water, and energy savings and engagement with overburdened communities, SAWPA partnered with water agencies, community groups, and private businesses. Having a regional entity like SAWPA with experience in collaborative projects and complex financial management is key to the success of the program. Other agencies interested in executing programs for residents at no cost may benefit from State support, but also may engage resources that already exist in their region. Involving partners from private and public, state and community organizations ensures the success of a comprehensive and adaptable program. Though the project is only just started in the summer of 2016, lessons are already learned and the program has adapted. In the coming year and a half of implementation, the program will yield benefits for overburdened communities, and strengthen the resilience of the entire Santa Ana River Watershed.

ⁱ For more reading, see: <https://www.epa.gov/environmentaljustice/ej-2020-action-agenda>

ⁱⁱ <http://civicspark.lgc.org/>

ⁱⁱⁱ <https://www.lgc.org/>

^{iv} <https://www.opr.ca.gov/>

^v www.sawpa.org/owow

^{vi} <http://cwee.ucdavis.edu/research/data-analytics/>

^{vii} <http://www.sandiegouniontribune.com/news/2016/jun/02/drought-regulations-created-sizable-energy-savings/>

^{viii} <http://www.capoc.org>

^{ix} <http://www.capriverside.org/>

^x <http://www.sbcounty.gov/capsbc/>

^{xi} <http://greenmediacreations.com/>

^{xii} <http://www.ecotechservices.net/>

^{xiii} <http://www.coastkeeper.org/>

^{xiv} <http://oehha.ca.gov/calenviroscreen/report/calenviroscreen-version-20>

^{xv} <http://www.energyatlas.ucla.edu/table>

^{xvi} <http://ccsc.environment.ucla.edu/>

^{xvii} <http://www.latimes.com/science/la-me-1001-ucla-energy-data-20151001-story.html>