

Sustainability Fund Research Findings and Recommendation

Prepared by Contra Costa County, Department of Conservation and Development &
Department of Public Works

Authors: Nicole Shimizu (Climate Corps Fellow), Jody London (Sustainability
Coordinator), Steve Kowalewski (Public Works)

July 2021

Sustainability Fund Research Findings

Table of Contents

Executive Summary	1
Best Practices	1
Recommendations	1
Introduction.....	2
Sustainability Fund Research Background	2
Sustainability Fund Timeline.....	3
Best Practices	4
A.Measuring Savings	4
C.Fund Oversight	6
D.Fund Growth.....	7
E.Accounting System	8
Common Obstacles and Recommended Solutions	9
Sustainability Fund Operation in Contra Costa County	10
Additional Resources	16

Executive Summary

The Contra Costa County Board of Supervisors directed staff in March 2021 to develop recommendations for a Sustainability Fund that could be used to support investments in County facilities that further the County's environmental sustainability and climate change goals. Staff from the Department of Conservation and Development consulted with several cities and counties, both within California and nationally, to identify best practices and lessons learned.¹ This report presents those best practices, implementation challenges, and recommends how Contra Costa County could structure a Sustainability Fund.

Best Practices

In structuring a Sustainability Fund, it is important to be clear about:

- Measuring savings. There is a tradeoff between level of accuracy and resources required. The County should be clear about how it will measure energy and budget savings.
- Performance metrics. It is important to consider both financial (payback period, rate of return, net present value, return on investment) and environmental (energy savings, greenhouse gas reductions) metrics and to be clear about which will be used for a County Sustainability Fund.
- Fund oversight. Most jurisdictions have an interdepartmental committee that evaluates and makes recommendations on where sustainability funds will be used.
- Fund growth. It is important to think about how the fund will grow, whether savings will be reinvested in the fund wholly or in part, and whether departments will share in any savings.
- Accounting system. It's important to know how funds will be tracked.

Recommendations

Staff recommends that a Sustainability Fund be established with an annual allocation of \$1-\$5 million for the next 5 years. Public Works staff will report back to the Sustainability Committee annually on progress on project implementation and progress towards improving the data quality and performance metrics through improved tracking systems. At the end of 5 years, the Public Works Department will report back to the Sustainability Committee with a recommendation to evolve the Sustainability Fund to a revolving fund based on whether Public Works was able to develop the data and metrics needed to track actual cost savings for sustainability projects.

Staff recommends the Department of Public Works have primary responsibility for the Sustainability Fund, working in consultation with an interdepartmental advisory committee and the County Administrator's Office. Public Works would identify projects, oversee projects to

¹ Staff interviewed the following jurisdictions to put this report together: County of San Luis Obispo (CA), County of Sonoma (CA), County of Santa Clara (CA), County of San Mateo (CA), County of Alameda (CA), City of Santa Barbara (CA), and City of Boston (MA). Additionally, staff consulted in writing with members of the Urban Sustainability Directors Network.

completion, track savings (estimated or actual), and report annually on the fund's impact. This conforms to best practices learned from other jurisdictions.

In our research, an interdepartmental committee was identified as a key element for a Sustainability Fund. The recently created Interdepartmental Climate Action Task Force could play this role. The Task Force consists of department heads or designated representatives of each County department. It would convene throughout the year to make ongoing recommendations about the Sustainability Fund's management including the process of identification and selection of the projects the County should implement.

Introduction

In September 2020, the Contra Costa County Board of Supervisors created an Interdepartmental Climate Action Task Force ("Task Force") to focus on "urgently implementing the County's Climate Action Plan."² The Task Force's first two meetings included discussion around sustainability opportunities within County operations. Several Task Force members suggested establishing a Sustainability Fund to support these opportunities. This suggestion was included in the Task Force's first report to the Board of Supervisors on March 30, 2021 to "Establish a Sustainability Fund that is supported by an annual investment and/or is structured as a revolving fund." At the March 30th meeting, the Board directed staff to provide more information about Sustainability Fund mechanisms other jurisdictions have implemented.

Sustainability Funds are highly customizable. In conducting this research, it became apparent that existing fund structures have been built upon elements that best support the needs of particular jurisdictions. As Contra Costa County considers establishing a Sustainability Fund, decisions and trade-offs will have to be made regarding metrics, administrative processes, and fund mechanics. This report distills a series of best practices based on multiple jurisdictions' lessons learned to inform the County's Sustainability Fund process.³

Sustainability Fund Research Background

To prepare this report, County Department of Conservation and Development staff interviewed multiple jurisdictions about their Sustainability Funds and conducted additional online research on several additional jurisdictions' Sustainability Funds. A database of findings

² Contra Costa County Board of Supervisors, Resolution No. 2020/256, *Endorsing the Declaration of a Climate Emergency in Contra Costa County That Demands Accelerated Actions on the Climate Crisis and Calls on Local and Regional Partners to Join Together to Address Climate Change*.

³ Staff interviewed the following jurisdictions to put this report together: County of San Luis Obispo (CA), County of Sonoma (CA), County of Santa Clara (CA), County of San Mateo (CA), County of Alameda (CA), City of Santa Barbara (CA), and City of Boston (MA). Additionally, staff consulted in writing with members of the Urban Sustainability Directors Network.

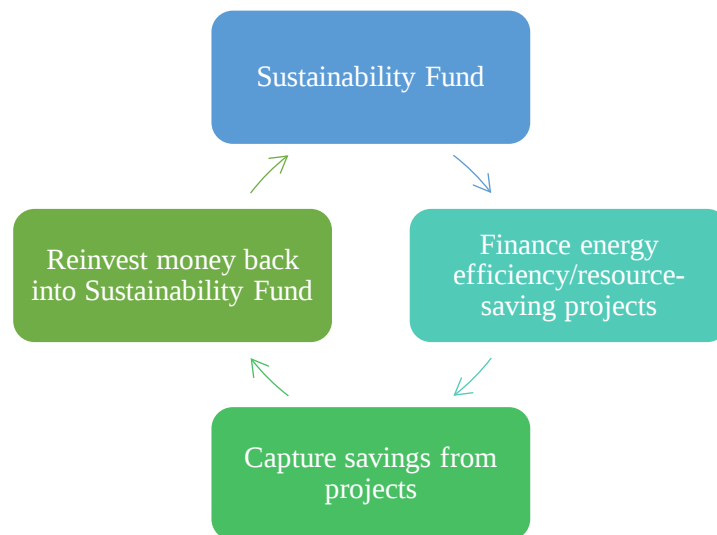
can be found in the attached document⁴. Below is a summary of common themes and best practices for the County to consider when developing, implementing, and operating its own Sustainability Fund.

Sustainability Fund Timeline

Based on interviews with jurisdictions and review of guides outlining the process of launching a Sustainability Fund, this is the general process other local governments have taken to start their Sustainability Funds:

- Conduct research on similar funds run by similar organizations.
- Determine structure of fund and gather feedback from relevant stakeholders.
- Create an interdepartmental decision-making committee and set up internal accounting and administrative processes to support the fund.
- Conduct energy audits of all jurisdiction-owned properties to develop a pipeline of projects and establish baseline energy use data.
- Prioritize certain buildings/projects starting with low-hanging fruit (projects with short payback periods, low cost of implementation, and high potential for savings).
- Execute projects, measure utility use reductions, and put the realized savings back into the Sustainability Fund for the next cycle of projects.

Revolving Loan Basic Structure



⁴ Much of the information provided in the attached document comes from the County of San Luis Obispo's Energy and Water Coordinator research to inform their own sustainability revolving fund known as the Revolving Energy and Innovation Fund (REIF).

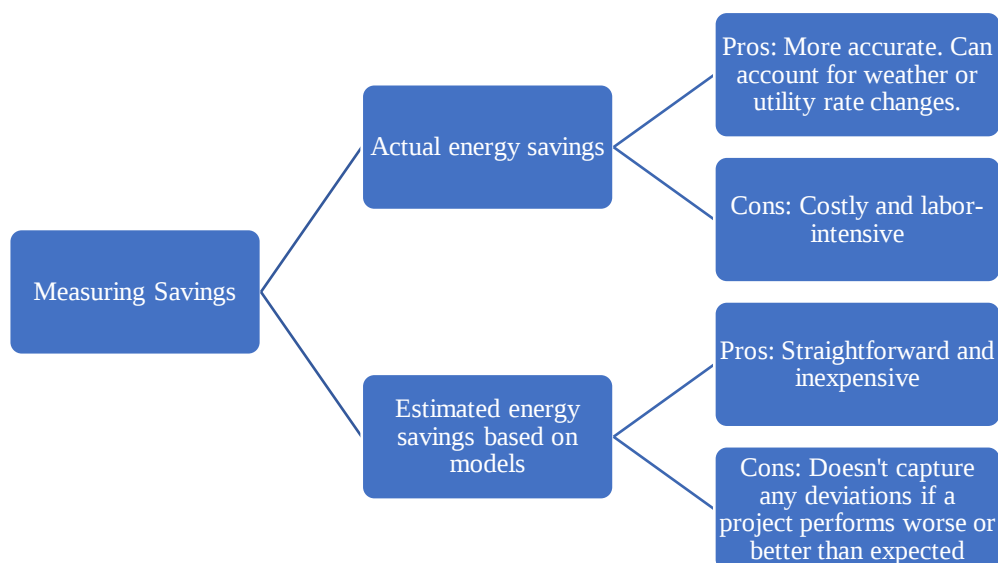
Best Practices

Based on our research, a number of best practices contradict one another because each methodology was customized to best suit a specific jurisdiction's goals. These best practices are captured below, categorized by element to illustrate the trade-offs that are associated with each option.

A. Measuring Savings

There is a spectrum of options regarding measuring savings that jurisdictions use. On one side of the spectrum, jurisdictions track actual energy savings which requires a significant amount of staff time. This method has been prohibitive for many jurisdictions that have implemented a Sustainability Fund specifically because of the staffing requirements. The other side of the spectrum uses energy savings models to estimate impacts which requires less staff time.

Several options fall in the middle of the spectrum as a hybrid of actual and estimated energy savings. One option assesses whether utility costs are decreasing over time. This option wouldn't affect project repayments, but could help verify that projects are generally decreasing costs. Another option bases the loan approval and repayment schedule on estimated savings and then tracks actual energy savings to verify that the project is functioning as predicted. Yet another option performs upfront and retroactive measurement and verification on larger projects and uses project specifications and engineering estimates on smaller projects.



B. Performance Metrics

There are several common performance metrics that jurisdictions use to determine which projects to pursue: payback periods, return on investment (ROI), net present value (NPV), internal rate of return (IRR), resource savings, and/or greenhouse gas (GHG) reductions. Some

jurisdictions choose to focus on a combination of payback period, ROI, and IRR. However, depending on the goals of the specific jurisdiction's Sustainability Fund, the relative emphasis on each of these metrics shifts.

These performance metrics are all useful to contextualize the lifecycle costs of the projects County departments could undertake. Since the payback period of most projects would span several years, this multi-year time frame should be accounted for when selecting projects to prioritize and execute rather than choosing projects solely based on initial costs.

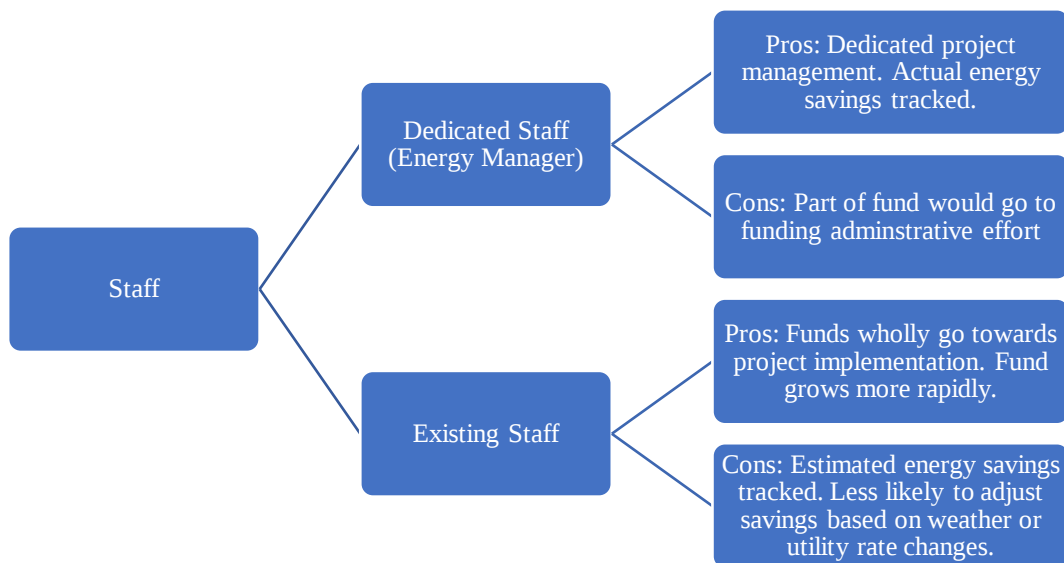
Metric Type	Definition	Pros	Cons
Financial Performance Metrics			
Payback Period	The amount of time required for a project to recoup its original capital and installation cost with the savings it generates.	Simple and common metric to easily compare the financial viability of different projects.	Does not account for the cost of capital and cannot be directly compared to metrics that track investment performance on an annual or monthly basis. Does not capture the total volume of savings achieved.
Return on Investment	Savings a project generates as a percentage of its upfront cost. Can be calculated for the entire lifetime of the project or on an annual basis.	Assesses the savings from a project relative to its cost.	Does not capture the total volume of savings.
Internal Rate of Return	Represents the profitability of a project in the presence of discounting. Often used to compare prospective investments.	Incorporates information missed by other metrics including the time-value of money and information about when costs and savings actually	Does not capture total volume of savings achieved. Unintuitive for non-technical audiences.

Metric Type	Definition	Pros	Cons
		occur in the project's lifetime.	
Net Present Value	Total net savings of a project and accounts for the time-value of money. Discounts costs and savings depending on how far into the future they occur.	Considers the total number of years the project will be active. Captures relevant factors such as project lifetime, the time-value of money, and total volume of net savings that are omitted by other metrics.	Unintuitive for non-technical audiences and relies on often arbitrary discount rates.
Environmental Performance Metrics			
Resource Savings	Total amount of electricity, fuel, water, waste, or other materials that are conserved or produced by the project.	Straightforward metric	Difficult to compare different project types.
Greenhouse gas (GHG) Reductions	Project's reduction of greenhouse gas emissions.	Accounts for the amount of resources saved, the GHG emissions intensity of those resources, and the global warming potential of GHGs.	Can be difficult for groups to conceptualize the scale of reductions.

C. Fund Oversight

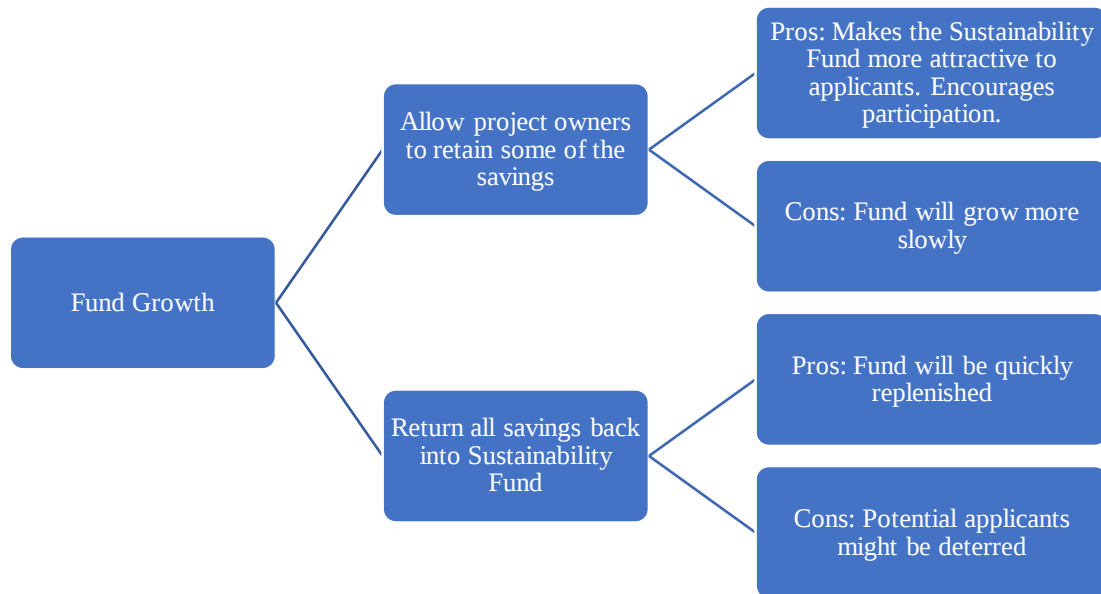
The majority of jurisdictions surveyed have an interdepartmental committee that provides oversight and guidance to the fund ranging from defining project criteria to verifying annual project energy savings. Common committee membership includes facility operation managers and managers from finance and sustainability departments. This provides jurisdictions cross-departmental buy-in and ensures that all relevant stakeholders are involved in the Sustainability Fund's operation.

Fund management varies across jurisdiction depending on staffing capacity and funding. Some jurisdictions have a dedicated energy manager tasked with day-to-day fund operation, dedicated project management, and tracking actual energy savings. The position could be paid for by tacking on an administrative fee of around 2% as part of the loan terms. A 2% fee was identified as the ideal surcharge as it ensures there is enough funding for administrative personnel without deterring project applications. However, several resource-constrained jurisdictions noted that having existing staff administer the fund is also a viable option as long as savings are based on modeled estimates rather than actual savings.



D. Fund Growth

There is a tradeoff between making the Sustainability Fund financially attractive to applicants and growing the fund over time. If the jurisdiction's goal was to grow its fund as fast as possible, it would create 0% interest loans and target all of the low-hanging fruit projects in their jurisdiction. If it needed to incentivize departments to take advantage of the loans, the jurisdiction would allow project owners to collect project savings for three years and afterwards redirect the savings back to the Sustainability Fund.



E. Accounting System

There are two main accounting systems that Sustainability Funds use depending primarily on whether or not the County department has control over its budget.

	Loan Model	Accounting Model
Overview	County department borrows money from the fund via a budget transfer. The department is responsible for repaying the loan using project savings.	Funds are transferred to County department or facilities department. Repayment is made via a transfer of funds back into the Sustainability Fund from a centrally managed operating budget.
Best Fit	County departments have control over distinct operating budgets, discrete ownership of projects, and facilities staff or building technicians to assess potential improvements.	County department does not have discrete ownership of project and/or draws from the same pool of money for building-related expenses as the Sustainability Fund (ex: A General Fund).

Some best practices that have worked for jurisdictions across the board include:

- Making the Sustainability Fund its own budget item to create a dedicated sustainability-oriented pool rather than risk losing dedicated funding if the Fund was part of the General Fund,

- Creating buy-in and ensuring the longevity of the program within the organization using the business case for the fund,
- Selecting projects based on two main factors: alignment with the fund’s mission and compatibility with the actual portfolio of projects that are available for investment, and
- Prioritizing projects in a way that best allocates limited resources while accounting for the feasibility and timing of projects given other constraints.

Common Obstacles and Recommended Solutions

Obstacle	Solution
Staff not encouraged to improve building efficiency because, if they cut costs, their operating budget will be reduced accordingly the next fiscal year.	• Freeze utilities or operating budgets during the repayment period of the project to ensure facility managers see the benefit of achieving savings through efficiency projects. • Facilitate the careful tracking and management of savings resulting from projects, so stakeholders can negotiate when and by how much operating budgets will be cut in response to those savings. • Require only a certain portion of savings to be repaid into the fund, allowing the project funder to immediately receive some of the financial benefit even while the full project cost is more slowly being repaid. A revolving fund helps to restore the incentive to conserve by formalizing project savings and revolving them back into the fund, which can then be tapped by the same stakeholders for future projects.
Paying for staff time and management	• Ensure loan repayment terms capture enough revenue each year to sustainably administer the fund. For example, a 2% interest for administrative costs ensures there is enough funding for administrative personnel without deterring project applications • Include a fee that would be bundled into the repayment terms (i.e., asking loan recipients to pay back more than 100 percent of the loan value from generated savings, such as through an additional payment at the end of the repayment term).
Concerns about accurately measuring savings	• Conduct an upfront audit or engineering assessment to forecast savings potential over the project’s lifetime,

Obstacle	Solution
	demonstrating the short- and long-term value of the loan to the recipient. • Conduct the measurement and verification of project savings using an agreed upon process, providing data which verifies that the level of achieved savings is consistent with repayment terms. Then, create a repayment structure that adjusts to changes in savings beyond the original estimates. • Consult resources to confirm the typical savings generated by similar projects at other institutions, increasing buy-in by demonstrating past success.
Concern about exhausting high-payback low-hanging fruit projects	• Learn from the experiences of jurisdictions' already established fund structures. • Bundle projects of various payback lengths. • Examine the value of higher-hanging fruit such as deep retrofits and renewable energy installations.

Sustainability Fund Operation in Contra Costa County

Why a Sustainability Fund? As mentioned at the beginning of this report, the Inter-departmental Climate Action Task Force discussed implementation challenges and recommended a Sustainability Fund be set up to help implement sustainability projects and programs. The Task Force identified project implementation funding as the top implementation challenge.

Why do we need a Sustainability Fund if we are currently implementing sustainability projects such as solar, Electric Vehicles (EV), Electric Vehicle chargers, and Light Emitting Diodes (LED) retrofits? It is true that the County has implemented many sustainability projects without the use of a Sustainability Fund. However, the County financed the projects through a variety of methods that did not require a local match investment. For example, PG&E's on-bill financing was a tool used to fund the capital improvements without having to front the funding. Unfortunately, some of these tools, such as the on-bill financing, are no longer allowed to be used. We have also used Power Purchase Agreements and third-party energy reduction firms that evaluated, designed, and constructed energy reduction projects in exchange for a portion of the cost saving due to the project. These delivery tools also come with issues and constraints.

In order to move the County forward towards implementing sustainability projects and avoid some of the challenges and constraints with using various tools to finance the projects, the

Board of Supervisors requested that staff investigate the use of a Sustainability Fund or Revolving Fund as recommended by the Inter-departmental Climate Action Task Force Committee. The research conducted by Conservation and Development identifies pros and cons to various Sustainability Funds used by other agencies. The information is useful to identify lessons learned and best practices in trying to develop a Sustainability Fund structure that meets Contra Costa’s complex infrastructure financing system.

In developing a recommendation on a Sustainability Fund for Contra Costa, staff first identified an “ideal” structure for funding sustainability improvements. Based on the ideal situation, staff evaluated the challenges associated with creating this structure, and has developed the recommendation below for a structure that addresses the implementation challenges.

The following table describes an ideal Sustainability Fund/Revolving Fund structure and challenges related to implementation to fit the County financing and project delivery structure.

Ideal Sustainability Fund Structure (Revolving Fund)	County Implementation Challenges
1. One-time investment of unconstrained funding (ok to use on General Fund and non-General Fund funded County buildings)	A defined source of funding has not been identified. The funding should be unconstrained to be able to improve the highest impact projects and not just focused on General Fund funded building, such as is done with Facilities Lifecycle Improvement Program (FLIP) projects.
2. Sustainability Fund managed by Public Works with direction from CAO and Board of Supervisors	Fund does not currently exist. Fund oversight expectations and project approval process need to be developed.
3. Project identification and prioritization based on various Board adopted documents (Distributed Energy Resources (DER), Climate Action Plan (CAP), Energy Reduction Plan (ERP), Building Codes, Administrative Bulletins)	Although Public Works has used industry accepted selection criteria, such as energy use, occupancy frequency, etc. to identify a preliminary list of projects, these have not been reviewed and approved by the CAO.
4. Agreed-upon project selection criteria used to prioritize improvements	Project selection criteria and prioritization needs to be finalized. Ideal selection and prioritization criteria may be difficult to apply due to limitations in our existing tracking systems. Ideal metrics are not easily available to base selection decisions.

Ideal Sustainability Fund Structure (Revolving Fund)	County Implementation Challenges
5. Project approval by a Project Review Committee (CAO, Public Works, Task Force, etc.)	The Board directed that the Inter-departmental Climate Action Task Force be formed to address sustainability issues. Need to determine if this Committee is the appropriate make-up to evaluate projects. The Committee may be more suitable to review overall process challenges rather than review the merits of individual sustainability projects.
6. Commit funding towards approved projects	Need to agree how funding is committed to a prioritized project. Will the CAO approve or will Board action be necessary? Will the Sustainability Fund be a separate line item of the General Fund and subject to annual allocation decisions? This could make it difficult to plan larger multi-year projects.
7. Pre-project evaluation (data/metrics)	Public Works currently does not have the resources to conduct a pre-project evaluation of many sustainability projects, such as energy reduction or solar installations. This effort would need better utility tracking software and possibly the installation of sub-meters to collect the appropriate data/metrics to evaluate project impact. This effort would also require additional staff time to conduct the evaluations and analyze the data/metrics.
8. Design and Construct Sustainability Project	Public Works is able to successfully deliver sustainability projects. The Department has partnered with the CAO's Office and County Departments to deliver many solar installations, energy reduction projects, water reduction projects, and new LEED certified buildings. The challenge of implementing sustainability projects is not with staff's ability to deliver projects, but rather with the lack of dedicated funding and clear authority on project authorization.
9. Post-project evaluation (data/metrics)	Same issues as described above under pre-project evaluation.

Ideal Sustainability Fund Structure (Revolving Fund)	County Implementation Challenges
10. Identify “Actual Cost Savings” from project implementation. Staff support and data extraction tools are funded and available. Cost savings are purely based on constructed improvements and other variables, such as weather, occupancy, etc., did not impact cost savings calculation. Improvement can be monetized.	Actual cost savings are typically dependent on a number of variables that may skew benefits realized from a sustainability project. Calculating actual cost savings requires a significant amount of staff and other resources to be useful. Some sustainability improvement benefits cannot be monetized (clean water bio-swales). Without accurate cost savings information, difficult to create a revolving that is supported by data/metrics.
11. Annual cost savings are used to replenish the Sustainability Fund (making it a revolving fund). To add incentive to Departments, cost savings can be shared with the Department so they receive an immediate benefit from implementing project. Cost savings are deposited into the Sustainability Fund until the capital investment is repaid including an additional amount to cover administrative costs for the program (finance staff, software tools, reporting requirements, etc.). There are no constraints from Department specific funding that would prohibit the replenishment of cost savings into the Sustainability Fund to be used by all departments.	Some County Departments are funded with State and/or Federal funding that gets audited routinely. There may be an issue if the Department’s utility costs go down, yet they are paying a higher amount to fund the Sustainability Fund until the revolving fund is repaid. Departments funded with restricted funds may have an issue of paying for pro-active sustainability improvements that are not “required” with any building upgrades or improvements. A revolving fund is a type of “loan” or debt financing. Some fund sources may require a voter approval for debt financing. Would this debt financing count against the County’s cap, or since it is internal, would it not count against the cap? As mentioned above, if we are unable to monetize project impacts, then the desire for the Sustainability Fund to be a revolving fund will be challenging to maintain.
12. Implement next project or bundle of projects using replenished Sustainability Fund.	No issue

As shown in the table above, staff identified many “challenges” that need to be further developed to reach an “ideal” Sustainability Fund structure. However, with the Board of Supervisors declaring a Climate Emergency, staff is recommending a modified structure to begin implementing sustainability projects immediately.

Staff recommends the following modified financing and process structure to begin implementing sustainability projects for County Departments.

- Staff recommends the Board of Supervisors establish a Sustainability Fund with the mission to fund sustainability projects that benefit the environment and fulfills the mission of the Climate Action Plan for all County building infrastructure. The use of the funding would not be restricted to General Fund funded infrastructure, but could also be used by Departments that are funded with restricted funding. This condition allows staff to focus on the highest impact projects without being constrained to General Fund funded buildings as is the case with Facility Lifecycle Improvement Projects (FLIP program). Having unrestricted funds allows staff to better bundle projects and coordinate improvements across all County infrastructure.
- Staff recommends the Board of Supervisors allocate \$1-\$5 million annually to the Sustainability Fund for the next 5 years. A portion of the allocation each year would be used to improve the Public Works Department's ability to track utility costs, energy usage, and greenhouse gas reduction with the majority of the annual allocation going to project implementation. At the end of 5 years, the Public Works Department will report back to the Sustainability Committee on the progress made on tracking utility costs, energy usage, and greenhouse gas reduction. Based on the results and the ability to track "actual" cost savings, Public Works will make a recommendation to convert the Sustainability Fund to a Revolving Fund that will be funded with actual cost savings by the various Departments or to continue with the original Sustainability Fund structure where annual allocations are made to the fund from the General Fund or other appropriate fund source. If the County prefers to pursue a revolving fund, another option is to fund the Sustainability Fund with "estimated" cost savings rather than "actual" cost saving that would require far less financial and staff resources to implement. Estimated savings would be used for Departments to deposit back into the revolving fund.
- Because the Public Works Department is primarily responsible for facilities management, it would be most effective for the Sustainability Fund to be managed by the Public Works Department. Public Works would identify projects, oversee projects to completion, track savings (actual or estimated), and report annually on the fund's impact. This is in line with the research for this report, in which seven out of the thirty jurisdictions researched had their Public Works department or equivalent alone in charge of the fund's management.
- Across the board, the most common element between jurisdictions' Sustainability Funds was an interdepartmental committee. Twenty-one out of the thirty jurisdictions identified an interdepartmental committee as a key element in their Sustainability Fund office. Because the Interdepartmental Climate Action Task Force was created to implement actions identified in the Climate Action Plan, the group is well positioned to act as the interdepartmental advisory committee to the Sustainability Fund. This committee, consisting of department heads or designated representatives of each County department, would convene to make ongoing

recommendations about the Sustainability Fund's management, including the procedure of identifying and selecting projects the County would implement.

- The County's Energy Manager (Public Works staff) would work with the Facilities, Capital Project Management, and Fleet Divisions within Public Works to identify sustainability projects using technical and practical knowledge of the County's building infrastructure and fleet operations. Project selection would be based on County adopted documents and bulletins, such as the Distributed Energy Plan, Climate Action Plan, Energy Reduction Plan, Administrative Bulletins, and building codes. The projects would be prioritized and submitted to the County Administrator's Office for approval of the projects and authorizing the use of funding from the Sustainability Fund prior beginning work on any project.
- The Energy Manager and staff from Facilities Services, Capital Projects, and Fleet Services have identified several projects that could be implemented immediately if the Board of Supervisors approves the Sustainability Fund concept and allocates funding. Depending on the amount of funding allocated, Public Works would submit the initial list of projects to the CAO for approval to implement. The initial focus of the Sustainability Fund would be on energy reduction projects, installation of electric vehicle charging stations, and electrification of the County's fleet vehicles.
- Public Works will provide annual reports to the Sustainability Committee on progress toward project implementation funded by the Sustainability Fund.

Additional Resources

- [Local Government Energy Financing Primer](#) | Better Building Solutions Center
- [Climate Financing Decision Making Tree](#) | ICLEI
 - o Breakdown of advantages, disadvantages, and case studies
 - o T8: Energy Performance Contract
 - o T11: Revolving Fund
- [City of El Cerrito Revolving Fund Administrative Manual](#) (2009)
 - o Step-by-step guidance about establishing/implementing revolving fund, eligible projects, goals of revolving fund, allocation of funds and management, accounting, project guidelines, payback period etc.
- [Green Revolving Fund: A Guide to Implementation and Management](#) | Sustainable Endowments Institute and the Association for the Advancement of Sustainability in Higher Education
- [Revolving Loan Fund](#) (Internal vs External) | DOE
- [State Revolving Fund Recommendations for Clean Water Infrastructure Investments](#) | NRDC Water and Climate Team

Jurisdiction	Name of Effort	Contact	Start Date	Initial Funding Amount	Source of Seed Funding	Types of Projects	Size of Projects
Alameda County (CA)	Revolving Energy Fund (aka Designated Energy Fund) & Municipal Utility Surcharge	Emily Sadigh	1995	\$3 million	Energy savings from PG&E retrofit project (PG&E's 1st demand side bidding program called Power Saving Partners)	• Lighting, solar, fuel cells • Augment maintenance/replacement projects for which maintenance budget only pays for standard energy efficiency upgrade. Fund pays to increase energy efficiency to a higher level	\$1k-1 million
City of Ann Arbor (MI)	Municipal Energy Fund		1998	\$500,000 (\$100,000 annual contributions for 5 years)		Municipal programs aimed at improving energy efficiency in municipal facilities	
Arizona State University (AZ)	Sustainability Initiatives Revolving Fund (SIRF)		2010				3 tiers of project sizes from small (<\$5,000) to large (10 year payback or less)

Jurisdiction	Name of Effort	Contact	Start Date	Initial Funding Amount	Source of Seed Funding	Types of Projects	Size of Projects
City of Boston (MA)	Renew Boston Trust	Bradford Swing	2019 (1st performance contract executed)	\$20 million from government operations green bond	ARRA (for dedicated energy staff), Energy Block Grant (to fund an energy manager and an energy finance manager), Green bonds	Efficient lighting and water fixtures, HVAC equipment replacements, building management systems, solar panels	
City of Cupertino (CA)	Sustainability Committed Reserves Fund	Andre Duurvoort					
Douglas County (KS)	Sustainability & Energy Savings Reinvestment Fund		2011	\$300,000	Douglas County Commission	Projects that save energy and reduce maintenance costs or promote the implementation of innovative sustainability solutions	

Jurisdiction	Name of Effort	Contact	Start Date	Initial Funding Amount	Source of Seed Funding	Types of Projects	Size of Projects
City of El Cerrito (CA)	• Environmental Improvement Revolving Fund • Energy and Water Efficiency Program (EWEP) • El Cerrito Revolving Fund (ECRF)		2008	\$25,000	From FY08/09 Capital Improvement Project overage and General Fund allocation based on estimated savings from Energy Watch Lighting retrofit projects	Range of projects that deliver environmental benefits to city operations. Environmental Services will have wide discretion to pursue individual projects with varied environmental benefits as long as sum of project activities in a given year meet "portfolio" criteria	
Kane County (IL)	Energy Efficiency Revolving Loan fund		2009	\$2,469,100	Energy Efficiency and Conservation Block Grant (EECBG) as part of American Recovery and Reinvestment Act (ARRA)	Projects resulting in reduced fossil fuel emissions, reduced total energy use, or improved energy efficiency. Project must also generate energy savings to be used to <u>repay the loan</u> .	
Inyo County (CA)	Southern California Edison (SCE) Energy Efficiency Revolving Loan Fund (EERLF)					Energy efficiency projects (modify existing facilities and fund improved infrastructure in new construction projects)	

Jurisdiction	Name of Effort	Contact	Start Date	Initial Funding Amount	Source of Seed Funding	Types of Projects	Size of Projects
City of Long Beach (CA)	Innovation and Efficiency Initiatives Revolving Fund			\$2 million	FY14 year-end General Fund department surplus	Energy efficiency systems, solar panels, street lighting improvements, HVAC systems, machinery/equipment that reduce staffing or other operational costs, energy efficient vehicles, innovative solutions that improve service delivery and grow the City's tax base through improved economic opportunity for residents and businesses	
City of Montpelier (VT)	Net Zero Revolving Loan Fund		2016	\$30,000	• \$20,000 from Council approval from city's Reserve Fund • \$10,000 from Efficiency Vermont	• Municipal energy efficiency and renewable energy investments in the City • Projects that directly address one or more of the City's Net Zero goals through energy efficiency, renewable energy production, or reduction of energy-related costs • Feasibility studies that support energy projects can be funded if either paid back within 2 years or rolled into the repayment schedule of a funded project that results from the feasibility assessment	

Jurisdiction	Name of Effort	Contact	Start Date	Initial Funding Amount	Source of Seed Funding	Types of Projects	Size of Projects
City of Moreno Valley (CA)	Energy Efficiency Fund (EEF)		2013	\$60k from EECBG projects and \$32k from Moreno Valley Utility rebates	• EECBG grant through ARRA (scope: energy efficiency assessment, HVAC retrofits) • SCE Grant (scope: develop energy efficiency codes, staff training and development, GHG inventory, climate action plan strategy development, develop municipal energy plan and municipal revolving fund for EE projects)	Energy efficiency (include any construction or retrofit project that involves energy efficiency)	
City of Nashville (TN)	Energy Savings Revolving Fund	Laurel Creech		\$2 million		Energy savings projects (energy conservation measures, energy audits, energy infrastructure retrofits, building automation systems, utility expense management, building retro-commissioning)	
Portland State University (OR)	Green Revolving Fund		2013	\$500,000	State of Oregon funding for capital improvements	Energy and water efficiency projects	

Jurisdiction	Name of Effort	Contact	Start Date	Initial Funding Amount	Source of Seed Funding	Types of Projects	Size of Projects
Riverside County (CA)	Energy Conservation Fund		2010	\$168,190	• New construction design incentives • Solar rebates • Strategic Plan element incentives from SCE and the Gas Company	• Energy and water efficiency projects • EV charging stations • Heat exchanger upgrades • Persistence-based retrocommissioning • Insulation • HVAC retrofits	
City of Sacramento (CA)	Green Facilities Program (GFP), now Energy Reinvestment Program		2009	\$1.9 million for revolving loan fund	Portion of the \$2.6 million DOE Energy Efficiency and Conservation Block Grant (EECBG)	Energy efficiency projects (ex: water boiler replacement, hot water pump motor replacement, HVAC repairs, lighting retrofit)	
City of San Antonio (TX)	Energy Efficiency Fund		2011	\$4.6 million	American Recovery and Reinvestment Act (ARRA)	Energy efficiency retrofits (interior/exterior lighting retrofit, HVAC equipment and controls replacement/upgrade, solar window film, retro-commissioning/HVAC tune-up, pool pump upgrade)	\$1,000-250,000; average of \$20,000
City of San Jose (CA)	City Buildings Energy Projects Program (C-BEPP) Energy Fund program		2005	\$200,000	PG&E rebate from street light upgrade	Lighting, smart street lights, HVAC, control systems	\$5k-20k

Jurisdiction	Name of Effort	Contact	Start Date	Initial Funding Amount	Source of Seed Funding	Types of Projects	Size of Projects
San Luis Obispo County (CA)	Revolving Energy and Innovation Fund (REIF)	Annie Secrest			Portion of realized funds from installing solar	Energy-saving projects and programs	
San Mateo County (CA)	GOCAP (Government Operations CAP)	Susan Wright	Start early 2021				
City of Santa Barbara (CA)	Energy Efficiency Fund	Alelia Parenteau	2017		General Fund budget allocation	Mechanical/plumbing/electrical systems and controls; building envelop systems; energy management and control systems; renewable energy systems; design and planning of the EE project; labor necessary for construction/installation of EE project; energy audits; submeters and installation costs; training of operations and maintenance staff; commissioning, inspections, or certifications; construction/renovation costs directly related to or required by EE or renewable energy improvement; water conservation and wastewater reduction improvements; other improvements resulting in proven and predictable energy savings	• No minimum or maximum limit • If other funding is available, City prefers to reserve EE Fund for energy cost-saving projects that otherwise wouldn't move forward. Large projects in particular may be funded best through other financing as it would take time for EE Fund to grow sufficiently large to pay for a big project

Jurisdiction	Name of Effort	Contact	Start Date	Initial Funding Amount	Source of Seed Funding	Types of Projects	Size of Projects
Santa Clara County (CA)		Susana Mercado		\$5 million per year allocated, but not appropriated	General Fund; part of 10 year Capital Improvement Plan; funds directly tied to Board policies		
City of Santa Cruz (CA)	Carbon Reduction Fund		2017	No seed money	All fund money came from energy efficiency and solar rebates from eligible projects that various city departments undertook. Performance-based rebate checks that used to go to the General Fund were instead directed to Carbon Fund	• Purchase high efficiency equipment, construct and/or install new energy efficient infrastructure, and implement actions described in the CAP • Reduce project costs to meet State or utility requirements for low-interest financing Augment maintenance or replacement costs of new technology	
Sonoma County (CA)	Climate Resiliency Fund	Jane Elias	Delayed until FY 22/23	\$10 million	PG&E settlement money Sonoma got from 2017 wildfires	Direct spending or to leverage grants, incentives, and other sources for climate work	
					General fund dollars, utility savings and rebates from Comprehensive Energy Project from 2008-2010. During this time also received CEC grants that leveraged dollars set aside.		
Union County (NC)	Revolving Energy Fund		2009		ARRA, DOE, EECBG funding	Solar thermal on jail, lighting retrofits, HVAC upgrades	

Jurisdiction	Name of Effort	Contact	Start Date	Initial Funding Amount	Source of Seed Funding	Types of Projects	Size of Projects
University of Vermont (VT)	Energy Revolving Fund		2012	\$13 million	University's cash reserve fund which is normally invested for short periods in low risk financial instruments	Efficiency projects on campus	
US General Services Administration	Facility Efficiency Investments		2010				
State of Utah	State Facility Energy Efficiency Fund (SFEFF)		2008			Energy efficiency improvement projects	
City of Visalia (CA)	Revolving Conservation Fund		2009	\$200,000	EECBG Grant (Savings from ARRA-funded projects put back into fund)	Any conservation project resulting in utility cost savings (electricity, gas, water) or feasibility analysis/grant proposal	\$1k-25k
City of Watsonville (CA)	Carbon Fund Program		2015		Carbon Impact Fee to all new development as a percentage of the building permit fee.	Any greenhouse gas reducing projects in the City	

Jurisdiction	Project Requirements (Financial/Environmental)	Loan Terms	Source of Repayment	How Savings Calculated (Actual meter vs estimation)	Repayment Period	Estimated # FTE Required
Alameda County (CA)	10% IRR	Ad hoc, some had no repayment, some had modest interest	Incentives from projects with short lifecycles and less than 5 year paybacks without incentives and from incentive refunds from local utility companies and 100% of savings from energy projects	Estimated	Varies from less than 5 year payback to projects with a lifecycle of over 20 years	0.25 FTE - tacking funding out and in
City of Ann Arbor (MI)	• Prioritization based on energy saving potential, improvement of the facility environment, and educational/demonstrational value of project		• Annual payments are made from 80% of the resultant energy savings, allowing facility budgets to be reduced or to apply the remaining 20% of savings to further improve the facility or services. Repayment starts the 1st year after the energy saving measures are installed. • Money is transferred from the budgets of the facilities that receive the energy improvements to the Energy Fund at the end of the fiscal year and be available to finance further energy improvements in future fiscal years.	Estimated energy savings	• 3-5 year payback • Used to do a payback of 80% of savings for 5 years, even if project has 3 year payback; this is proving to be too expensive for projects with long payback periods. Now considering extending repayment period to 10 years with little to no interest.	• 1 FTE paid 1/3 out of street lights, 1/3 water, 1/3 maintenance • Internal office estimates energy and cost savings, measuring savings somewhat afterwards
Arizona State University (AZ)	• Tier 1 projects: no specific financial criteria; has to be consistent with fund goals • Tier 2 and 3: 6% IRR with a preference for projects 8% IRR or higher	• Tier 1: No payback required. \$5,000 maximum grant. • Tier 2: Loans match funding from the department receiving the loan. Maximum of \$500,000 per year. Savings are split 50/50 between SIF and loan recipient. • Tier 3: All savings directed to the fund as repayment for the loan	Savings		• Tier 1: No repayment required • Tier 2: 6 years or less • Tier 3: 10 years or less	

Jurisdiction	Project Requirements (Financial/Environmental)	Loan Terms	Source of Repayment	How Savings Calculated (Actual meter vs estimation)	Repayment Period	Estimated # FTE Required
City of Boston (MA)	- Guaranteed energy and cost savings - City-owned buildings - Statute requires investment grade audit, contractually promised savings, M&V, requirement for Honeywell to cut the City a check if savings don't appear		- Self-funded financing model guaranteed by Honeywell contractor - Savings within City's operating budget from more energy efficient buildings pay for the financing of the work		16 years - Can cross-subsidize longer payback projects with shorter ones and blend them for a full-blown performance contract	1 FTE to oversee the work, energy manager, program manager, technical director to run the program 1 project manager in Public Facilities is full-time overseeing the ESCOs
City of Cupertino (CA)				Calculation or Measured savings		
Douglas County (KS)			Cost savings that result from these projects are re-invested into the Fund which provides a predictable and ongoing reserve of money for sustainability and energy improvement projects, eliminating the up-front budget impact to departments			

Jurisdiction	Project Requirements (Financial/Environmental)	Loan Terms	Source of Repayment	How Savings Calculated (Actual meter vs estimation)	Repayment Period	Estimated # FTE Required
City of El Cerrito (CA)			Fund design: allocate 75% of projects savings in 1st fiscal year to EWEP, 50% in 2nd fiscal year, 25% in 3rd fiscal year, with the remaining portion of the savings in the first 3 years and 100% of the savings in subsequent years accruing back to the individual source departments or General Fund after that (depending on where the energy bill is being paid from)	Estimated energy savings (based on actual hours of operation by facilities and energy saved based on new equipment or systems changes)	5 years (eligible projects for a given year will have combined weighted average simple payback of 5 years)	
Kane County (IL)	Project must generate energy savings to be used to repay the loan.	No annual interest on loan; 3% loan fee was due at closing		Projected energy savings	3-7 years	
Inyo County (CA)	Only County-owned buildings, not leased buildings			Actual energy savings (measured in kWh and therms) from the baseline year and dollars saved	10 years	Management and oversight of EERLF absorbed by existing Public Works staff

Jurisdiction	Project Requirements (Financial/Environmental)	Loan Terms	Source of Repayment	How Savings Calculated (Actual meter vs estimation)	Repayment Period	Estimated # FTE Required
City of Long Beach (CA)						
City of Montpelier (VT)	• Must be on City-owned/leased/operated property and reduce overall operating costs • Funding should primarily cover equipment, materials, and other "hard" costs that have a high impact		• Until the project's cost is recovered, all savings will accrue to the Fund • After the initial "payback" has been achieved, 50% of the savings will accrue to the Fund for an additional 2 years • After this period, all further avoided cost savings will accrue to the city	• Depends on the project • Actual savings if metered or easy to track • Estimates provided by engineers or Efficiency Vermont	4 years	

Jurisdiction	Project Requirements (Financial/Environmental)	Loan Terms	Source of Repayment	How Savings Calculated (Actual meter vs estimation)	Repayment Period	Estimated # FTE Required
City of Moreno Valley (CA)	• Energy efficient projects only • Project must qualify for rebates		50% of energy savings from energy efficiency projects for 2 years following completed installation of each project	• Calculated (difference between baseline year kWh and the after installation year kWh) • Using meter savings	10 years or less	No FTE dedicated to fund, but recommend minimum of 2 employees
City of Nashville (TN)						
Portland State University (OR)			• Savings from University utility budget • Energy incentive rebates from the Energy Trust of Oregon • Voluntary travel offset program funds		10-15 years	

Jurisdiction	Project Requirements (Financial/Environmental)	Loan Terms	Source of Repayment	How Savings Calculated (Actual meter vs estimation)	Repayment Period	Estimated # FTE Required
Riverside County (CA)						
City of Sacramento (CA)	City-owned facilities	3% interest rate (to cover administrative costs)	Estimated energy savings from the projects	Estimated energy savings (based on actual hours of operation by facilities and energy saved based on new equipment or systems changes)	12 years	
City of San Antonio (TX)			• Rebate revenue: Revenue is projected for each fiscal year, then appropriated directly to the energy fund budget. Rebate dollars are deposited directly into the fund • Energy Savings: Utility budgets for each department are set at the pre-energy retrofit level to capture avoided energy costs. Each month, 1/12th is transferred from the affected departments' utility funds to the Energy Efficiency Fund		Average of 4 years	
City of San Jose (CA)	• Payback only • City-owned facilities	• 0% interest and no fees • Project costs only; no staff costs	100% of savings (return 1st & 2nd year energy cost savings and associated rebates/incentives from Energy projects to Energy Fund; after 2 years the savings revert to the General Fund)	Calculated		• 0.25 FTE maximum to administer fund • Energy Officer in Environmental Services Department to facilitate implementation of Energy Projects, reduce operation and maintenance costs, and reduce environmental impacts

Jurisdiction	Project Requirements (Financial/Environmental)	Loan Terms	Source of Repayment	How Savings Calculated (Actual meter vs estimation)	Repayment Period	Estimated # FTE Required
San Luis Obispo County (CA)			• Rebates, incentives, energy savings, rate savings (modeled after City of Visalia) • 2 years of 100% of savings going back to REIF	Estimated through energy audits	Maximum payback of 5 years for lighting projects and 10 years for mechanical projects (based on wanting payback period to be less than equipment's expected useful life (EUL) to generate additional cash flow opportunities into the REIF)	0.25 FTE at least
San Mateo County (CA)						
City of Santa Barbara (CA)	Facility must be reasonably expected to remain in operation and under City ownership for full length of payback period		Rebates, incentives, energy savings, rate savings, annual departmental service charges	Actual energy savings	10 years or less	Currently administered with existing staff.

Jurisdiction	Project Requirements (Financial/Environmental)	Loan Terms	Source of Repayment	How Savings Calculated (Actual meter vs estimation)	Repayment Period	Estimated # FTE Required
Santa Clara County (CA)						
City of Santa Cruz (CA)	Project must be consistent with CAP					
Sonoma County (CA)						
Union County (NC)						

Jurisdiction	Project Requirements (Financial/Environmental)	Loan Terms	Source of Repayment	How Savings Calculated (Actual meter vs estimation)	Repayment Period	Estimated # FTE Required
University of Vermont (VT)		Pay back 5% interest on outstanding loan amount each year in addition to principal repayments		Depends on project	7 years	
US General Services Administration		- Budget-neutral - Require no up-front expenditures where possible	Utility cost savings	Actual savings		
State of Utah			- Cost savings from reduced energy use and demand - Utility incentives	Actual		
City of Visalia (CA)	Only financial considered	0% interest and no fees - Looking to add fee for admin time	100% of savings until payback - Any rebate incentives received from utilities for energy efficiency retrofits and half of the annual utility cost savings for the first 3 years put into the Conservation Fund	Calculated savings based on SCE methodology	Cannot exceed 10 years. Payback period must be less than or equal to the lifecycle of the project efficiency measures.	Less than 0.25 FTE; takes about 8 hours to set up and 2 hours to invoice - no more than 40 hours/year
City of Watsonville (CA)						

Jurisdiction	Dept in Charge of Program	Process	Further Considerations
Alameda County (CA)	- General Services Agency pays all utility bills - collects surcharge on all County utility bills that then fund the County's Energy Program (salaries, benefits, misc. expenses) - Fund controlled by Auditor Controller office	- BOS approval required for any fund - Disbursements - No formal policy or guidelines in place - Very ad hoc	- Fund started by getting buy-in from County Administrator. - Fund is no longer in use. - Program found that, in terms of accounting, a utility surcharge is easier than trying to track and share savings over life of a project. - It's easier to get projects done when there's no cost for project management services or reliance on budgeted Capital Fund dollars. - Uses CEC's low interest Energy Efficiency Finance program. - Utility surcharge on the utility bills for County departments used to cover the cost to staff the Energy program
City of Ann Arbor (MI)	- Fund administered by the City's Energy Office under supervision of a 3 person board - Energy Office often serves as project manager	3 person board approves funding, implements the project, and often serves as project manager - The Office provides the 3-person board with info from energy audits and applications from facility managers for projects requesting energy funds - Board reviews all applications and makes final decisions on what projects to fund each year	- Proceeded by \$1.4 million Energy Bond project. After bond was paid off in 1998, reduced the money to \$100,000 to establish the Municipal Energy Fund. - Once low hanging fruit is picked and payback period is longer than 5 years, look to minimum IRR. The future is going to be funding projects with 20 year payback. - Initial 80%/20% energy savings payment scheme is too high - Minimum growth should be inflation + interest \$100,000 annual budget was discontinued FY03/04 and now the Fund relies on payments from past projects to finance new projects - Fund financed solely by re-investing funds saved through energy efficiency measures into new energy savings projects. 2 critical components of establishing the fund: seed money and a manager assigned to support and coordinate the fund and its projects
Arizona State University (AZ)	- SIRF Committee: senior administrators from Facilities Development and Management; Financial Services; Office of Planning and Budget; University Sustainability Operations; W.P. Carrey School of Business Department, Economics Chair - Chief Financial Officer	- SIRF committee meets monthly if projects are being considered. Committee comprised of 7 people from the facilities group, budget group, financial services, economics department, university business services, and the sustainability group - SIRF committee uses strictly financial metrics to evaluate Tier 2 and 3 projects. Once project has met 6%+ IRR, other financial performance metrics including simple payback, ROI, net-present value, and annual planned repayments are considered - Before a project is discussed, a staff member vets the project and its financial analysis	- Recognizing that impactful sustainability projects vary in size, type, and payback, ASU developed a 3 tiered system with different requirements for each tier - Using strictly financial metrics to evaluate projects helps build the case that sustainability is a good investment - Any applicable rebates aren't incorporated into these calculations to be conservative

Jurisdiction	Dept in Charge of Program	Process	Further Considerations
City of Boston (MA)	• Environment Department • Public Facilities Department • Budget Office • 3 department heads: CFO (alternative finance), Operations (facilities dept), Outdoor.	• Investment grade assessment of buildings to identify energy, water savings opportunities • Evaluate which buildings to do a full assessment and audit on • Potential energy conservation measures will be identified for each building • City will select the next portfolio of measures to implement consistent with the available budget	• Guaranteed energy savings, not utility on-bill • Private contract with ESCO • Started Energy Unit once found billing errors in utility usage • Set up program first before trying to pass green bond. Need internal comfort first with the mechanism. • Green bond was 3 basis points different than the rest of the bonds in the portfolio. Signals interest from investors in more sustainable bonds
City of Cupertino (CA)		• Each budget cycle, city can make contributions to the Fund based on a staff proposal each budget cycle • Staff develops a calculation or a measured savings report for the amount of utility costs that were saved in a given time period and propose an equivalent amount to be booked as revenue in the Fund. • In theory, the city could contribute to the fund each year for a single project as long as staff can demonstrate the savings are recurring against some reasonable baseline. In practice, staff captures one year's worth of savings. • City Council decides during budget proposals each year if they want to make the transfer or not into the Fund. • If staff proposes a sustainability-related capital project, they can propose to utilize these funds to make it more attractive for City Council	• City has never tapped into this fund.
Douglas County (KS)	Sustainability Office		• Revolving loan program that investment created allows county department heads to fund energy and other sustainability projects without dipping into their own annual capital budgets • Many program projects stemmed from the recommendations from the 2008 energy audit • Cultural shift in the county since the program started as department heads have bought into energy-saving goals. Department heads now go to the sustainability coordinator with ideas. • Fund initiated because of the sustainability plan's energy use reduction goal of 30%

Jurisdiction	Dept in Charge of Program	Process	Further Considerations
City of El Cerrito (CA)	- Environmental Services Division (staff climate protection capacity) - Environmental Services designate one of their analysts as the "Fund Manager" who has primary responsibility for fund administration (administration, bill monitoring, reporting, budgeting)	- EWEP provides mechanism for identifying, evaluating, and planning projects, and for finding matching funds - Once projects are identified they still need to go through standard City approval process	- EWEP included as a line item in City's Capital Improvement Program and approved each year as part of annual budget process - Cost benefit analysis of projects calculated in terms of net present value (NPV) which provides City's financial managers with confidence that project investments are fiscally sound - On calculating the costs and savings from efficiency projects that are added to larger projects is to agree on and document the incremental costs of the efficiency projects. On the monitoring and verification side, determine what cost savings are attributable to the EWEP is important component of managing the fund. - Key stakeholders: budget office, finance director, controller's office, legal department, facility-operating departments.
Kane County (IL)			Program was shuttered in 2009 due to lack of interested applicants due to the economic recession. Case study indicates that a large amount of seed funding is less critical to successful implementation than program persistence and effective program management.
Inyo County (CA)	- Public Works staff (responsible for identifying potential projects, establishing baseline energy use to benchmark potential energy savings, project implementation, and tracking the energy and cost savings) - Auditor's staff assist with tracking fund usage and replenishment - Planning Department	- Public Works department will identify energy efficiency projects - County Administrator and Board of Supervisors will approve large projects - Smaller projects could be approved through regular budgeting process - Energy and cost savings will be documented by Public Works department - Public Works will designate a staff person as the "Fund Manager" who will engage relevant stakeholders (Board of Supervisors, County Administrative Office, Auditor's office, Public Works department; other relevant County departments should be consulted with to identify project opportunities and priority needs) to support EERLF's successful implementation. - Fund Manager will use matrix to analyze and compare project criteria (estimated cost savings, NPV, IRR, estimated project payback - only consider analyzing projects that can demonstrate payback thresholds). - County Auditor will periodically review savings reports	2012 Cost, Energy and Service Efficiencies, Action Plan (CESEAP) analyzed the energy efficiency of County facilities and identified potential projects for decreasing energy use resulting in cost savings - Cost savings identified through utility bill tracking and analysis will be reallocated to the EERLF. - Higher cost-benefit ratio is preferable for sustaining EERLF. Portfolio for low-cost, high-return projects will be necessary to establish repayment revenue early on since more costly projects will have longer payback periods and require more funding. - Projects with quickest payback will be prioritized. Intangible project benefits (community education, replicability, and facility improvements) will be considered. - Funding should be placed in a separate trust apart from other department budgets to ensure efficient accounting and protect the EERLF. - Key findings during fund research: interdepartmental buy-in is important (particularly in light of limited internal resources); dedicated fund so that fund didn't draw upon General Fund and so that funding for energy efficiency projects wouldn't be allocated to other programs; it's easy to leverage fund to obtain additional grant money

Jurisdiction	Dept in Charge of Program	Process	Further Considerations
City of Long Beach (CA)		• Departments along with the "i-team" (Bloomberg grant-funded innovation team) submit project proposals evaluated by an interdepartmental committee • Proposals will be ranked according to their potential for ongoing savings, estimated payback period, likelihood of success, and innovative approach • Recommended projects will be presented to full City Council for final review and approval • Departments with a selected project will be required to repay revolving loan through their year-end surplus if available. If department's operating surplus is greater than annual savings resulting from project, department will be permitted to pay back more of the loan from the surplus. If department's operating surplus isn't sufficient to pay back loan, loan repayment will be extended and/or other budget surpluses will be used to replenish the Fund. • As Fund is replenished, more projects can be funded. After department has repaid its loan, there will be continued savings that accrue	
City of Montpelier (VT)	• Revolving Loan Committee: 3 members of City staff (Management, Finance, and Engineering) and 3 volunteers from Montpelier Energy Advisory Committee (MEAC)	• MEAC went to City Council to request funding for energy audits of the 6 main municipal buildings and then put out an RFP for Level 2 audits of these buildings. After audits were complete, MEAC met with each building operator to review audit recommendations and identify projects with short payback periods. • Committee meets quarterly to review proposals • At the end of each fiscal year, the committee will verify each project's savings for tracking in GRITS and the find balance will be adjusted accordingly	• Montpelier Energy Advisory Committee (MEAC) focuses on helping Montpelier identify energy-related projects that help the municipality reduce fossil fuel and electricity use while also saving money. After successful completion of several major initiatives, MEAC wanted to find out how to reinvest savings from municipal projects into additional energy-related initiatives. • Partnered with Sustainable Endowments Institute for sustainability fund best practices • Fund can also be used to pay marginal costs of energy improvements within larger capital projects • Loan creates flexibility and allows the City to develop and implement projects quickly; reduces the need to incur debt and maintains positive cash flow for each energy efficiency project; works through and reduces deferred maintenance projects, lowering overall operating costs; leverages capital improvement project funds to significantly improve the efficiency of equipment • All projects tracked through GRITS (provided by Sustainable Endowments Institute) • Project Selection Criteria: simple payback period; total project funding needed and fund availability; life cycle cost benefit to the city; annual GHG emissions reduction; annual energy usage reduction; project schedule and start date; project cost; resources conserved (water, waste) • Projects with a faster payback period will be prioritized. Projects can be bundled together to help reduce the overall payback period.

Jurisdiction	Dept in Charge of Program	Process	Further Considerations
City of Moreno Valley (CA)	- Planning has primary control over fund. - Planning Division's Community Economic Development Department: coordinate with affected departments on energy/solar audits, projects, rebate applications and implementation; facilitate and track fund transfers and deposits to the Fund - Finance and Management Services Department: deposit rebates and incentives; track and report on rebate/incentive deposits and fund transfers to the Fund - Facilities Maintenance, Administrative Services Department: coordinate with Planning Division staff regarding energy/solar audits, rebate applications, and energy project implementation for their projects - City Electric Utility, Public Works: City Utility provides access to monitoring info for electricity use for City-owned facilities - Capital Projects Division, Public Works: coordinate with Planning Division staff	- In-house committee of department heads (Energy Efficiency Fund Review Committee (6 members)) to review and approve use of the fund. Committee meets biannually if there are funds to be allocated. - Projects are brought to the Committee rather than the Committee selecting them.	- City manager, finance director, and division managers supported EE fund policy. Had initial buy-in to pursue creation of fund. - Centralized billing; only Facilities reviews the bills. - Projects with highest payback are given priority. - Future funding for energy efficiency efforts from 100% of energy efficiency rebates and incentives received from utilities and 50% of the actual energy savings recorded for first 2 operational years for completed energy efficiency projects)
City of Nashville (TN)	Department of General Services' sustainability	\$2 million seed money will pay for energy audits then take recommendations to prioritize them then conduct building retrofits in the most energy consuming facilities. - Utility savings balance will go into a new Business Unit to be reinvested in additional capital investments	- General Services' sustainability team will install a new energy management system to track and manage the projects and energy savings - software will be able to organize, track, visualize, benchmark, and effectively communicate trends of all commodities related to energy consumed by buildings managed by Department of General Services - Department of General Services has Center of Responsible Energy staffed with experienced team knowledgeable in energy management that monitors building automation systems in nearly half of its buildings, a seasoned energy manager, and in-depth expertise in reporting on energy utilization through the DOE's ENERGY STAR Portfolio Manager - Sustainability Advisory Board review actual sustainability initiatives advanced by the Mayor's Office and by the Metro Council
Portland State University (OR)	Campus Sustainability office manages the Fund in collaboration with Facilities & Property Management, Capital Projects & Construction, Engineering faculty, and the Planning, Construction, and Real Estate finance team	Project Selection Committee (made up of representatives from each of the departments involved with the fund) select projects based on the criteria each project meets	- Project selection based on return on investment - providing an tangible, measurable, fiscally responsible benefit to PSU measured by savings in utilities budget - Project payback is tiered based on project criteria: project must meet 10 year payback period if project only incorporates required criteria; project must meet 15 year payback period if project incorporates required criteria and at least 2 preferred criteria - Required project selection criteria: deferred maintenance projects that result in conservation of resources; sustainability benefit that demonstrates the greatest reduction in environmental and economic impact and promotes equity - Preferred project selection criteria: racial equity, impact, encourages education, information and innovation, promotes PSU's institutional vision, economic of scale measurement and verification

Jurisdiction	Dept in Charge of Program	Process	Further Considerations
Riverside County (CA)	Economic Development Agency responsible for identifying and selecting projects to be performed with the Fund	Deposited rebates and incentives into Efficiency Project Fund funds additional energy or water efficiency projects	- All rebate and incentive checks deposited into Energy Conservation Fund - Not a loan program - Referenced in Board of Supervisors Policy H-4 - Use EnergyCAP for utility bill management. EnergyCAP ranks buildings by performance (cost/SF, use/SF) which feeds energy efficiency project decisions
City of Sacramento (CA)	- Previously, Department of General Services (DGS): provide energy audit, design, implementation, and measurement/verification for the projects. - Currently, Department of Public Works manages Program	City Manager establishes revenue and expenditure budgets in the Energy Reinvestment Program in ongoing capital improvement project	- As a result of Resolution 2009-736 which established the Green Facilities Program, now in 2011 established the next iteration of funding for City facilities called the Energy Reinvestment Program CIP - Former Department of General Services (DGS) conducted initial energy audit and modeling for all agency facilities which helped identify and illustrate the savings that can be realized by changing to more efficient systems - DGS presented energy efficiency project options to various city departments and 5 entered agreements to upgrade systems. - Payback designed to be cost neutral for each department and to reduce the department's budget after the loan is repaid in full
City of San Antonio (TX)	- Sustainability Office develops, implements, and monitors a project - Office of Management and Budget	- Sustainability Office uses EPA's ENERGY STAR Portfolio Manager to establish baselines, identify and prioritize projects and measure and track avoided costs. - For higher capital-cost projects, the Sustainability Office references the CIP and works directly with the Building Equipment and Services Department to identify its priorities. - As the Sustainability Office develops a project, it bundles services across multiple facilities based on type of retrofit. Office doesn't combine lighting and mechanical retrofits to lower project payback, but it does bundle multiple lighting projects across buildings to achieve economies of scale in bulk pricing and in level of effort for project administration.	- Revolving fund created because the city needed a flexible funding mechanism for low-cost, high-impact projects. City also uses fund to significantly upgrade the efficiency of its high capital-cost mechanical systems by leveraging the fund to pay the marginal costs to improve efficiency of equipment due for replacement under its Capital Improvement Plan (CIP). - City also uses Fund to pay the marginal costs of efficiency improvements within larger capital projects. - Sustainability Office presented the business case for the Fund to the city manager, chief financial officer, budget director, and the Finance and Building and Equipment Services departments. - Fund pays both for the actual projects and the personnel costs of administering the program and staff professional development - Portion of the avoided energy costs goes to the General Fund each year, the remainder stays in the Energy Efficiency Fund - Using revolving fund, able to work through and reduce deferred
City of San Jose (CA)	- Public Works administered, but fund is a General Fund account - Coordination between Departments of Environmental Services, General Services, City Manager's Budget Office, and Attorney's Office	- Public Works completes approval form which details the project, cost, savings, and payback - Affected department signs approval - Budget office update to transfer funds - General Services' Senior Engineering Technician coordinates with Energy Officer on energy/solar audits, rebate applications, and Energy Project Implementation	- Fund closed in 2009 with money reapportioned during fiscal crisis - Set up to fail: - Only 2 years of savings were repaid which is less than went out (new so politically conservative in structure) - Fund paid for a full time energy manager - Repayment only included project costs, not staff costs. - Annual funding programmed as part of 2006-2010 Proposed Capital Improvement Program. Not established as a revolving loan fund. Savings go back into General Fund. - Set up Energy Fund Transfers and Deposit Standard Operating Procedures to standardize process. - Extend revolving fund from 1 year to 2 years. Planed to use EECBG funds to install more smart street lights and apply the dollar savings from those lights to expand pilot program across the city.

Jurisdiction	Dept in Charge of Program	Process	Further Considerations
San Luis Obispo County (CA)	Public Works Finance division and County's Energy and Water Coordinator	• Department identify and submit projects they want done. • Finalize energy savings and payback period with Finance. • Withdraw upfront project cost from REIF. • Transfer incentives, rebates, and energy savings annually for payback period. • Transfer energy savings for duration of pay-it-forward period. • Capital Investment Steering Committee (administrative analyst, assistant CAO) and Energy Executive Steering Committee (assistant CAO, department heads) have to approve big projects before projects go to the Board for funding. • REIF Steering Committee (representatives of various departments and the accounting department) throughout the year. Members would help identify and select energy saving opportunities and finalize repayment plan for each project. • Quarterly look at how much is being spent on utilities per site and earmark savings.	• Departments aren't in charge of paying their own utility bills, so there's no incentive to change behavior. Public Works pays for everyone's utilities. • Fund is its own budget line item separate from General Fund. • Sustainability liaisons within each County department. • Fund doesn't incorporate operation and maintenance savings in annual estimated savings due to difficulties in estimating O&M savings and accounting for them.
San Mateo County (CA)	Key Departments (GOCAP implementation team)	• Departments will identify priority actions over next 2 years and budget GOCAP-related costs for FY21-22 and FY22-23 • Funding requests to cover the cost of priority actions identified by the implementation team may be presented to Board for consideration in upcoming budget cycle	• Adequate and consistent long-term program funding to realize many of the actions still needs to be identified • Considering revolving loan fund to capture money from energy bill, fuel and/or maintenance savings to fund future projects.
City of Santa Barbara (CA)	Public Works Energy Team	• Energy Team will identify potential projects with the assistance of energy champions in each General Fund Department. Energy Team will model proposed projects to estimate project costs, energy savings, payback periods, rebates and incentives, and the useful life of the improvements. Projects prioritized primarily by internal rate of return. Energy Team responsible for all appropriate project phases. Energy Team in charge of paying energy bills. • Energy Team and General Fund Departments collaborate to prepare annual energy budget proposals for each department. General Fund Departments will transfer their energy budgets as an allocated cost charge to the Energy Team, which the Energy Team will use to pay energy bills. • Energy Team will administer EE Fund under direction of Oversight Committee (representatives from Energy Team, Finance Dept, Public Works).	• Started with 3 year payback period to grow Fund as fast as possible. Not that many 3 year projects left, so had to start choosing projects with longer payback periods. Mostly prioritize projects based on payback period. • All energy-related rebates, incentives, grants, and similar project-related inflows (except those applied by an Enterprise Dept) will be treated as capital contributions to the EE Fund. • Energy Team's direct time and material costs for managing a project will be included in project cost and paid for by EE Fund. Reimbursement depends on project's complexity, but not exceed 10% of project's installed costs. • Once benefit period ends, cost savings for remaining life of improvements will accrue 100% to the benefit of the General Fund. Over time, host departments will realize reduced utility, operating, and maintenance costs. Departments may experience no net impacts to their energy budgets, savings to General Fund will be significant and can be eventually passed back to General Fund departments in the form of bigger budgets. • 3 years benefit period after variable payback period (vary depending on project; will have to be extended once all low-hanging fruit projects completed). • Energy Team submits annual report to Oversight Committee, City Manager, City Council, and Finance Department.

Jurisdiction	Dept in Charge of Program	Process	Further Considerations
Santa Clara County (CA)	- Facilities and Fleet Department - Office of Sustainability	- Office of Sustainability works with group of directors (Stewardship Team) that make up smaller working groups. - Have to go to Administrative Capital Committee every time you want to touch the fund.	\$5 million allocation came into existence in FY18/19 when multiple sustainability items came to the board. Lumped into one amount to leave room for more flexibility. - Measure of success is if the project was completed or not. Do performance tracking, but haven't put together measurements and verification plan for projects.
City of Santa Cruz (CA)	City Manager's Office Sustainability Team	- Sustainability Team Members who intend to sponsor a project will draft a narrative description of proposed project and prioritize projects based on preset criteria - Staff will confirm project eligibility when using revenues deposited into Fund which are identified for special purposes (energy rebates, enterprise funds, etc.) - Projects are recommended by Sustainability Team and approved by City Manager during annual budget process - Climate Action Staff drafts annual report to City Council on projects implemented through Fund	- Fund established to receive funds paid to City from State and Federal environmental incentives and rebates, energy efficiency rebates, and an annual fleet fuel surcharge - Program designed so City spends 2/3 of the accrual in a given year, allowing the remaining 1/2 to roll into the next budget cycle - Sustainability team comprised of employees from all departments
Sonoma County (CA)			- Board created a Climate Ad Hoc in 2020 and they're looking at a short list of projects to move forward FY21/22 while discussing the creation of Climate Resiliency Fund - Hosting Climate Town Hall and Board Climate Workshop to get a better idea of what, when, and how they want to fund
Union County (NC)	Working Group (included County Manager's representative, General Services, Finance Department, Consultant)	- Put seed money into revolving energy fund - Do energy efficiency assessment of building portfolio to identify high return energy efficiency projects, costs, and ROI - Monitor energy savings results - Identify energy savings - Percentage of savings used for other projects and a percentage of savings reinvested into revolving energy fund	

Jurisdiction	Dept in Charge of Program	Process	Further Considerations
University of Vermont (VT)	- Vice President for Finance and Administration and the Director for Sustainability - Advised by Energy Initiatives Committee	- When a project is approved, disbursements are made from the cash reserve fund to the campus operating budget responsible for implementation - When savings are produced from these projects, usually within the general fund utilities budget, they're then split. Interest (5% of outstanding principal) is sent to operating budget account where investment returns from the cash reserve fund normally go. The remainder is transferred as a principal payment to revolving fund account, replenishing the cash reserve with capital used for future projects. - Once loan is repaid in full, the general fund utilities budget is adjusted accordingly and afterwards savings accrue to the university instead of revolving fund account.	- Fund was approved by Board of Trustees and consults with statewide efficiency groups on project identification and planning - Any increases in utility rates aren't factored into the calculations of project savings to be conservative regarding savings - Example of an accounting model Green Revolving Fund
US General Services Administration		- Research and compare energy efficiency of GSA high-performance buildings to GSA legacy stock buildings - Investigate improvements to accounts and project tracking systems to better understand the actual cost savings associated with specific types of buildings and incorporating proven tactics and technologies into existing buildings to improve performance	- GSA uses performance contracts to reduce energy and water use via building upgrades that are cost-effective over their service life, but are beyond currently limited capital budgets - Contracts leverage private-sector financing for immediate upgrades and repay investment over time using funds which are freed up by the reductions in utility cost achieved by the project - GSA pays for performance contracts from existing utilities budget and structures new contracts to be budget-neutral and require no upfront expenditures - Utilizes Energy Savings Performance Contracts (ESPCs), ENABLE ESPCs, and Utility Energy Savings Contracts (UESCs)
State of Utah	Utah Division of Facilities Construction and Management	Project applications and funding requests are submitted by the State Building Energy Efficiency Program (SBEEP) Manager and Utah State Building Board	- Borrowed funds are paid back into SFEF so it can be lent out again - Energy Program Manager oversees funding and project specifics
City of Visalia (CA)	Natural Resources Conservation part of Administration Dept	- Department submits request "Contract" is developed detailing project (estimated energy savings, payback period) and signed by department head and city manager - Finance pays for everything and departments get a copy of their bill to look at their energy usage.	- City Council bought in easily because it was simple to understand and was framed as a business case rather than as resource conservation effort. Other departments bought in because they could use funds without having to spend staff time. - Preference given to projects that leverage grant funding and/or utility incentives. - Current lack of acceptable projects since low hanging fruit is done - Increased payback period to 10 years because all of low-hanging fruit gone - City council has discretion over fund and risk may mean budget shortfall
City of Watsonville (CA)			- Project applicant can be refunded a portion/all of their Carbon Impact Fee if they reduce their development's average annual electricity demand by 40-80% or more through on-site renewable energy and/or energy efficiency. - Applicants use a simple form to complete the calculations as part of the permit process. - Carbon fees collected are automatically routed to Carbon Fund - No criteria for prioritizing or selecting projects because criteria already laid out in CAP - Fund does not pay for staff time, only for projects