



Stacked Incentives: Co-Funding Water Customer Incentive Programs

Sarah Diringer and Morgan Shimabuku



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EXECUTIVE SUMMARY

Water utilities throughout the United States offer customer incentives to motivate action and foster engagement. Incentive programs can take many forms, such as rebates for high-efficiency fixtures and appliances, technical assistance for installing cisterns and rain gardens, and educational programs about water reuse. In addition to providing water-related benefits, many of these programs generate additional co-benefits, including reductions in energy use for heating or treating water and wastewater, increased carbon sequestration in landscapes, enhancements to local biodiversity, and more. These co-benefits present water utilities with an opportunity to build collaborative partnerships and co-funding for customer incentive programs through “stacked incentives.”

Stacked incentives are customer incentive programs that are co-funded by two or more separate entities to motivate voluntary action on public or private property. In the water sector, these programs serve to advance water sustainability while providing additional co-benefits to the community and environment. Stacked incentives can include, for example, co-funded clothes washer rebates that save both water and energy. Similarly, sustainable landscape conversion programs can simultaneously reduce stormwater runoff and support local biodiversity.

Stacked incentives are customer incentive programs that are co-funded by two or more separate entities to motivate voluntary action on public or private property.



This report defines stacked incentives, highlights successful examples throughout the United States, and identifies best practices for water utilities and other organizations to collaborate on these programs. As a result of developing stacked incentives, water utilities have an opportunity to increase funding for customer incentive programs through collaborative partnerships, improve marketing and engagement with customers, increase access to incentives for low-income households, and more.

OPPORTUNITIES FOR STACKED INCENTIVE PROGRAMS

Water utilities and other organizations can develop stacked incentive programs by building on traditional customer incentive program models. For example, co-funding a rebate or discount program can allow for a greater number of rebates or for larger discounts. Developing a stacked incentive program for technical assistance and audit programs can produce a more holistic evaluation of the property and potential improvements, and be more efficient for the property owner. Finally, stacked incentives developed through education programs can increase customer

participation and enthusiasm by connecting different local issues and motivating actions that provide multiple benefits. In addition to the benefits of increasing engagement with customers, these programs can reduce administrative burdens by sharing responsibilities among program collaborators.

DEVELOPING AN EFFECTIVE STACKED INCENTIVE PROGRAM

While stacked incentives provide opportunities for scaling customer programs, there are challenges to successfully developing and implementing these programs. Perhaps most notably, funding for customer incentives is often siloed within utilities, departments, or agencies with different missions and regulatory requirements. In addition, identifying and valuing the multiple benefits of incentive programs remains a barrier for engaging with new partners. These challenges can discourage collaboration by leading to disconnected priorities, disparate timelines, and even diverse nomenclature across disciplines.

To help water utilities overcome these challenges, we interviewed water managers and experts throughout the United States to identify attributes of successful stacked incentive programs. In the report, we outline the enabling conditions through seven key components:

- Envisioning the stacked incentive program, including the multiple benefits;
- Building partnerships and delineating responsibilities;
- Quantifying benefits of stacked incentives;
- Streamlining funding and contract logistics;
- Engaging third-party coordinators;
- Building effective customer marketing and outreach; and
- Adapting and improving over time.

Additional tools and case studies are provided throughout the report to help water managers develop or enhance stacked incentives for their own context.

KEY FINDINGS

Water managers throughout the United States have an opportunity to advance water sustainability through stacked incentive programs. From water efficiency rebates to educational programs, these collaborations can increase engagement with customers and achieve greater investment in water management. In this section, we highlight five key findings from this work with the hope that it can help scale these efforts to utilities and organizations throughout the country.

1. Water managers are implementing stacked incentives throughout the country, and there are opportunities for more.

Water managers across the country are collaborating on stacked incentive programs. However, these programs remain relatively rare. There are opportunities for increasing collaboration among water utilities and beyond water, including with parks departments, transportation agencies, and more. Building on traditional incentive program models, stacked incentives can be effectively implemented as part of rebate and discount programs, technical assistance and audit programs, and education programs.

2. Stacked incentives help increase investments in water and leverage investments for multiple benefits.

Stacked water incentives provide benefits to the collaborating entities, as well as to their customers. Collaborating entities can increase the total funding provided to a single program, reduce administrative burdens for coordinating the programs, and increase the overall program efficacy. At the same time, customers benefit from engaging with a single entity for the incentive, and they are therefore more likely to apply for the rebate, request an audit, or attend the educational program. While there are challenges to developing stacked incentives, in many cases, the benefits outweigh the costs of coordination.

3. Third-party coordinators help achieve successful program development, coordination, and outreach.

Third-party coordinators were a nearly ubiquitous part of successful programs. In some cases, these entities were non-profit organizations hired to engage with customers and facilitate the rebate process. In others they were consultants that help agencies connect as partners. These entities can help collaborators develop the program, coordinate logistics, and provide customer outreach and installation services. The benefits of these entities were particularly apparent for programs engaging often hard-to-reach customers, including low-income households and homeowners' associations. By engaging a third-party coordinator, many entities were better able to simplify engagement with customers and increase overall uptake of the program.

4. When implemented well, stacked incentive programs may deliver more equitable incentive programs.

Low-income households are often balancing many bills simultaneously (e.g., energy, sewer, internet, and water). While stacked water incentives primarily focus on water, they may provide an opportunity for offering additional services to community members most in need of assistance. When implemented thoughtfully, stacked incentive programs can help improve low-income assistance programs by increasing the total value provided by the incentive, reducing the number of applications necessary to apply for incentive programs, and engaging local community groups to administer the programs. In turn, this can increase uptake of programs and improve equitable access to incentive programs.

5. Stacked incentives may provide opportunities to build local water and climate resilience.

From extreme flooding to drought and hurricanes, climate change is manifesting in cities as severe water challenges. With increasing recognition of and focus on these challenges, stacked incentives can provide a

platform for breaking down silos and advancing local adaptation and resiliency efforts. As more cities develop offices or departments dedicated to sustainability and resilience, there are opportunities for stacked incentives to help scale voluntary efforts on public and private property. Similarly, the growing number of climate action plans at the local, state, and federal level in the United States can provide additional support for developing these collaborative programs and stacked customer incentives.

Building programs that improve climate resilience will require many of the same processes as developing stacked water incentives: examining program alternatives, determining benefits, connecting benefits with beneficiaries, and building partnerships to implement programs. As these avenues mature, it is essential that stacked customer incentive programs and other collaborative funding models are included.



INTRODUCTION

Water is underfunded: over the next 20 years, the United States is expected to reach an estimated \$2.6 trillion funding gap for water and wastewater infrastructure (Value of Water Campaign and American Society of Civil Engineers 2020). Even with proposed federal investment, the vast majority of this funding gap is likely to be filled by local governments and agencies, who are already balancing services and competing needs for their communities (Water Affordability, Transparency, Equity, and Reliability Act of 2019; Kohler and Koch 2019). At the same time, people spend more on their phone or cable bill, or their pets, or even on bottled water, than they do to maintain water service at their homes. Customer incentives are one means to motivate people to take action on their own properties and increase total funding to deliver drinking water, manage stormwater, and support healthy waterways.

Water utilities routinely offer customer incentives to motivate voluntary actions on public or private property that conserve water, mitigate water pollution, reduce localized flooding, and more. These programs include, for example, toilet rebate programs that encourage residents to remove inefficient toilets and replace them with more efficient models. Similarly, many water utilities offer commercial green stormwater

infrastructure (GSI) programs that provide a financial incentive for businesses to remove pavement and replace it with nature-based stormwater capture features.

In addition to water-related benefits, many of these programs also provide additional co-benefits, including reducing energy use for heating or treating water and wastewater, increasing carbon sequestration in landscapes, supporting local biodiversity, and more. Many water managers recognize that their programs provide co-benefits; highlighting these co-benefits can help to build collaborative partnerships and co-funding for “stacked incentives.”

Stacked incentives are customer incentive programs, including rebates and discounts, technical assistance, and/or education programs, that are co-funded by two or more separate entities to motivate voluntary action on public or private property. In the water sector, these programs serve to not only improve water sustainability, but provide additional co-benefits to the community and the environment. For example, stacked incentives can include co-funded clothes washer and commercial kitchen appliance rebates that save both water and energy. Similarly, sustainable landscape conversion programs provide opportunities to simultaneously reduce stormwater runoff and support local biodiversity.



Stacked incentives are customer incentive programs, including rebates and discounts, technical assistance, and/or education programs, that are co-funded by two or more separate entities to motivate voluntary action on public or private property.

Stacked incentives provide water utilities and other water management organizations with an opportunity to increase funding while providing multiple benefits to communities and the environment. More specifically, stacked water incentives can:

- Increase funding for customer incentive programs, helping funding pools go further;
- Reduce duplicative offerings to customers and provide economies of scale for logistics (e.g., purchasing, invoicing, etc.);
- Improve marketing and engagement with customers, especially those who may be

difficult for one or more agency to reach;

- Improve customer satisfaction by simplifying application processes for incentives; and,
- Increase financial resources or assistance for low-income customers, who may not be able to afford or access existing incentives.

While there are examples of stacked incentive programs to draw upon, such partnerships are rare. We examined the opportunities and challenges for stacked incentive programs by interviewing stakeholders from across the United States. We interviewed staff from utilities operating stacked incentive programs, as well as researchers working with water networks and academic organizations familiar with collaborative funding models and incentive programs. In this report we define the concept of stacked incentive programs; highlight successful programs; and identify additional opportunities for water and non-water utilities and organizations to develop stacked incentive programs.



SHARED BENEFITS AND OPPORTUNITIES FOR COLLABORATION

Investing in water management can provide multiple benefits to the economy, environment, and communities. These benefits provide a foundation for co-funding programs: by recognizing multiple benefits, water managers can identify potential partners who share or want to promote their programs. For example, GSI can improve water quality while increasing water infiltration and reducing urban heat island effect, thus municipalities with water quality permit requirements and public health or sustainability departments may be interested in collaborating on programs that achieve each of these outcomes. Similarly, water conservation and efficiency measures reduce water use, as well as energy used to extract, treat, convey, and heat water in homes. Therefore, partnerships may be possible among energy utilities and water utilities to increase water conservation and efficiency.

Who can collaborate on stacked incentive programs?

While customer incentive programs are often led by water utilities, many organizations are interested in and provide incentives toward sustainable water management, including local government, non-profit organizations, businesses, and state and federal agencies. Even organizations from other sectors such as energy utilities, agricultural managers, and others may seek collaborations that involve water benefits. Each of these entities can help to co-develop and co-fund stacked incentive programs.

SHARED WATER BENEFITS

Throughout the country, there is a diverse group of utilities and municipalities, businesses, and non-profit organizations working to address water sustainability. These organizations are increasingly collaborating on programs with shared benefits. For example, the One Water approach, an integrated approach to water management, provides clear evidence and logic for co-managing across water issues (US Water Alliance n.d.).

The One Water approach highlights the opportunity for water suppliers, wastewater and sewer managers, stormwater managers, and watershed protection agencies to work collaboratively. Similarly, Integrated Water Resource Management (IWRM), a leading water policy objective at the international level, is another well-established concept that supports multi-sectoral water management. Since the early 1990s, IWRM has been applied as a process to promote coordination and management of water, land, and other resources (IWA Publishing 2021).

Building on the concepts of One Water and IWRM, we developed a matrix of opportunities for water-related entities to collaborate and develop stacked incentives, including examples of successful programs (Table 1). These opportunities range from toilet rebates and turf-removal programs to on-site potable and non-potable water reuse programs.

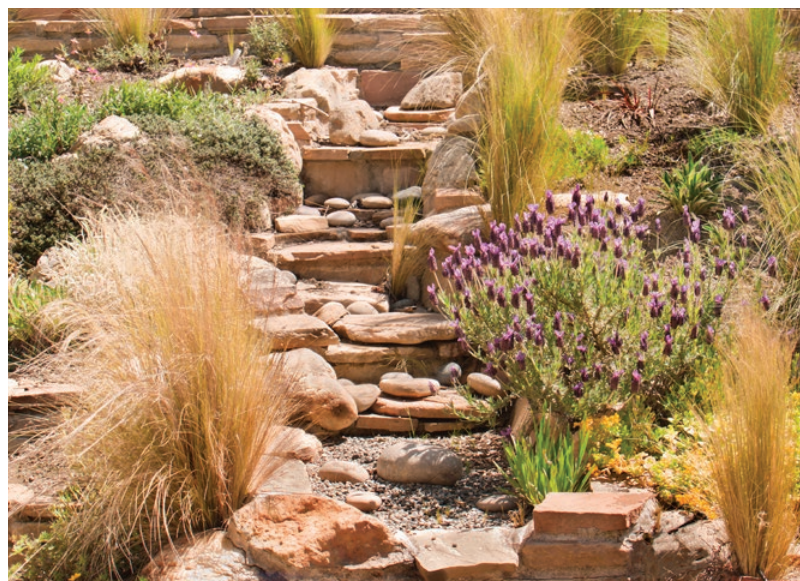


Table 1. Opportunities for Collaboration Based on Water Management Focus. Real-world Examples Are Identified With Bracketed Numbers That Refer to the Notes Below.

		WATER MANAGEMENT FOCUS				
		Wastewater, Sewer	Potable and Non-Potable Reuse	Urban Stormwater	Flooding (including sea-level rise)	Watershed Protection (including surface water quality)
WATER MANAGEMENT FOCUS	Water Supply and Conservation	Indoor conservation; outdoor conservation and turf removal (for combined sewer systems); outdoor graywater reuse; water softener removal	Onsite potable and non-potable reuse systems [1]	Stormwater capture, reuse, and/or recharge [2]; rain barrels, cisterns, and rain gardens [2,4]; water efficiency and reduced irrigation runoff [5]	Managed aquifer recharge on agricultural lands [6]	GSI for filtration and recharge [2]; native plants [3]; water conservation programs that support in-stream flows; conservation easements for watershed protection and groundwater recharge
	Wastewater, Sewer		Onsite potable and non-potable reuse systems [1]; Landscapes with recycled water for irrigation; stormwater management; biochar soil amendments	Downspout disconnections (for combined sewer systems); green roofs (for combined sewer systems)	Septic system repair/replacement (in rural coastal communities)	Septic system repair/replacement
	Potable and Non-Potable Reuse			Stormwater capture & building-scale reuse systems [1]		Onsite potable and non-potable reuse systems [1]
	Urban Stormwater				GSI for filtration and recharge [3]	GSI for filtration and recharge [3]
	Flooding (including sea level rise)					Restoration and reconnection of floodplains to surface water bodies

Notes:

[1] San Francisco Public Utility Commission's Onsite Non-Potable Water Program; <https://sfwater.org/index.aspx?page=686>

[2] City of Austin's Rain Catcher Pilot Program; <https://www.austintexas.gov/department/rain-catcher-pilot-program>

[3] City of Eugene and Long Tom Watershed Council's Stormwater Retrofit Program (aka Trout-Friendly Landscapes); <https://www.longtom.org/science-projects/amazoncreek/trout-friendly/>

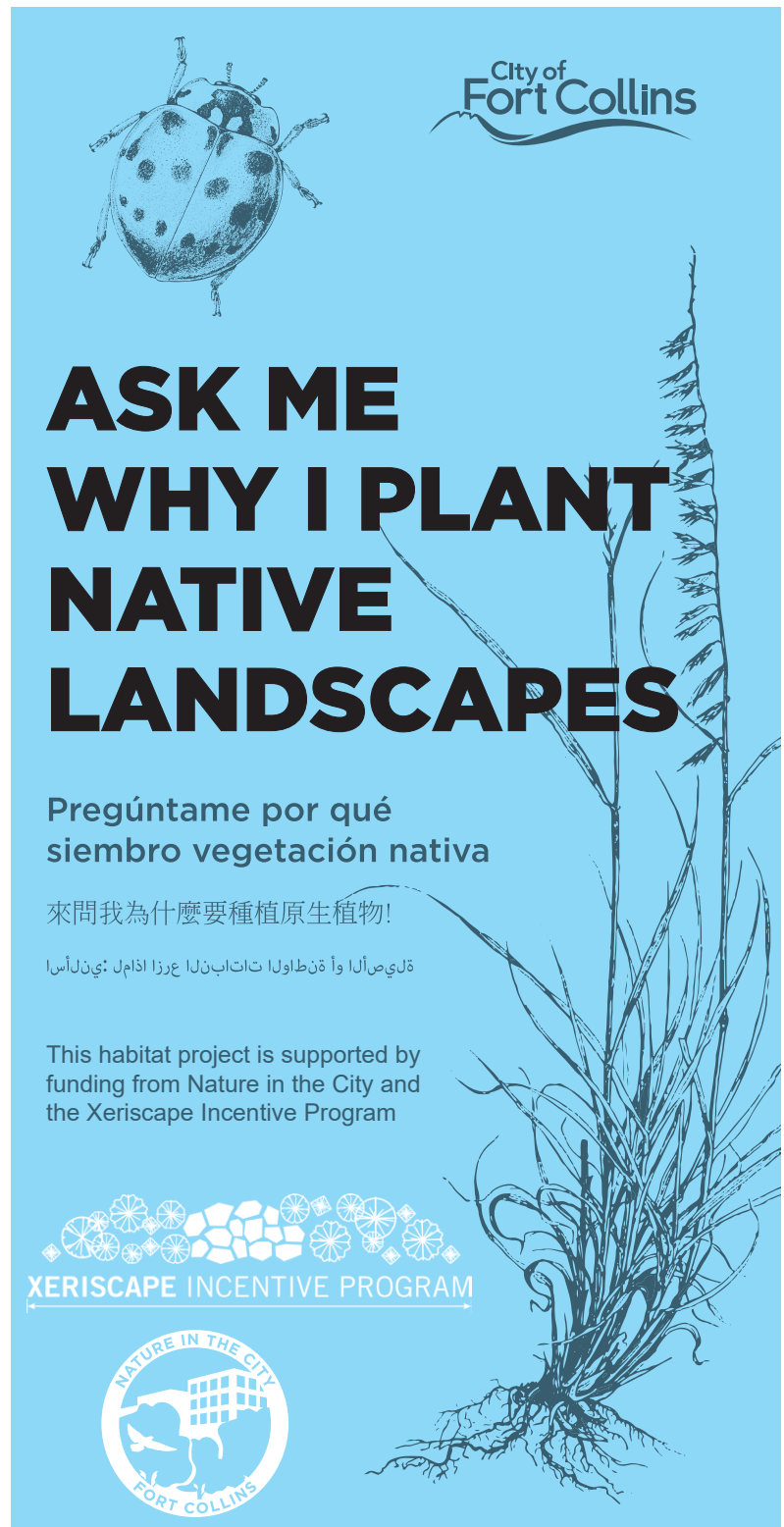
[4] City/County Association of Governments of San Mateo County and Bay Area Water Supply & Conservation Agency's rain barrel and cistern programs; <https://www.flowstobay.org/preventing-stormwater-pollution/at-home/rain-barrels-rebate-program/>

[5] Environmental Incentives and County of San Diego Watershed Program Rebates; <https://enviroincentives.com/products/ei-supporting-county-of-san-diego-to-expand-water-quality-rebates-and-incentives-program/>

[6] Flood-Managed Aquifer Recharge Program of the California Department of Water Resources; <https://water.ca.gov/Programs/All-Programs/Flood-MAR>

SHARED MULTI-SECTOR BENEFITS

The multiple benefits provided by water investments can appeal to stakeholders beyond the water sector. From energy utilities to land trusts, many organizations have a shared interest in sustainable water management because it aligns with their own missions. While water customer incentive programs are often driven by water utilities, this broader group of stakeholders can help provide co-funding and coordinating opportunities for driving these programs. In Table 2, we provide examples of water sector organizations that have paired with other organizations beyond the water sector to offer stacked incentives, or examples of where those partnerships could be added to existing incentive programs.



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Fort Collins


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FORT COLLINS**

Table 2. Examples of Existing and Potential Opportunities for Stacked Incentive Programs Between Water Sector and Other Sector Organizations Based on Water Management Focus and Intersections With Additional Interests

	Water Management Focus and Intersections with Additional Interests	Example Program	Organizations Involved	Program Description
	Stormwater, Land and Environment, Climate Resilience	Front Yard Initiative [1]	Urban Conservancy (New Orleans, LA)	Nonprofit raised grant funds to assist homeowners in removing concrete on their properties to reduce small-scale flooding and bring more vegetation and wildlife to neighborhoods.
	Water Supply, Solid Waste, Water Equity	Project Assist [2]	Phoenix Water and the Public Works Department (Phoenix, AZ)	Utility bill assistance program for low-income residents, co-funded by three departments.
	Water Supply, Water Equity	Low-Income Rainwater Harvesting Loan or Grant [3]	Tucson Water and SERI (Tucson, AZ)	Water conservation grant and technical assistance program for low-income households, co-funded; nonprofit program manager.
	Agricultural Land and Resource Management, Watershed Protection	Conservation Reserve Enhancement Program (CREP) [4]	Farm Service Agency (USDA), Washington County, and Northwest Center for Alternatives to Pesticides (Washington County, OR)	Private land conservation and restoration along riparian corridors. Co-funded between federal, state, and county governments; nonprofit program managers.
	Water Supply, Parks, Wildlife	Xeriscape Incentive Program + Nature in the City [5]	City of Fort Collins Utilities and Open Space Conservation Department (Fort Collins, CO)	Beginning 2021 these two programs will combine funding to incentivize low-water, native landscape retrofits at homes and businesses.
	Water Supply, Parks	Hydroparks [6]	Portland Parks & Recreation (Portland, OR)	Mini parks around water towers, providing open/outdoor space for a variety of community uses.
	Watershed Protection, Water Supply, Forestry	Rain Catcher Pilot Program [7]	Watershed Protection Department, Forestry Department, and Austin Water (Austin, TX)	Customer rebate for installation of rain gardens, cisterns, and native trees to address stormwater, water conservation, and tree canopy. Co-funded by three City of Austin departments.
	Water Supply, Energy (Natural Gas)	Energy and Water Efficiency Kits [8]	Los Angeles Department of Water and Power and SoCal Gas (Los Angeles, CA)	Free kits for residential customers of both utilities that contain high-efficiency faucet aerators and showerheads, delivered by the energy utility.

Notes:

[1] Front Yard Initiative; <https://www.urbanconservancy.org/project/fyi/>

[2] Project Assist Program; <https://www.phoenix.gov/newsroom/water-services/1675>

[3] Low-Income Rainwater Harvesting Loan or Grant; <https://www.tucsonaz.gov/water/rainwater-harvesting-grant-loan-program>, <https://www.seriaz.org/projects/rainwater-harvesting>

[4] Conservation Reserve Enhancement Program (CREP); <https://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-enhancement/index#>, https://www.pesticide.org/conservation_reserve_enhancement_program

[5] Xeriscape Incentive Program; <https://www.fcgov.com/utilities/residential/conserves/water-efficiency/xeriscape/incentive-program>

[6] Hydroparks; <https://www.portland.gov/water/about-water-system>

[7] Rain Catcher Pilot Program; <https://www.austintexas.gov/department/rain-catcher-pilot-program>

[8] Energy and Water Efficiency Kits; <https://www.ladwpnews.com/ladwp-and-socalgas-partner-to-deliver-150000-energy-and-water-efficiency-kits-to-help-the-environment-and-save-customers-money-and-energy/>

Case Study: Collaborating in New Orleans to Build Resilience

Stacked water incentives can provide an opportunity to build resilience to climate change through collaboration among stormwater, flood control, fire control, public health, and other local agencies, departments, and organizations. In New Orleans, an organization called the Urban Conservancy offers an incentive program for removing impervious surfaces like concrete in front of homes to reduce localized flooding and downstream stormwater issues—a known and growing problem in the region. The program, called the Front Yard Initiative, is an example of an incentive program that offers multiple benefits along with stormwater runoff reduction, such as habitat creation and neighborhood beautification.¹ While it is not yet co-funded, this and similar programs can provide the foundation for co-developing and co-funding integrated, climate-resilient solutions.



Table 2 provides a short list of potential opportunities for bringing additional partners in to help incentivize water-related programs; many more exist. During interviews, water managers and other experts noted several opportunities for collaboration and stacked incentives. Combining sustainable landscapes and GSI was frequently highlighted as an opportunity for additional co-funding. Landscape installations often include irrigation systems, but if done with native or xeric plants, may not require as much or any supplemental water. In addition, water managers noted that collaboration could support expansion of onsite reuse, which helps to reduce water demand and wastewater generation, as well as increase resilience to drought and other natural hazards. Finally, where water service lines still contain lead, water departments and public health agencies could do more to collectively address this very serious public health challenge.

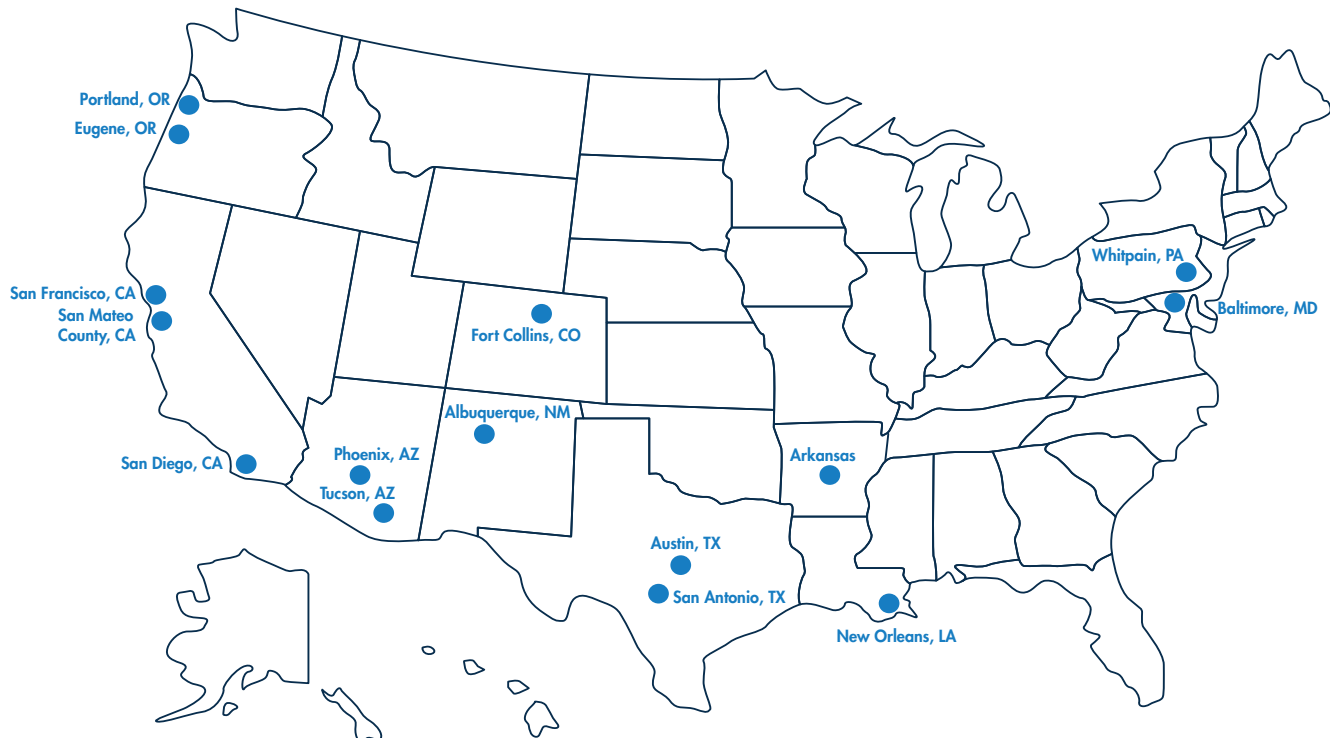
There are countless opportunities for collaboration and stacked water incentives. In the next sections, we discuss specific program models for stacking incentives, as well as key components for successful programs.

1 Urban Conservancy's Front Yard Initiative: <https://www.urbanconservancy.org/project/fyi/>

STACKED INCENTIVE PROGRAM MODELS

Traditional incentive programs are often designed through one or more delivery models: rebate and discount programs, technical assistance and audit programs, and educational programs. In addition, many water utilities incorporate a range of delivery models into their incentive programs. For example, some utilities provide a water-use audit for customers, as well as rebates or discounts for improvements. WaterNow Alliance, a non-profit forum for local water leaders, provides more detail on voluntary incentive program models, many of which achieve multiple benefits and can be developed into stacked incentives.²

Figure 1. Map of Select Stacked Incentive Projects Throughout the United States 🔍



There are benefits to developing stacked incentive programs generally, as well as additional benefits for particular program models. Stacked incentives help to increase total funding for programs, allowing for incentives to reach more people or to increase the size or scope of the incentive. Collaboration to create a stacked incentive may also improve long-term engagement with customers and increase program success. For example, if a water and stormwater department collaborate on a low-water landscaping program that includes rainwater capture components, then the water department could provide a rebate on the installation, while the stormwater department could conduct ongoing assessments to ensure the landscape is being properly maintained over time. Stacked incentives can also reduce duplicative offers and increase efficient spending for incentives. Finally,

they can increase customer uptake and satisfaction by providing programs in a less cumbersome or confusing way. For example, customers may only need to apply for one rebate or interact with one entity to receive the incentive.

In addition to these broad benefits of stacked incentives, each delivery model can provide unique opportunities. Here we describe different delivery models and key reasons these models can work well as part of a stacked incentive. Where possible, we provide examples of successful stacked incentives throughout the country (Figure 1). Information from this section can be used by water managers seeking to better define what approach(es) might work best for pursuing stacked incentives in their communities.

² WaterNow Alliance's Tap into Resilience Toolkit (Incentives): <https://tapin.waternow.org/toolkit/?item=incentives>

REBATE AND DISCOUNT PROGRAMS

Rebate and discount programs provide financial incentives for purchasing, installing, and/or using a product or service. When the discounted devices or services provide clear co-benefits, program managers can bring in partners to help design, fund, and/or implement the program. Examples of multi-benefit rebates and discounts include those for high-efficiency showerheads and front-loading clothes washers that have clear water and energy savings. Similarly, replacing lawns with low-water or native vegetation and rainwater cisterns can save water and add wildlife habitat. Finally, green infrastructure for stormwater capture helps to sequester carbon and bring green space to urban areas, among other benefits.

Developing stacked rebate and discount programs can provide substantial benefits to program staff and customers. Partnering on these programs can increase the total rebate offered for participants or increase the reach of the program. In addition, partnering on these programs can reduce logistical burdens for customers and staff by removing duplicative offerings and relying on economies of scale for delivering incentives. Finally, stacked rebate and discount programs have the potential to reduce the tax burden of incentives for customers. The Internal Revenue Service considers any water efficiency rebate over \$600 as taxable income (WaterNow Alliance 2016). However, other types of rebates, including energy rebates, are not considered taxable income. Strategically partnering on these programs can help to reduce tax burden and increase access to these programs, especially for low-income households.



Case Study: Stacked Rebate Programs in California and Colorado



In California's Bay Area, the City/County Association of Governments of San Mateo County (C/CAG) partners with the Bay Area Water Supply and Conservation Agency (BAWSCA) to increase the total incentive for residents to install rain barrels and cisterns, including an additional incentive to add rain gardens when taking advantage of turf removal and replacement rebates. Customers who replace their lawn with drought-tolerant plants can receive a rebate from BAWSCA, and if they include a rain garden, C/CAG will provide an additional \$300. In addition, C/CAG is able to expand the reach of rain barrel and cistern incentives countywide, beyond the service areas of BAWSCA's participating water purveyors. These programs were of interest for both agencies because C/CAG is responsible for improving stormwater management in San Mateo County and BAWSCA offers a variety of water conservation programs for Bay Area residents.³ C/CAG does not have a direct relationship with customers in the region; by collaborating on rebates, C/CAG can provide countywide incentives, increase rebate amounts for rain barrels and cisterns, and provide incentives for rain gardens without developing a new program and connection with property owners. At the same time, C/CAG has robust rain barrel and rain garden educational materials and a social media presence. By partnering, BAWSCA's programs have benefitted from C/CAG's education and outreach expertise.



In Fort Collins, Colorado, two city departments offering incentives for landscape change via rebates and grants for turf removal and replacement decided to combine funds and streamline the program. In 2020, the city's water conservation group ran a rebate program for \$0.75 per square foot of turf removal and replacement with xeric plants, while the natural areas and open space group offered a \$1,000 grant for turf removal, with the added requirement that replacement had to be with native species. In 2021, Fort Collins homeowners and businesses will have the option of pursuing a single rebate of up to \$1 per square foot for turf removed, when lawn is replaced with at least 80% xeric, native species.⁴ The two departments believe that combining their rebates will make it less confusing for customers, and it will save hundreds of hours a year of city staff time due to reduced paperwork and logistics.

³ San Mateo County's Rain Barrels and Rebate Program: <https://www.flowstobay.org/preventing-stormwater-pollution/at-home/rain-barrels-rebate-program/>

⁴ City of Fort Collins, Xeriscape Incentive Program: <https://www.fcgov.com/utilities/residential/conserves/water-efficiency/xeriscape/incentive-program>

TECHNICAL ASSISTANCE AND AUDIT PROGRAMS

Technical assistance and audit programs are designed to provide residential and business customers with a professional, third-party evaluation of various components of their property, operations, and/or maintenance. These programs can inform residents and business owners of opportunities to improve, prioritize, or change behavior in ways that will save customer resources, time, and/or money. For example, some energy utilities provide an energy-use audit to determine opportunities for rooftop solar panels or more efficient appliances. Similarly, water utilities can provide an audit of indoor or outdoor water use, examining opportunities for improving water efficiency or incorporating greywater or stormwater into irrigation.

The main benefit of collaborating on a technical assistance or audit program is that it allows a more holistic assessment of a home, business, or property. If the audit team is trained to evaluate a broader array of appliances, structural components, and management strategies, then a single visit can help diagnose and prioritize a greater array of components that deserve additional attention, upgrades, or services.

Collaborating on technical assistance and audit programs is more time efficient for a resident or business owner, because it allows the participants' customers to have a single audit appointment, rather than multiple visits from multiple groups. This concept has been well established by energy service companies, which are businesses that provide organizations with multiple energy-related services simultaneously. In essence, they act as project developers that "integrate the project's design, financing, installation and operational elements" (NAESCO 2021). They often provide an energy audit, followed by a comprehensive set of energy solutions for its customers.

The need for more holistic assessments is particularly important for low-income households that often face multiple challenges simultaneously with more limited resources. Stacked technical assistance and audit programs can provide assistance to hard-to-reach customers, including low-income households. Tucson Water, for example, discovered their conservation and efficiency audit programs were rarely reaching lower income residents. To change this, they partnered with local nonprofit organizations that offer home repair and inspection programs and environmental remediation work, such as lead line replacement, to low-income homes. These organizations provide qualified homes



with audit services and technical assistance, which now include a review for leaky toilets and opportunities for rainwater harvesting.⁵ The nonprofit organizations receive funding from other sources, like the county and energy utility, to perform the audits and provide the technical assistance needed to obtain the rebates and install the appropriate devices.



Case Study: The Green and Healthy Homes Initiative

The Green and Healthy Homes Initiative (GHHI) pools resources from philanthropies, the private sector, and local, state, and federal governments to provide integrated services for improving home safety.⁶ As part of their services in Maryland, the GHHI team provides a comprehensive home assessment to examine issues related to mold and moisture, indoor air quality, pest management, lead poisoning hazards, and general safety. During the assessment, the team also installs additional safety items (e.g., smoke alarms and electrical outlet covers) as needed. These assessments allow for a single touch with customers that can address several home safety issues simultaneously.

In addition to the benefits for customers, water utilities can benefit substantially from stacked incentives through technical assistance and audits. Contacting customers and arranging schedules for meeting can be one of the more time-consuming components of a program. Thus, addressing multiple challenges simultaneously offers integrated services, a single intake system for customers, reduced administrative costs, and faster solutions.

EDUCATION PROGRAMS

Education programs provide information and resources to various audiences, typically with the goal of motivating the audience to change their behaviors and/or invest in their properties. These actions can include, for example, reducing home irrigation system run time, installing a rain barrel, or improving waste management on a business property in order to reduce water pollution during storm events. Collaborative educational programs can increase participation, as compared to single-issue programs, by connecting different local issues and motivating actions that provide multiple benefits. In addition, tying one issue or action to another may draw the attention and interest of more people, some who are interested in one set of issues, and others who are motivated by another. An educational offering that shows how water conservation practices can be a good climate mitigation strategy may gain the interest of both those motivated by protecting waterways and those seeking to fight climate change. Similarly, a customer may consider replacing their lawn to reduce their water usage, and education programs can help expose them to the benefits of native plants, including fewer toxic pest control methods, potential for rainwater harvesting, and composting.

5 Community Home Repair Projects of Arizona, Free Toilet Replacement Program: <http://www.chrpaz.org/toilet.html>; Sonora Environmental Research Institute (SERI) Rainwater Harvesting: <https://www.seriaz.org/projects/rainwater-harvesting>

6 Green and Health Homes Initiative: <https://www.greenandhealthyhomes.org/>

Collaboration can also improve the overall quality of the educational program. For organizations that do not have their own expertise in education and outreach, partnerships with other organizations that have the expertise can provide a meaningful benefit for the joining organization. In Tucson, AZ, the water provider decided to outsource their educational programming through a local nonprofit that specializes in environmental education. The nonprofit also serves the local energy provider, and therefore, does the work to bring water savings into lessons about energy conservation and vice versa.

INTEGRATING MULTIPLE DELIVERY MODELS

Many water utilities integrate several delivery models into incentive programs, which can serve to reduce the economic and information barriers for customers. The City of Austin's Rain Catcher Pilot Program offers a stormwater audit for residential customers, as well as for technical assistance working with contractors, filling out paperwork, and applying for discounts on work completed, all in a single program. This model is particularly valuable for engaging with low-income customers who may have limited time or face financial barriers to engaging with an incentive program. Integration allows customers to rely on a single program from problem identification through financial assistance and installation.

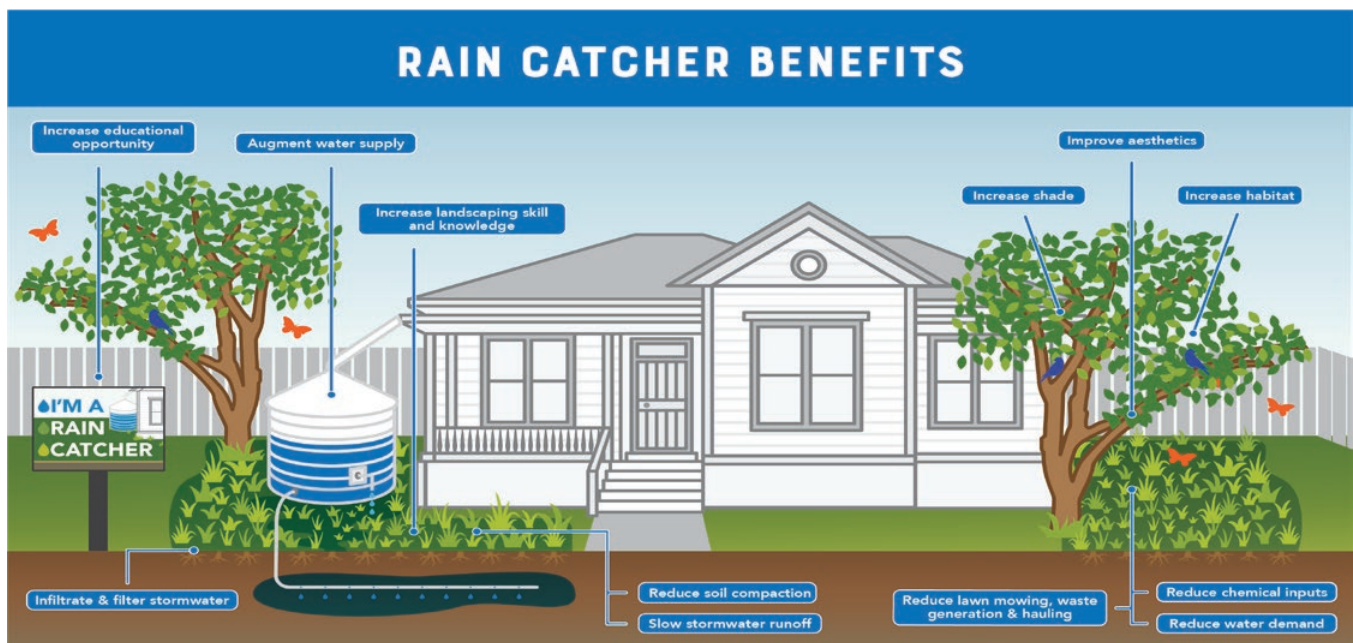


Case Study: City of Austin's Rain Catcher Pilot Program

The City of Austin, Texas is piloting a stacked incentive program called the Rain Catcher Pilot Program that includes technical assistance with installation of cistern and raingardens, turf replacement, and tree plantings.⁷ This program on residential and commercial properties will reduce erosive runoff events, improve water quality, reduce potable water use for lawn watering, and add shade-giving trees to properties, among other benefits (Figure 2).

The program supports goals for other city departments, including Urban Forestry and Austin Water, and thus, they made natural partners for stacking incentives. Austin's Watershed Protection Department initially approached Austin Water about stacking additional funds for stormwater management on Austin Water's existing cistern rebates. Over time, program managers identified that trees could easily be incorporated into project designs, supporting the Urban Forestry Department. All three departments are now contributing to the incentives and driving uptake of this innovative program. For more details on how this collaborative program was developed, see the Pacific Institute's report on "Scaling Green Stormwater Infrastructure through Multiple Benefits in Austin, Texas" (Diringer et al. 2020b).

Figure 2. Identifying Benefits of Rainwater Capture as Part of Austin's Rain Catcher Pilot Program 🔍



Source: Diringer et al. 2020b

7 City of Austin, Rain Catcher Pilot Program: <https://www.austintexas.gov/department/rain-catcher-pilot-program>

DEVELOPING AN EFFECTIVE STACKED INCENTIVE PROGRAM

Many customer incentives clearly provide multiple benefits and opportunities for collaboration; however, there are challenges for stacking incentives that can limit co-funding of programs.

First, public funding and program staff are traditionally organized by department, often to ensure investments are used to fulfill specific agency or department missions, meet regulatory requirements, or fulfill legal obligations. This division of public funding often leads to insufficient communication and coordination among staff, and water managers note that staff time is often limited for prioritizing efforts that stray beyond their main duties and responsibilities (e.g., Cooley and Donnelly 2013). The need for additional cross-sectoral collaboration is not unique to stacked incentive programs, but rather a challenge of integrating water management more generally (WRF 2020). While collaboration among agencies is becoming increasingly common, co-funding incentive programs requires additional work to creatively deliver programs that simultaneously meet the needs of each collaborator.

Second, single-function infrastructure solutions often provide more readily quantifiable benefits and can be simpler to develop within traditional agency and municipal frameworks. Stacked incentives rely on investing in multi-purpose programs that help partners achieve their diverse goals. Further support is necessary to help clearly define and quantify the co-benefits of water management programs to motivate more integrated solutions and reduce barriers to investing in multi-purpose projects.

Finally, both traditional customer incentives and stacked incentive programs may be impacted by “free riders,” or those who would have updated their devices or changed their behavior even without the financial incentive. Stacked incentives may suffer from an additional challenge of free riders from agencies that assume the program will be implemented by

other agencies and provide co-benefits, even without their financial support. On the other hand, traditional incentives may place a larger financial or technical burden on customers than a stacked incentive, which can provide additional resources, especially for low-income customers. There remain significant opportunities to advance and expand stacked incentive programs in ways that can provide benefits for collaborating agencies and reduce cost burden on participants, leading to more equitable program offerings.

Interviews with water managers revealed several enabling conditions that can help facilitate successful collaboration and co-funding. In this section, we have outlined the barriers and enabling conditions in seven key components: envisioning your stacked incentive program, building partnerships and delineating responsibilities, quantifying benefits of stacked incentives, funding and contract logistics, third-party coordinators, customer marketing and outreach, and adapting and improving over time.



KEY COMPONENT 1: ENVISIONING A STACKED INCENTIVE PROGRAM

Stacked incentives often require re-envisioning traditional or existing incentive program models. Creative project visioning can help expand the program design to include additional benefits, identify new program beneficiaries, and build support within an agency and with partners.

Water managers can begin developing collaborative programs by first examining the multiple benefits provided by their current programs. Providing rebates for water cisterns, for example, can help homeowners reduce local flooding and help reduce streamflow intensity during rain events. Similarly, turf replacement programs are often implemented to reduce potable water demand, but can also provide additional local habitat and educational features, and reduce the

need for chemical fertilizers. At the same time, water managers can re-envision their programs by first considering the broad challenges facing their region and how customer incentive programs may be able to address these challenges. For instance, a community may be facing increasing temperatures and water scarcity. Non-potable reuse programs can support increased urban greening and reduce air conditioning needs.

The Pacific Institute's Multi-Benefit Framework provides resources for identifying benefits and trade-offs of water programs according to five themes: water, energy and carbon, land and environment, risk and resilience, and people and community (Figure 3) (Diringer et al. 2020a). These themes can help facilitate broad consideration of benefits, as well as the potential trade-offs (or costs) of strategies.

Figure 3. Benefits and Trade-offs of Water Management Strategies Organized by Theme 🔍

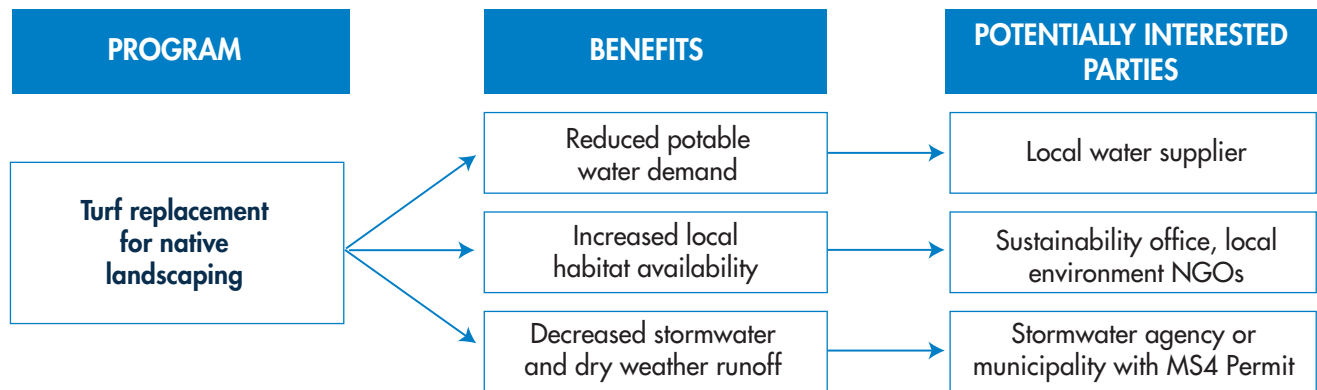


Source: Diringer et al. 2020a

By expanding consideration of the benefits, water managers can begin considering potential partners that may be interested in collaborating on an incentive program. Following the example above, turf replacement programs that support landscape transformations may consider the additional biodiversity benefits or stormwater control benefits, which may be of interest to local water suppliers, stormwater agencies, sustainability offices, and community partners (Figure 4).

It may not always be possible to quantify benefits, especially co-benefits, at the early stages of program development. However, even back-of-the-envelope estimations or use of measurements from comparable projects and geographies may help bring together potential partnerships. More discussion on quantification, including a potential list of resources for quantifying benefits, are presented below in Key Component 3: Delineating Responsibilities and Quantifying Benefits.

Figure 4. Example of Identifying Program Benefits and Identifying Potentially Interested Parties 🔍



Interviews with water managers revealed that successfully co-managed or co-funded programs relied on collaboratively developing programs and gaining internal approval from leadership and staff. Engaging staff engineers and planners during project and program visioning can help identify additional opportunities for coordinating and co-funding programs. Engaging early with staff engineers and planners can help to identify opportunities to leverage funds and coordinate locally on stormwater, parks, and transportation-related programs. At the same time, many projects are implemented through engineering consulting firms that are not as likely to be aware of opportunities to collaborate among local or regional projects. For these reasons, it is particularly important for those interested in developing stacked incentives to include different levels of staff in project and program visioning.

Case Study: Engaging Staff Engineers in Program Development

The Township of Whitpain, located in Blue Bell, Pennsylvania, has a team of staff engineers that participate in all facets of infrastructure and planning for the township, from stormwater and parks to traffic signals and permitting. In addition, the staff act as a liaison between the community and the township and other regulatory agencies in the area. This enables them to broadly understand the needs of the township and prioritize funding to achieve multiple benefits. The township regularly coordinates parks and stormwater projects to ensure that public funds efficiently address both parks and water quality. Engaging staff engineers through program development, project prioritization, and implementation opens additional opportunities for collaboration, coordination, and potential co-funding.



Gaining internal approval on these new projects can be difficult. Staff time is limited, and water managers noted it can be challenging to pivot from how programs have traditionally been conceived and managed to new or alternative approaches. To increase staff investment, water managers demonstrated how stacked incentives can make providing a program easier or better financed. For example, in Fort Collins, Colorado, two separate city departments offering programs for similar landscape retrofit activities estimated that if they were to combine their efforts, they would collectively save 200 hours per year of staff time. This led to support from their department managers to streamline the two rebate programs by turning them into one.

KEY COMPONENT 2: BUILDING PARTNERSHIPS AND DELINEATING RESPONSIBILITIES

Developing stacked incentives relies on building relationships. While building relationships can take time and effort, in the long run, they also help entities more efficiently coordinate, co-fund, and eventually co-develop integrated water programs.

When first developing stacked incentives, water managers may consider coordinating or providing in-kind support for aligned projects or programs, rather than immediately co-funding, to develop the connections needed to build long-standing collaboration. For example, in Albuquerque, New Mexico, the natural gas provider offers free “water-energy kits” to homeowners. While the city’s water supplier does not co-fund the program, they promote it because it also delivers water conservation benefits. Over time, these organizations may find ways to effectively co-fund the program.

Water managers can also build relationships by contributing additional incentives to existing

programs. As described above, San Mateo residents can now receive a larger rebate on cisterns and rain barrels because C/CAG stacked additional incentives on an existing water conservation programs provided by BAWSCA. Similarly, water utilities may be able to contribute additional funds to existing energy utility programs that provide rebates for clothes washers or hot water heaters.

While providing in-kind support or additional funding for existing programs can help to expand financial support, solidifying relationships over time can ultimately lead to co-developing collaborative programs that maximize benefits. Co-developed stacked incentives can lead to more integrated, creative programs that meet the needs of multiple organizations. For new programs, many water utilities develop a pilot program to show proof of concept. While pilot programs are often more costly initially, over time, these integrated programs can achieve greater economies of scale and help advance more regular, efficient collaboration.



Case Study: New Orleans Office of Resiliency

Through federal support after Hurricane Katrina, the City of New Orleans (NOLA) established an Office of Resiliency, which, among other efforts, created a central home for stormwater management and developed a process for bringing together multiple departments when planning infrastructure projects that impact stormwater. When one city department is designing new facilities, such as a roadway or park, there is a process by which the design is passed around through several departments including Utilities, Transportation, Stormwater, and Parks and Parkways. In the long run, adding this process likely saves NOLA the expense of updating the same facilities multiple times and ensures that collaboration occurs between the departments. Over time, these relationships could lead to co-funding incentives by demonstrating the value of projects to multiple departments.

Within these relationships, water managers noted that successful stacked incentives depended on a clear delineation of roles and responsibilities among the participating partners. This can include, for example, determining who pays and how much, as well as who is responsible for outreach and messaging to customers, providing a check or bill credit for customers, and more. Stacked incentives provide an opportunity for these responsibilities to differ among organizations. Some organizations may be better equipped to contribute customer outreach expertise while others can provide ongoing technical support to customers. Clearly outlining these roles ensures that funding partners feel that their responsibilities for and benefits from the program are fairly matched to their resource contribution.



KEY COMPONENT 3: QUANTIFYING BENEFITS OF STACKED INCENTIVES

Quantifying the co-benefits of a program can serve as a motivator for building partnerships. However, it's also important to note that not all agencies and partners require the same level of detailed benefit quantification to pursue incentive programs. Several water utilities shared with us that they do not quantify the direct water savings of their water efficiency programs. However, some partners will require detailed quantification of the benefits provided by stacked incentives. This can prove challenging for executing stacked programs, particularly for more innovative collaborations. A water agency in the southwest United States sought a partnership with a regional energy utility to replace swamp coolers. However, the energy utility wasn't legally able to share customer data, so the water agency had no way to quantify water savings from the program. Ultimately, this caused the partnership to fail.

The County of San Diego and its consulting partner, Environmental Incentives, worked to define a method to quantify runoff reduction from outdoor water efficiency rebates, demonstrating the water quality benefits of these traditionally supply-driven programs. By understanding the quantifiable water quality benefits of reducing dry weather runoff, the County

could better justify partnerships among water conservation organizations and water quality permittees. For municipal agencies that need to show progress towards permit compliance or regulatory standards, having a defensible method to quantify benefits is essential for engaging productively with regulators and demonstrating the value of these programs. Engaging with collaborators early to understand the necessary level of quantification can avoid unnecessary work and/or elucidate additional work that will be required for a successful partnership.

Regardless of the required benefit quantification, there are positive reasons for quantifying the multiple benefits of a stacked incentive. Quantifying the program benefits and co-benefits can show meaningful results and increase internal buy-in while also encouraging other entities to join or support an incentive program. While not yet a stacked incentive program, the water provider in Albuquerque, New Mexico, Water Authority, tracked the local economic impact of their turf replacement program and found that the \$800,000 program led to 1.2 million square feet of turf replacement and stimulated \$2.7 million through additional landscape related purchases and hires. Evaluations of co-benefits like this can spark interest and support from new potential program partners.



Tools and Resources for Quantifying Multiple Benefits of Incentives Programs

- 🔗 Pacific Institute’s Multi-Benefit Resource Library – Online, searchable database of case studies, decision-support tools, quantification methods, and more, to help identify and measure the multiple benefits of water management strategies. More information at <https://pacinst.org/multi-benefit-resource-library/>.
- 🔗 COMET-Planner – Estimates of greenhouse gas emissions for specific agricultural conservation practices. The tool allows for farmers and managers to select potential strategies and quantify the emissions based on the number of acres adopting the practice. More information at <http://comet-planner.com/>.
- 🔗 The Water-Energy Simulator (WESim) – Easy-to-use analytical tool to evaluate the energy and greenhouse gas implications of water management decisions. This tool is particularly relevant for examining water efficiency and alternative water supplies. More information at <https://pacinst.org/wesim-the-water-energy-simulator-helps-water-and-energy-managers-plan-for-change/>.
- 🔗 i-Tree – Allows environmental managers to quantify benefits of urban and rural forestry. The website provides tools from the U.S. Forest Service based on scientific studies that quantify ecosystem services from trees. These tools allow for the calculation of benefits from the parcel to state level. More information at <https://www.itreetools.org/>.
- 🔗 Nature-Based Solutions Evidence Tool – Primarily an online catalog of peer-reviewed research that provides evidence of the impacts of nature-based solutions (NBS) in a wide variety of benefit categories. Users can filter results in a variety of ways, including by intervention type, habitat type, climate change impact, effect of NBS on ecosystem service, geography, and more. Results are displayed in a variety of formats, helping the user to understand the landscape of quantitative and economic research related to a variety of NBS. More information at <https://www.naturebasedsolutionsevidence.info/>.
- 🔗 Rapid Benefit Indicators Approach – Allows users to quickly estimate and quantify non-monetary benefits to people around an ecological restoration site. It includes several tools to help users develop and summarize indicators as well as a spatial tool for geographic analysis of benefits. More information at <https://www.epa.gov/water-research/rapid-benefit-indicators-rbi-approach>.
- 🔗 EnviroAtlas – An online mapping and analysis tool by the U.S. Environmental Protection Agency that allows users to evaluate the potential impact of proposed infrastructure and policy decisions on human health, the economy, and the environment. Data and other resources are freely available for download. More information at <https://www.epa.gov/enviroatlas>.
- 🔗 Green Infrastructure Co-Benefits Valuation Tool – Calculates the net present value for different green infrastructure investments. The tool is designed to introduce the potential benefits of a project, so environmental managers can get estimates before performing an exhaustive economic valuation. More information at <https://giexchange.org/green-infrastructure-co-benefits-valuation-tool/>.
- 🔗 Landscape Performance Series: Benefits Toolkit – Lists calculators and tools that directly help with quantifying the benefits of landscapes. Users can filter results by “Landscape Performance Benefit” including several options for water-related benefits. More information at <https://www.landscapeperformance.org/benefits-toolkit>.
- 🔗 NatCap Checker – Helps organizations make more informed decisions that help conserve and enhance natural capital. It is a self-assessment tool that enables water managers to assess, communicate, and improve the level of confidence in their natural capital assessments. More information at <https://www.greenfinanceplatform.org/tools-and-platforms/natcap-checker>.
- 🔗 Environmental Valuation Reference Inventory – Over 5,000 studies of economic valuations of environmental health and services. The inventory allows the user to filter for type of document, area of study, environmental assets, economic measures, and other categories to find valuations of specific use to projects. More information at <https://www.evri.ca/>.

KEY COMPONENT 4: FUNDING AND CONTRACTS LOGISTICS

Stacked incentives require coordinating funding and logistics among partners. This process can prove challenging, especially for organizations that have not previously funded projects jointly or for organizations working with legal restrictions to funding application. Speaking with water managers, however, we identified several best practices for overcoming these challenges.

First, water managers noted that some funding sources are easier to stack than others. Legal barriers are commonly cited as challenges for stacking revenue generated from utility rates and fees. While the specifics of these restrictions vary widely between states and organization type, water managers have found that improved measurement and quantification of the benefits from programs allows for expanded consideration of opportunities for legally applying these funds.

Specific to utilities, a recent clarification of federal accounting rules around the use of debt-financing

for decentralized infrastructure now allows utilities to apply the same financing used for centralized infrastructure to green infrastructure, conservation, and restoration programs (Earth Economics and WaterNow Alliance 2018).

Other funding options, such as grant monies, are seen as opportunities for attracting additional contributions, but many grants have different timelines and match requirements, making it challenging to stack multiple grants together. However, long-term and relatively stable funding can make logistics easier for stacking. For example, in regions without stormwater utilities, water suppliers are likely to have more stable income, while stormwater programs may have more variable funding. These types of programs can be particularly powerful to stack with stormwater management in areas where there is not a stable source of revenue, as compared to water conservation programs. Proactively considering the funding streams and opportunities can help determine the logistical processes for stacking the funds.



Second, several programs identified clear paths for reducing administrative burdens for stacked incentive programs. To streamline rebates, the San Antonio Water System (SAWS) developed an agreement with Trinity Glenrose Groundwater Conservation District (TGGCD) to allow customers to send an irrigation report created by SAWS to the TGGCD for a nursery give away. While customers were responsible for sending the report to both entities, they only needed to do a single water audit. This simplified process allowed customers to increase the benefits of their water audit without adding any administrative burden to either entity. Similarly, SAWS works with non-profit education partners on an ongoing contract to help reach customers with broad interests. For example, the Mitchell Lake Audubon Center does education on bird-friendly backyards that also include water efficient landscaping.⁸ SAWS pays a “performance-based contract” for these education programs, based on the number of people attending. The non-profit partners have reached more than 150,000 people that may not have been reached otherwise.

Similarly, master agreements or umbrella agreements among agencies or partners can help to streamline partnerships and enable collaborative programs without having to reinvent the process for each program. In 2013, the Los Angeles Department of Water and Power (LADWP) and Southern California Gas Company (SoCalGas) created such an agreement, called the Master Inter-Utility Agreement (MIUA). The MIUA established methods for jointly addressing energy efficiency and resource savings programs, disclosure guidelines for customer information, ownership of work/proprietary information, measurement, verification, and reporting of energy and water savings, and various administrative requirements (Cooley and Donnelly 2013). By the end of 2013, the two utilities had implemented 12 joint programs, including direct install, technical assistance for design, and energy audits and installation of showerheads, aerators, and more.



8 Mitchell Lake Audubon Society: <https://mitchelllake.audubon.org/events/garden-planning-birds-and-pollinators>

KEY COMPONENT 5: ENGAGING THIRD-PARTY COORDINATORS

The logistics described above can prove complicated, and some water managers noted that they abandoned stacked incentives due to logistical challenges, such as mismatched timelines or cumbersome funding agreements. To overcome these challenges, nearly all successful examples of stacked water incentives incorporated a third-party entity to not only assist with coordinating logistics for the program, but also to identify opportunities for stacked incentives, conduct outreach, and facilitate delivery of these programs to customers. In many cases, this role was filled by local non-profits, though there are examples of regional public agencies and for-profit businesses or consultants filling this role as well.

Many utilities and municipalities, especially smaller agencies, work with third-party coordinators to help administer their traditional incentive programs. For example, Resource Central, a Boulder-based non-profit, delivers water conservation and stormwater reduction programming for water utilities throughout Colorado. They provide the program design, scheduling and delivery, and marketing support for the agencies. Resource Central, and other similar organizations, reduce the logistical burden on agencies and can provide consistency in rebate or incentive options throughout a region. These logistical benefits are amplified when aggregating multiple programs or agency funds into one place.

In addition to simplifying agency logistics, a third-party coordinator can provide a single point of contact to customers while enabling multiple agencies to contribute to incentives. Water managers involved with stacked incentives through C/CAG and BAWSCA, City of Austin, and USDA's RCPP all noted the importance of creating this single point of contact. Overall, these aggregators play an important role in delivery and increase uptake of rebate and incentive programs, especially with hard-to-reach customer segments, while delivering multiple benefits.

Case Study: County of San Diego Watershed Protection Program, San Diego County Water Authority, Metropolitan Water District, and Environmental Incentives

In San Diego, California, an environmental consulting firm, Environmental Incentives, is acting as a liaison between the County of San Diego Watershed Protection Program, the San Diego County Water Authority, and the Metropolitan Water District of Southern California to develop a stacked incentive approach across several programs. Engaging a third-party coordinator helped the Watershed Protection Program to quantify the water quality benefits of efficiency-focused programs and identify opportunities for multi-benefit investments. In resulting pilot programs, they are engaging several homeowners' associations (HOAs) and coordinating funding contributions from the County, which is primarily focused on reducing runoff for water quality, and MWD programs, where rebates focus on water efficiency. Between funds from these two sources, and additional grant funding for incentives from SDCWA, the pilot program has already shown how stacked rebates can cover approximately 90% of costs of a 37,000 square foot turf replacement project for an HOA. In addition, Environmental Incentives engages with local HOAs to encourage uptake of the program. They provided a single point of contact for customers on several rebate programs and demonstrated to decision-makers the potential financial and social benefits of a landscape retrofit project.



KEY COMPONENT 6: CUSTOMER MARKETING AND OUTREACH

Without marketing, even the perfect incentive won't reach customers. Stacked incentives can help improve customer marketing and outreach by expanding the available messages and trusted messengers for a program. Engaging with diverse organizations enables water utilities to expand beyond water-related messaging for programs. Some customers may be motivated to invest in stormwater control measures to improve water quality in nearby creeks, while others might be more motivated by reducing mosquitos on their properties. Each organization in the partnership can contribute to a marketing strategy for stacked incentives based on the benefits that the program provides.

Stacked incentives also allow utilities to rely on the marketing and outreach expertise of the other organizations involved, as well as the reliable messengers that many organizations bring. For example, a water manager involved in lead line replacements noted in an interview that communities facing lead contamination have greater trust in public health officials than water utilities. For this reason, partnerships among public health and water may rely more heavily on the public health agency to lead outreach and engagement. In addition, the message may need to be tailored for different communities. For example, in New Mexico, many customers are more concerned about water than natural gas conservation. So, the natural gas agency relies on advertising the water savings of their stacked programs, such as from showerhead replacements, rather than the gas savings.

While each organization in a partnership can provide marketing and outreach support, each entity will have different expertise and capacity for outreach. The strategy and expectations should be determined at the outset of the program. If all parties are contributing to marketing and outreach, agencies should consider how to maintain message continuity. While different messages can more effectively reach different customers, an overall level of consistency is important to reduce confusion.

KEY COMPONENT 7: ADAPT AND IMPROVE

Successful incentive programs, including stacked incentive programs, continue to adapt based on customer feedback and data on program efficacy. San Antonio Water System (SAWS) adapts their water conservation offerings based on what effectively saves water. For example, at one point, SAWS provided a coupon for a flow sensor, but 30% of people did not install the sensors on their homes. So, they adapted the program to provide a rebate following installation and found installation rates increased dramatically. At the same time, SAWS retains a coupon for smart controllers because it still requires customers to contribute enough money that they are invested in the system and are more likely to buy and install the device. While monitoring the success of traditional and collaborative programs will increase staff time, monitoring can provide new insights and lead to more effective programs overall.

As stacked incentive programs evolve, they can reveal new opportunities and partnerships. During droughts, water managers noticed significant increases in water conservation programs, while in wetter years, there is increased focus on stormwater management. Similarly, recent forest fires in the western United States have highlighted the importance of forest management, and hurricanes and record floods in the southern United States increases the public's attention on flood control. Developing strong relationships and processes for collaborating can allow programs to quickly adapt and evolve to changing conditions, enabling them to engage with customers and encourage action.



CO-FUNDING BEYOND STACKED INCENTIVES FOR UTILITY CUSTOMERS

While this report focuses on stacked incentives for motivating voluntary actions by utility customers, there are opportunities for stacking incentives beyond a single household or business to achieve broader watershed sustainability and resilience. Here, we identify three types of additional co-funding models: regional collaborations, interagency cost-shares, and Joint-Benefit Authorities. As this work matures, we will explore additional collaborative funding models, including those that focus on regional sustainability and resilience.

Regional collaborations can integrate funding from different areas of government, as well as engage private capital. For example, privately owned forest land comprises 35–40% of all forest land in the United States. When managed effectively, this land can sequester carbon, improve local water quality, and provide additional ecosystem services. The American Forest Foundation and The Nature Conservancy are piloting a program called the Family Forest Carbon Program, which seeks to bring together federal funding, such as U.S. Department of Agriculture (USDA) or Clean Water and Drinking Water Revolving Funds, with private capital from corporations seeking to offset their carbon footprint.⁹ These stacked incentives can assist small landowners financially and technically to maintain and improve the forests on their land. At the same time, this program improves water quality and provides other ecosystem services throughout the region.



9 American Forest Foundation, The Family Forest Carbon Program: <https://www.forestfoundation.org/carbon>

Case Study: USDA's Regional Conservation Partnership Program as a Regional Collaboration

The USDA's Regional Conservation Partnership Program is designed to bring together multiple partners to implement and fund conservation projects on agricultural or non-industrial private lands, including watershed protection and enhancement.¹⁰ The program operates in all 50 states through the Natural Resource Conservation Service (NRCS). The program is currently funded at \$300 million per year by the Agricultural Improvement Act of 2018 (also known as the 2018 Farm Bill).

There are several innovative aspects of the Regional Conservation Partnership Program that make it a model stacked incentive program. First, it requires partners to measure and report on project impacts, such as linear miles of riparian buffer installed. Second, it can provide multi-year funding opportunities for projects, offering landowners assurance that their efforts will be supported over more than just a single pay-out. Third, the funding is available for a wide range of activities, including technical assistance, ongoing operations and maintenance, project-specific equipment such as high-efficiency irrigation systems, and many other land management or improvement activities. Finally, lead applicants must act as the coordinating entity between Regional Conservation Partnership Program, the landowners, and any other project partners. This requirement helps to clarify roles of engagement from the outset, a key component of a successful stacked incentive program.

One successful Regional Conservation Partnership Program can be found in Minnesota. With funding from the Regional Conservation Partnership Program, the NRCS along with the Minnesota Department of Agriculture and local soil and water conservation districts have helped approximately 170 farmers on 91,000 acres of land improve water quality and land conservation efforts. The Minnesota Agricultural Water Quality Certification Program provides incentives to producers who voluntarily implement and maintain soil conservation practices that protect water quality.¹¹ The program provides technical assistance to the landowners and holistic assessments of their land and operations to help prioritize activities that will be most beneficial and practical. Once certified, farmers also receive regulatory certainty for 10 years, opportunities for promotion of their products, and help with gaining more financial and technical assistance. The partners co-developed the program and continue to work together to deliver and fund it.



10 USDA Natural Resources Conservation Science, Regional Conservation Partnership Program: <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/rcpp/>

11 Minnesota Agricultural Water Quality Certification Program: <https://www.mda.state.mn.us/environment-sustainability/minnesota-agricultural-water-quality-certification-program>.

Interagency cost shares are another example of co-funding that supports multi-benefit water management on large properties. The Philadelphia Parks & Recreation, Capital Program, and Water Department, for example, co-funded improvements to the city's iconic recreation area on Benjamin Franklin Parkway, including infiltration trenches below the street that store and treat nearly 25,000 gallons of stormwater runoff per year. This project improved local water quality and supported Parks & Recreation's mission to connect communities with open space and recreation (Philadelphia Water Department 2018; Shimabuku, Diringer, and Cooley 2018).

Stacked incentives, collaborative regional programs, and interagency cost-shares require breaking down traditional silos and solidifying relationships among public agencies. To help facilitate co-funding among public agencies, the World Resources Institute (WRI) is piloting an approach to collaboration called the Joint Benefits Authority (JBA) (WRI n.d.). The JBA demonstrates one way that public agencies can build long-term collaborations, leading to more cost-sharing

and stacked incentives. Cities traditionally finance each of their department's investments individually: stormwater utilities fund stormwater tanks and storm pipe retrofits, port authorities fund seawalls, and parks departments fund parks and neighborhood cooling centers. The JBA expands beyond stacked customer incentives to enable multiple city agencies to co-finance and deliver multi-benefit infrastructure to address many challenges simultaneously (Figure 5). Many of these investments include nature-based solutions that can provide multiple benefits to local and regional agencies (Beyer and Anderson 2020). In addition to building collaboration, the JBA seeks to enable innovative capital planning and municipal financing mechanisms, including the power to issue bonds for multi-benefit programs or receive state or federal dollars for projects. This initiative is currently in the pilot phase, but it demonstrates the opportunity to move toward collaboration and co-funding among public agencies.

Figure 5. Schematic of the Joint Benefits Authority Developed by World Resources Institute 🔗



Source: WRI n.d.

KEY FINDINGS

Water managers throughout the United States have an opportunity to advance water sustainability through stacked incentive programs. From water efficiency rebates to educational programs, these collaborations can increase engagement with customers and achieve greater investment in water management. In this section, we highlight five key findings from this work with the hope that it can help scale these efforts to utilities and organizations throughout the country.

1. Water managers are implementing stacked incentives throughout the country, and there are opportunities for more.

Water managers across the country are collaborating on stacked incentive programs. However, these programs remain relatively rare. There are opportunities for increasing collaboration among water utilities and beyond water, including with parks departments, transportation agencies, and more. Building on traditional incentive program models, stacked incentives can be effectively implemented as part of rebate and discount programs, technical assistance and audit programs, and educational programs.

2. Stacked incentives help increase investments in water and leverage investments for multiple benefits.

Stacked water incentives provide benefits to the collaborating entities, as well as to their customers. Collaborating entities can increase the total funding provided to a single program, reduce administrative burdens for coordinating the programs, and increase the overall program efficacy. At the same time, customers benefit from engaging with a single entity for the incentive, and they are therefore more likely to apply for the rebate, request an audit, or attend the educational program. While there are challenges to developing stacked incentives, in many cases, the benefits outweigh the costs of coordination.

3. Third-party coordinators help achieve successful program development, coordination, and outreach.

Third-party coordinators were a nearly ubiquitous part of successful programs. In some cases, these entities were non-profit organizations hired to engage with customers and facilitate the rebate process. In others they were consultants that help agencies connect as partners. These entities can help collaborators develop the program, coordinate logistics, and provide customer outreach and installation. The benefits of these entities were particularly apparent for programs engaging often hard-to-reach customers, including low-income households and homeowners' associations. By engaging a third-party coordinator, many entities were better able to simplify engagement with customers and increase overall uptake of the program.

4. When implemented well, stacked incentive programs may deliver more equitable incentive programs.

Low-income households are often balancing many bills simultaneously (e.g., energy, sewer, internet, and water). While stacked water incentives primarily focus on water, they may provide an opportunity for offering additional services to community members most in need of assistance. When implemented thoughtfully, stacked incentive programs can help improve low-income assistance programs by increasing the total value provided by the incentive, reducing the number of applications necessary to apply for incentive programs, and engaging local community groups to administer the programs. In turn, this can increase uptake of programs and improve equitable access to incentive programs.

5. Stacked incentives may provide opportunities to build local water and climate resilience.

From extreme flooding to drought and hurricanes, climate change is manifesting in cities as severe water challenges. With increasing recognition of and focus on these challenges, stacked incentives can provide a platform for breaking down silos and advancing local

adaptation and resiliency efforts. As more cities develop offices or departments dedicated to sustainability and resilience, there are opportunities for stacked incentives to help scale voluntary efforts on public and private property. Similarly, the growing number of climate action plans at the local, state, and federal level in the United States can provide additional support for developing these collaborative programs and stacked customer incentives.

Building programs that improve climate resilience will require many of the same processes as developing stacked water incentives: examining program alternatives, determining benefits, connecting benefits with beneficiaries, and building partnerships to implement programs. As these avenues mature, it is essential that stacked customer incentive programs and other collaborative funding models are included.



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