

GCoM Metro-Scale Climate Leaders Technical Assistance Project

Climate Funding Options in the United States

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Climate Funding Options in the United States

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1 Introduction

The Global Covenant of Mayors for Climate and Energy (GCoM) is an international alliance of cities and local governments with a shared long-term vision of promoting and supporting voluntary action to combat climate change and move to an inclusive, just, low emission, and resilient society. The initiative is jointly funded by the European Union and Bloomberg Philanthropies and supported through a global network of partners, including C40, ICLEI, UCLG, Eurocities, Energy Cities and Climate Alliance. There are currently over 160 GCoM member cities in the U.S., all of whom have made a commitment to reduce greenhouse gas (GHG) emissions and prepare for the impacts of climate change.

GCoM has been working in the U.S. with partners such as the Urban Sustainability Directors Network (USDN), ICLEI USA, C40 and others to build a program that will help support U.S. cities in their efforts to reduce GHG emissions and become more resilient to climate change. One key objective of the initiative is to provide resources on financing climate action. Cities and regions across the United States regularly face challenges to secure resources or funding for climate action whether that be for planning, project feasibility, or project implementation. Buro Happold has worked with the European Union’s International Urban Cooperation (IUC) program and GCoM to develop an online tool for providing useful information to cities and regions as it relates to key sources for climate funding. The GCoM Climate Funding Tool will help cities and regions better understand the major sources for climate funding, their applicability to different sectors and stages of project development, and peer governments that have successfully secured different funding types. The focus for this tool was on nationally available funding mechanisms that are readily available to local jurisdictions across the United States. The hope is that these resources will provide cities with needed guidance on what funding sources are available for their climate action work, across different stages of a project’s development. Some funding sources are larger and more geared towards implementation and outcomes, while others are smaller and more supportive to planning and project definition stages. A typical city climate project planning and development cycle is illustrated below.

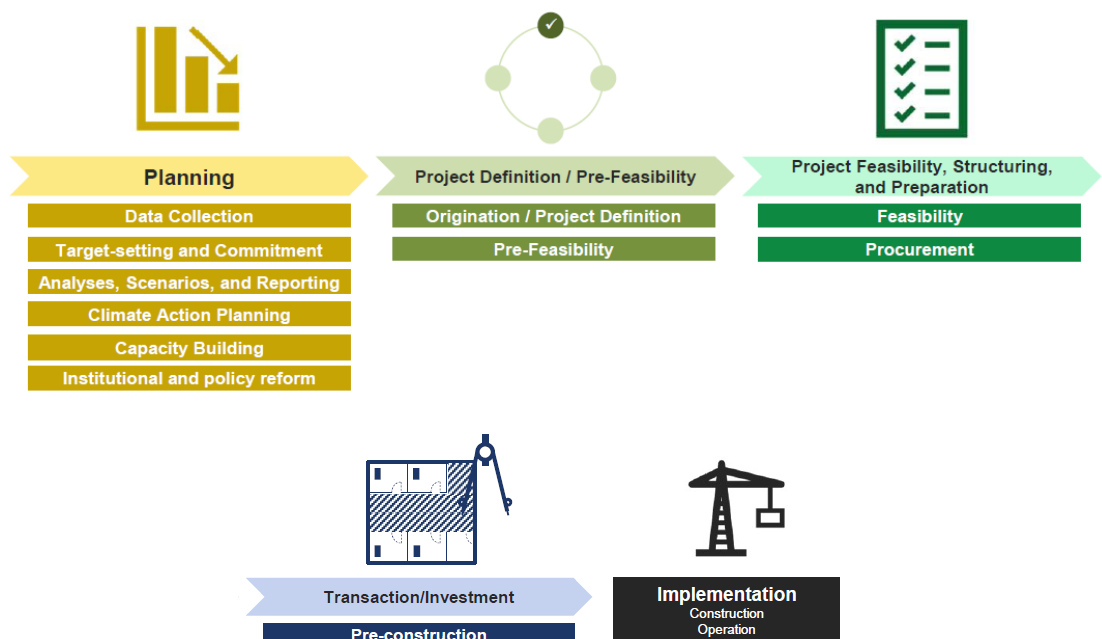


Figure 1: GCoM City Climate Project Planning and Development Cycle

This Climate Funding Options Report summarizes the content from the online tool and provides general recommendations for cities and regions to position themselves for this funding. This Report outlines fifteen primary funding sources for climate-related work in the U.S. including a description of the funding source, deadlines or timeframes, relevant sectors, example programs, inspiring case studies, and useful links and resources.

2 Climate Action Funding Sources

This Report explores fifteen common funding sources for city and regional climate action initiatives. Funding sources explored in this report include:

Grants

- Philanthropic Grants
- Federal Grants
- State Grants

Loans

- Green Bank Loans
- State Loans
- Revolving Loan Funds

Bonds

- Green Bonds

Technical Assistance

- Technical Assistance

Others

- Partnerships
- Group Purchasing and Procurement
- On-bill Financing
- Property Assessed Clean Energy (PACE) Programs
- Community Funding
- Energy Performance Contracting
- Pension Plans

For each of the funding sources, the following information is presented:

Description: An overview of the type of funding source, how it works, what the focus and drivers are, and how they are often used.

Deadlines and Timeframes: Guidance on the typical deadlines or timelines for securing or utilizing funding from a particular source.

Relevant Sectors: A list of sectors that are typically addressed through, or a focus for, each funding source.

Example Programs: A linked list of sample funding or financing programs, or institutions, that are relevant for each category.

Inspiring Case Studies: A few case study examples where a certain funding source was secured and used to implement a project. Typically, a key case study is provided with a brief explanation in addition to several other case studies for reference.

Useful Links and Resources: A set of key resources that are useful for better understanding a funding source or how to successfully secure a funding source.

3 Grants

3.1 Philanthropic Grants

Description

For the past decade, philanthropy has played a significant role in funding climate action in the U.S. This comes in the form of significant capacity building and technical assistance investments, like Bloomberg Philanthropies [American Cities Climate Challenge](#) or The Rockefeller Foundation's [100 Resilient Cities](#) program. It also comes in smaller investments, like direct local community foundation awards, or small grants from national foundations, their local chapters, or corporate foundations. Grants are often tied to increasing staff capacity (of certain government agencies or community-based organizations), urban greening, or active transportation projects among other sectors. Grant money is often tied with specific stipulations, including whether **co-funding** is required, if the grant can be used to provide matching funds to another grant, or what aspects of the project the money can be put toward such as planning or construction costs.

Co-Funding or Cost Share

An arrangement where multiple organizations contribute funding to a project. Co-funding can be a key component of grant funding opportunities. Cities should not shy away from programs that require co-funding but should think creatively about their options and match multiple funding opportunities to meet their needs.

Often, applicants are invited to apply rather than to participate in an open call. Nevertheless, receiving a philanthropic grant often requires participating in a competitive process. Increasingly, philanthropic grants seek applicants from the public sector who are partnered with community-based organizations (CBOs), or vice versa, to demonstrate community commitment to the proposed project. An increasing number of philanthropic grants are being directed towards non-profits and CBOs for projects, with government or quasi-government support as partners rather than the lead. Applicants are expected to be well-informed and intentional, researching the foundation's mission, vision, and priorities to find alignment when seeking (and applying) to grant programs. They are also expected to be able to clearly articulate the expected impact of their proposed work, increasingly including how it will advance racial equity. Grantees can expect to report on what changes if the proposed work is done, and to explain: (1) outputs, or what is produced from the work; (2) outcomes, or what is different because of the work; and (3) impacts, or the longer-term ramifications from this work being done. Grants often require reporting on implementation progress and long-term progress monitoring once work is complete. While more common with larger grants, some small grants may require extensive reporting and significant staff time to carry out and secure these grants.

Deadlines and Timeframes

Deadlines and project timeframes depend on the granting institution.

Relevant Sectors

Active Transportation, Urban Greening, Staff Capacity, Conservation and Land Use

Example Programs

[TD Space Grants](#), [America Walks Community Change Grants](#), [Rails to Trails Doppelt Family Trail Development Grant](#), [Partners for Places Grant](#), [People for Bikes Community Grants](#)

Inspiring Case Studies

Lafayette Consolidated Government	
<i>Rails to Trails Doppelt Grant</i>	
<p>The Doppelt Trail Fund grant program, administered through the Rails to Trails Conservancy, is designed to support trail development work across the United States. This competitive grant program awards various amounts of money annually to impactful projects. In 2020, the Lafayette Consolidated Government won a small, \$5,000 grant to fund the design renderings and stakeholder outreach plan for a future trail alongside North Saint Antonine Street. Once the application was awarded, the Lafayette City-Parish Council adopted a resolution to accept the award (a similar process was initiated in advance of sending in the grant application).</p>	
Additional Case Studies	
Albany, NY	<i>AmericaWalks Community Change Grant</i>
City of Union Point, GA	<i>Rails to Trails Doppelt Grant</i>
City and County of San Francisco	<i>Kresge Foundation Grant</i>

Useful Links and Resources

Community Toolbox - [*Overview of the Grant-Writing Process*](#)

The Grantsmanship Center - [*Grant Resources by State*](#)

Council on Foundations - [*Community Foundation Locator*](#)

Candid - [*Find Funding*](#)

The Grantsmanship Center - [*Find the Right Funding*](#)

3.2 Federal Grants

Description

Federal grants are financial awards provided by the federal government to fund projects, ideas, and services that bring public benefit. Federal grants related to climate change may focus on energy, climate resiliency, green infrastructure, transportation, and land conservation, among other categories. In the U.S., billions of dollars are awarded each year through federal agencies like the Department of Energy and the Environmental Protection Agency. Outside of agency budget allocations, additional grant funds can come from congressional or Presidential allocations of tax-payer dollars for a myriad of project types and sectors.

Eligible applicants depend on parameters stated within the call for applications, similar to the process for state grants. Many federal grants go directly to state governments which can then be re-granted to local governments. Federal grants are competitive and have some of the most onerous reporting requirements, regardless of grant size. As such, federal grants are often directed at large-scale infrastructure projects such as transportation or energy, some of which may not entirely relate to climate action but often are tangential (for example, highway programs combining with active transportation projects). Grants that come directly from federal agencies to local municipalities often have project size minimums, which can be in the range of millions of dollars. These grants types are extremely competitive, and some applicants reapply multiple times before winning. Grantees have strict stipulations about how money can be spent and require frequent project performance reporting and review processes. Federal grants may also require cost sharing, as applicants can be required to provide 20% or more of the award amount in matching funds and/or in-kind resources. Federal grants also stipulate whether funding can be used to meet the cost sharing requirements of other grant programs.

The following federal agencies regularly release grant opportunities: Corporation for National and Community Service, USDA, DOC, ED, DOE, HHS, HUD, DOL, DOS, DOT, EPA, NARA, NSF, SBA, among many others. Other interdependent agencies or offices make public grants available, though they are usually smaller in size.

Deadlines and Timeframes

Deadlines and project timeframes depend on the granting institution.

Relevant Sectors

Transportation, Energy, Adaptation / Resilience, Conservation and Land Use

Example Programs

[NPS Community Assistance in Outdoor Recreation and Conservation, DOI Land and Water Conservation Fund, DOT Build Grant, EPA Gulf Coast Ecosystem Restoration Council Comprehensive Plan Component](#)

Inspiring Case Studies

Town of Pembroke
<u>2020 US DOT Build grant for multi-modal transportation and pedestrian infrastructure</u>
In 2020, the Town of Pembroke, North Carolina won a \$5.2 million grant from the United States Department of Transportation (USDOT) as part of the <i>Better Utilizing Investments to Leverage Development (BUILD)</i> grant program. The grant was directed for improved pedestrian infrastructure and multi-modal infrastructure projects in downtown Pembroke. This funding will be combined with State funding (sourced from the North Carolina Department of

Transportation). The grant process was originally initiated in 2015 by North Carolina Speaker of the House Tim Moore, which enabled an initial feasibility study for the project area, a key component of the BUILD application. The project includes more than two miles of pedestrian and cyclist infrastructure connecting the downtown area with the University of North Carolina at Pembroke and the Lumbee Tribal headquarters. The project and application process involved senate level support from North Carolina Senators Richard Burr and Thom Tillis.

Additional Case Studies

Glass City Riverwalk	2020 US DOT Build grant for a shared-use path and the integration of green infrastructure
The Trust for Public Land U.S. Forest Services	U.S. Forest Services Land and Water Conservation Fund (LWCF) Program Acquisitions Impact Communities in Six Key Case Studies
U.S. Department of Transportation BUILD Grants	BUILD 2020 Awarded Projects

Useful Links and Resources

USA.Gov – [Government Grants and Loans Background](#)

U.S. General Services Administration - [Catalog of Federal Domestic Assistance](#)

Grants.gov – [Grant Policies](#)

Congressional Research Services - [Renewable Energy and Energy Efficiency Incentives: A Summary of Federal Programs](#)

3.3 State Grants

Description

A state grant is a financial award given by a state government, sometimes through a Metropolitan Planning Organization (MPO), to fund a local idea or project. Grants must be applied for and are awarded based on an applicant’s ability to meet program requirements. Eligible applicants depend on the grant itself, but may include non-profits, small businesses, public or private universities, or local governments. Grant applications can be time-intensive depending on the application’s complexity and requirements. However, if an applicant receives a grant it can be a prestigious event, as grants not only provide funds, but also bring credibility to recipients.

Unlike loans, there is usually no expectation of repayment from the grantee. However, since state grants are funded with tax dollars, there are often specific stipulations for how to spend funds and stringent reporting requirements. Grant recipients must report regularly on fund expenditure and outcomes and adhere to any other state requirements. Reporting requirements can be extensive, though they usually do not meet the levels required by federal grants. State grants may require cost sharing, usually in the form of a monetary match though staff time or other in-kind matches may be accepted. State grants vary in size and can be multi-million dollar endeavours, however they are usually smaller and focused on specific projects, or aspects of projects, such as planning or implementation.

Deadlines and Timeframes

Deadlines and project timeframes depend on the granting institution.

Relevant Sectors

Transportation, Urban Greening, Conservation, Energy, Energy Efficiency

Example Programs

[Illinois Green Infrastructure Grant Opportunities](#), [Washington Energy Efficiency and Solar Grants](#), [Florida Coastal Partnerships Initiative](#)

Inspiring Case Studies

Town of Machias, Maine	
<u>Downtown Waterfront Resilience and Renewal Case Study</u>	
The Town of Machias received a Coastal Resiliency Grant from the Maine Coastal Program for planning efforts related to feasibility of flood protection, economic analysis of flood protection, and a conceptual seawall plan. These Coastal Resiliency Grants are funded through the State, which is awarded money from a federal coastal zone management award from the National Oceanographic and Atmospheric Administration (NOAA). The grant activities pursued by Machias were the first steps towards achieving a suite of goals related to flood management and mitigation activities. Subsequently, the Town applied for and received a FEMA Pre-Disaster Mitigation Advance Assistance Planning Grant to continue this work.	
Additional Case Studies	
Resilient Maryland Program	<u>2020 Grant Recipients</u>
City of Sammamish	<u>Washington State Community Forestry Assistance Grant</u>
LIRR in Huntington, NY	<u>Charging Stations at Long Island Railroad in Huntington ChargeNY Case Study</u>

4 Loans

4.1 Green Bank Loans

Description

A green bank is usually a public or non-profit financial institution that is committed to accelerating private investments in clean energy and climate change solutions. Green banks aim to overcome the investment barriers to climate action by providing low cost financing opportunities for projects. Programs provided by green banks vary but are usually offered through traditional financing, credit enhancement (green bonds), debt forgiveness, or other innovative financing strategies such as lien-based financing. Green banks can work as market-facing entities for clients who seek financing at the market-scale and underwriting of loans. There are currently 14 green banks in the United States¹ with more in development. If a green bank is not currently available to your city or region, you can play a role in starting or advocating for a local green bank, see useful links and resources below for more information.

Eligible applications for funding and requirements for reporting vary by bank but in the U.S., green banks are predominantly focused on financing clean energy or building energy efficiency solutions. Green bank financing is available to individuals, building owners, businesses, local governments, and others who qualify based on the banks criteria. As these banks operate as financial institutions, profit is of concern. Thus, these banks evaluate risks and timelines for expected investment returns.

Deadlines and Timeframes

As these institutions function as banks, deadlines are not a concern. As it relates to payback timeframes or loan lengths, these must be negotiated with the institution and these are likely dependent on the proposed project and its estimated payback period.

Relevant Sectors

Energy Efficiency, Renewable Energy, Water, Clean Transportation

Example Green Banks

[California IBank](#), [Connecticut Green Bank](#), [Montgomery County Green Bank](#), [New York Green Bank](#), [Inclusive Prosperity Capital](#), [Rhode Island Infrastructure Banks](#), [Hawaii Green Energy Market Securitization](#), [Climate Access Fund](#), [Colorado Clean Energy Fund](#), [DC Green Bank](#), [Solar and Energy Loan Fund](#), [Maryland Clean Energy Center](#), [Michigan Saves](#), [New York City Energy Efficiency Corporation](#)

Inspiring Case Studies

Town of Coventry, CT
Connecticut Green Bank
The Connecticut Green Bank funds a Solar Municipal Assistance Program (Solar MAP) for municipalities to implement solar projects across the State. The program is a power purchasing agreement (PPA) where municipalities can install and use solar panels with no money down, purchasing electricity from the solar panel operator at an agreed upon rate. Town Manager John Elsesser stated in a program press release that the Town of

¹ As of 2018 according to the [Coalition for Green Capital](#).

<p>Coventry is “saving money, and since we’re not responsible for managing and addressing system performance through the PPA, we’re enjoying stress free energy production.” These savings are projected to total over \$800,000 from the PPA over a 20-year term. Starting the process of joining the Solar MAP first required contacting Connecticut Green Bank staff, who then perform a solar analysis and review energy demand needs to develop an effective proposal to show to potential solar contractors. Once a contractor was chosen, the agreement was executed and work began.</p>	
<p>Additional Case Studies</p>	
<p>The Kresge Foundation</p>	<p>Connecticut Green Bank Social Investment Practice Case Study</p>
<p>Yale Center for Business and Environment</p>	<p>Home Efficiency Financing with Sealed and NY Green Bank Case Study</p>

Useful Links and Resources

Rocky Mountain Institute – [Green Banks 101](#)

U.S. EPA - [Clean Energy Finance: Green Banking Strategies for Local Governments](#)

American Green Bank Consortium | Coalition for Green Capital - [Green Banks in the United States: 2018 Annual Industry Report](#)

National Resources Defense Council – [Green and Resilience Banks](#)

Coalition for Green Capital – [Core Elements of a Green Bank](#)

CDP and Coalition for Green Capital – [Webinar on Developing a Green Bank](#)

4.2 State Loans

Description

State loans for climate action can be sourced from state funds or downstream distribution from federal programs that are administered at the state level. These loans operate similarly to private loans, though they usually have longer payback periods and lower (or no) interest rates. State loans are traditionally offered to municipalities, public schools, or special districts.

Deadlines and Timeframes

Deadlines and project timeframes depend on the granting department and program rules, though these loans are often available on a rolling basis.

Relevant Sectors

Renewable Energy, Energy Efficiency

Example Programs

[Connecticut Microgrid Grant and Loan Program](#), [Minnesota Environmental Assistance Loans](#), [Ohio Energy Loan Fund](#), [California Energy Conservation Assistance Act – Low Interest Loans](#)

Inspiring Case Studies

North County Fire Protection District, San Diego County, CA
<u>Fire District Installs Solar at No Cost to Tax Payers</u>
A special district in San Diego County, CA, known as the North County Fire Protection District (NCFPD) was able to utilize the California Energy Commission’s Energy Conservation Assistance Act (ECAA) low interest loan program to install solar PV on four stations and maintenance facilities. The low interest loan program allowed the NCFPD to secure a loan based on the projects projected annual energy cost savings (approximately \$50,000 per year) plus 1% interest, meaning that they could pay off the project in 10 to 12 years. Due to the successful funding, the project was able to be implemented at no cost to local tax payers and was able to exceed initial energy savings estimates, generating over 200,000 kWh in the first year of operation.

4.3 Revolving Loan Funds

Description

A revolving loan fund (RLF) is a fund established by a city, state, or federal department to provide interest-bearing loans to applicants in support of a shared goal, usually towards a program that does not receive other traditional financing. There are some privately run RLFs that local governments can access, such as the Georgia Cities Foundation Revolving Loan Fund. A RLF is replenished either by an outside source or from the interest payments made on the loans. RLFs have similar application requirements to other government loan types and involve obtaining a project plan and preparing financial statements for the fund.

Deadlines and Timeframes

Deadlines are dependant on the program administrator. Loan terms and payback periods are also negotiated with the program administrator.

Relevant Sectors

Energy Efficiency, Renewable Energy, Green Buildings, Water

Example Programs

[EPA Clean Water State Revolving Fund](#), [Georgia Cities Foundation Revolving Loan Fund](#), [Montpelier, Vermont Net Zero Revolving Loan Fund](#), [Florida Clean Water State Revolving Fund](#), [Tennessee State Revolving Fund Loan Program](#), [Minnesota Clean-up Revolving Loan Program](#)

Inspiring Case Studies

Delhi Charter Township	
<u>Delhi Charter Wastewater Treatment Plant</u>	
<p>In 2007, the Delhi Charter wastewater treatment plan received a \$9.85 million Clean Water State Revolving Fund loan from the U.S. EPA to finance their integrated biomass-to-energy system. From this loan, the Township covered the cost of a combined heat and power (CHP) system. The Department of Environmental Quality provided the loan with the Michigan Municipal Bond Authority. The loan has a payback period of 20 years, with an interest rate of 1.625%, significantly lower than market interest rates.</p>	
Additional Case Studies	
Maine	<u>Improving Casco Bay</u>
Spokane, WA	<u>Spoke Urban Runoff Greenways Ecosystem</u>

Useful Links and Resources

NREL – [Revolving Loan Funds](#)

Open Space Institute – [Using State Revolving Funds to Protect Watersheds](#)

Ohio State University – [Administering a Revolving Loan Fund](#)

5 Bonds

5.1 Green Bonds

Description

Bonds represent a loan made to a borrower (government or corporate) from an investor to finance projects or operations. Interest rates can be variable or fixed, in addition to the payback period (maturity date). These bonds are commonly publicly traded, however some are traded privately with the lender. While the market price of a bond can vary due to credit ratings, time until expiration, and coupon rate, the face value (par value) of the bond will be paid back when the bond matures. Face value for bonds taken to market are usually between \$100 and \$1,000.²

Green bonds, sustainability bonds, or climate bonds, are fixed-income investments that finance sustainability and climate projects in the energy, transportation, water, waste management, and land use sectors. Green bonds are identical in structure to standard bonds: they represent a loan made by an investor to a borrower. Green bond issuance, which was \$255 billion globally in CY 2019, is growing as the demand for climate change solutions increases.³

Green bonds can provide certain tax incentives, such as credits or exemptions, depending on the jurisdiction, making them attractive to investors. Issuers of green bonds may follow their own framework, or that of the World Bank, defining specific categories for projects that are eligible for the bond. Reporting requirements depend on the bond. The World Bank recommends annual reporting to reconcile project budgets with actual project outputs and impacts.

The primary differences are that green bonds must finance sustainability-related projects, and there are certain tax incentives for investors than a traditional bond in some markets. Green bonds achieve this status through third-party verification which entails aligning with Green Bond Principles (GBP), a voluntary process that outlines transparency and disclosures. There are four types of bonds currently covered by the GBP, however the number of bond types is likely to expand as the market matures: proceeds bond (a standard general obligation bond directed for green use), green revenue bond, green project bond, and green securitized bond.

Proceeds Bonds

A proceeds bond, also referred to as general obligation bond, is a municipal bond backed by the credit rating of the jurisdiction and their tax power, in lieu of the potential for revenue generation from the proposed project the bond seeks to fund.⁴

Green Revenue Bonds

A green revenue bond repays the investor from revenues generated by the underlying assets for which the bond proceeds are dedicated, such as taxes or fees. Revenue bonds yield income that is tax-exempt to the private investor. The repayment risk can be estimated from the ability of the underlying asset to generate the income needed to meet obligations for principal repayment. Interest rates on revenue bonds are generally higher than those on general obligation bonds, given the potential added risk of repayment shortfalls by the underlying asset or by not being backed by the full faith and credit of the municipality. Revenue from the investment is used to repay the loan and is

² [Investopedia](#)

³ [Climate Bonds Initiative](#)

⁴ [US Securities and Exchange Commission](#)

often also used for financing infrastructure that generates a revenue stream. However, surplus revenue is specific and cannot be shared to support other city financing needs.

Green Project Bonds

Green project bonds are bonds that are presented to capital market investors to attract funding for a large project, usually attracting pension plans, insurance companies, or other long-term investors who seek stable returns over a longer period. Benefits for projects that seek this financing include avoiding the refinancing and short-term turnover of bank loans and avoiding restrictive covenants from banks loans. These bonds are issued through a special project vehicle to attract investors on the capital markets.

Pooled Fund (Securitized) Bonds

Pooled funds, or securitized, bond financing is a tool to help keep borrowing costs low by aggregating the borrowing needs of several smaller jurisdictions into one larger financing package and operate similar to green securitization bonds (asset-backed securities). The credit rating can be higher than the individual municipalities in the pool, which can create higher scale and lower costs for borrowing together among multiple jurisdictions. However, there needs to be careful consideration of the mix of partners and debt obligations to create an attractive investment package and ensure successful outcomes.

Environmental or Social Impact Bonds and Outcome-Based Financing

Environmental and social impact bonds differ from previously discussed bond types in that they include a risk-sharing mechanism to help shield municipalities from the financial stress resulting from a project failure. However, if the project was to succeed beyond the project goal, a bonus would be paid out to investors, making these bonds financially attractive for all parties, a sort of “pay for success” program. Similarly, outcome-based financing mechanisms ensure that a funded project is able to deliver meaningful outcomes such as water quality improvement, or flood mitigation.

Deadlines and Timeframes

Bond issuance is flexible and can suit the project’s needs.

Relevant Sectors

Renewable Energy, Energy Efficiency, Pollution Prevention and Control, Natural Resources Management and Land Use, Biodiversity Conservation, Clean Transportation, Water and Wastewater Management, Climate Change Adaptation, Circular Economy, Green Buildings

Example Programs

[State Buildings Energy Conservation Bond Program](#), [Clean Energy Bond Financing](#)

Inspiring Case Studies

Washington D.C.
<u>DC Water Green Bond Case Study</u> <u>DC Water Environmental Impact Bond Case Study</u>
As of 2019, the District of Columbia Water and Sewer Authority (DC Water) has issued \$650 million in bonds, commissioning Vigeo as the Second Party Opinion. DC Water has in recent years raised significant funding through a general green bond (2014) and an environmental impact bond (2016).

In 2014, the District of Columbia Water and Sewer Authority, the provider of drinking water, sewage collection and treatment in Washington, D.C., raised \$350 million via green bonds to improve stormwater drainage systems associated with the DC Clean Rivers Project. The Authority was the first to issue a green municipal bond for water investments in the US market. The bond will be paid back to investors via revenue derived from fees charged to residential, commercial, and municipal customers.

In 2016, the District of Columbia Water and Sewer Authority announced a tax-exempt [Environmental Impact Bond](#), developed with support from Quantified Ventures, an impact investing firm. The EIB was first of its kind in the United States and was used to fund green infrastructure projects in Washington, D.C. The \$25 million was sold privately to Goldman Sachs and the Calvert Foundation. With this bond, green infrastructure construction will be covered by raised funds and repaid using a performance evaluation criterion based on the effectiveness of decreasing stormwater runoff. This particular project (green infrastructure) exhibits higher risk than grey infrastructure to mitigate the impacts of stormwater since green infrastructure has less consistent performance. However, after DC Water completed numerous simulations and studies (also analysed by Goldman Sachs), the project was projected to be efficient and thus profitable. The coupon-rate and principal will be paid back from savings achieved through reducing runoff. If the project is to fail, the investor (Goldman Sachs) would pay DC Water a risk-share payment of \$3.3 million, allowing for a new project design to be pursued. With the risk-share strategy the potential failure of the project is cushioned with the payment from investors, while if the project succeeds investors are rewarded with a bonus, removing some financial risk from municipalities. The cost of underwriting was covered by a grant from the Rockefeller Foundation.

Additional Case Studies

Atlanta, GA	Atlanta’s Green Infrastructure EIB Case Study
Metropolitan District Hartford County, CT	Clean Water Project Revenue Bonds
MidAmerican Energy Company	Wind X through Wind XII Green Bond Financing
State of Iowa	Soil and Water Outcomes Fund

Useful Links and Resources

International Capital Market Association ([ICMA](#)) - [2018 Green Bond Principles](#)

ICMA – [2018 State of the Market](#)

California Debt and Investment Advisory Commission – [2014 Issue Brief: Green Bonds](#)

Milken Institute – [Growing the Green Bond Market](#)

Climate Bonds Initiative – [Green Securitization](#)

Climate Bonds Initiative – [How to Issue a Green Muni Bond](#)

Chesapeake Bay Foundation – [Environmental Impact Bonds: Lessons Learned in the Chesapeake Bay](#)

6 Technical Assistance

6.1 Technical Assistance

Description

Technical assistance can be provided by local, state, and federal governments, as well as utilities and philanthropic organizations. This kind of support comes in many varieties and provides program and/or project planning, implementation, and capacity-building support. Technical assistance programs can require a stand-alone competitive application, be a part of a grant award, or be an on-call open service to specified groups. Assistance can be provided via funding to hire specific experts or via direct assistance from the provider’s staff to the recipient’s staff.

Technical assistance for climate change and sustainability initiatives and programs may be related to energy, transportation, resource conservation, and resiliency efforts. These programs are often very specific to what projects or offices they can support. Utility technical assistance programs are often designed to support energy efficiency and benchmarking programs, or other efforts that reduce energy demand. Philanthropy can pay non-profits and other service providers to assist their target audience in alignment with their program goals.

Deadlines and Timeframes

These programs can operate like grant programs with fixed deadlines or be offered on a rolling basis.

Relevant Sectors

Energy Efficiency, Renewable Energy, Active Transportation, Clean Transportation, Natural Resources Management and Land Use, Adaptation / Resilience

Example Programs

[NREL Energy Planning Assistance Support](#), [Connecticut Solar Municipal Assistance Program](#), [Trust for Public Land Conservation Finance Program](#)

Inspiring Case Studies

The Maryland WALKshops Series	
<u>America Walks Technical Assistance Program Case Studies</u>	
America Walks is a non-profit that advocates for pedestrian-friendly infrastructure across the United States, their technical assistance program works with communities on community engagement, walkability evaluations, planning facilitation, pedestrian infrastructure design, policy development, and capacity building (including grant writing and research). The State of Maryland contracted with America Walks to develop a series of community workshops with public health leaders in rural Maryland and Baltimore City. The project team developed assignments and programs for the workshops that were oriented around goals such as building public support of walkability plans and developing implementation plans.	
Additional Case Studies	
Georgia Municipal Association	<u>Solar Resiliency Technical Assistance Program</u>

Useful Links and Resources

NREL Decision Support – [Technical Assistance Map](#)

U.S. Department of Energy – [CHP Technical Assistance Partnerships](#)

FEMA - [Non-Federal Outreach and Technical Assistance Offerings](#)

7 Others

7.1 Partnerships

Description

Public-private partnerships (PPPs or P3s) are agreements between the public and private sectors for the delivery of services. These partnerships bring together the needs of the city with the private market’s expertise and discipline to achieve a common goal. They can be complicated to develop and must be approached on a case-by-case basis. These partnerships are generally developed for large-scale infrastructure projects, where local governments and their private partners can work together to develop community infrastructure dependent on private capital. The process can include the full lifecycle costs of major infrastructure improvements through models such as the design, build, finance, operate, and maintain (DBFOM) model. These partnerships also shift some financial risk from the local government to the private partner. This can break the low-bid mentality that some cities approach projects with. While these partnerships can open up new opportunities for infrastructure expansion, they can be complicated to set up and monitor, requiring constant city oversight. Additional downfalls to PPPs include transaction costs, contract failure or renegotiation, and lack of public acceptance.

Public-public partnerships (PuPs) are agreements between two or more public agencies (at various levels of government) and are designed to improve the capacity of a partner rather than generating a profit. These partnerships are often formed to leverage shared capacity, resources and better serve users. This can be through pooling financing resources, purchasing power, or technical expertise. PuPs can be developed in support many different kinds of projects including water, energy, and transportation projects.

Deadlines and Timeframes

These partnerships are developed by jurisdictions and interested parties and deadlines and timelines for these partnership agreements will be unique to each partnership.

Relevant Sectors

Energy Efficiency, Renewable Energy, Active Transportation, Clean Transportation, Water and Wastewater Management, Pollution Prevention and Control, Natural Resources Management and Land Use, Biodiversity Conservation, Urban Greening, Climate Change Adaptation, Circular Economy, Green Buildings

Inspiring Case Studies

Chicago, IL
<i>Chicago City Council approves \$50M expansion of Divvy bike share system</i>
The City of Chicago utilized a public private partnership to develop a bike share system, called Divvy, which launched in 2013. In the partnership, the City provides some funding for the program while the private partner, in this case Lyft, purchases and installs equipment and hardware to run the program but ownership remains in the hands of the City. Lyft is responsible for providing quality standards and services. Recently, the City approved an expansion of the program where the City will invest \$50M to expand the program to each of the City’s 50 wards by 2021. Through this expansion, Lyft had pledged an additional \$77M in direct revenue which will be directed towards the City’s transportation improvements. The expansion program also includes a job training program for youth and ex-offenders, and further accessibility for low-income and disabled customers.

Additional Case Studies	
Long Beach, CA	<i>Long Beach Civic Center P3 Project</i>
Detroit Tri-County Area	<i>Metro Region Freeway Lighting P3</i>
State of Kentucky	<i>Kentucky Wired</i>

Useful Links and Resources

Bay Area Council Economic Institute – [*Public Private Partnerships in California*](#)

EPA Region 3 Water Protection Division - [*Community Based Public-Private Partnerships \(CBP3\)*](#)

Bloomberg Law – [*Public-Private Partnerships Beneficial for Implementing Green Infrastructure*](#)

7.2 Group Purchasing and Procurement

Description

Group purchasing and procurement refers to two or more organizations partnering to secure a product or service. By combining forces, organizations can save time, money, and effort and even opt for solutions with greater impact. For example, certain processes, such as RFP development and vendor evaluation, can be completed once with all partners involved, instead of individually by each group. Further, this method has the potential to increase scale and leverage through the combination of multiple local entities focused on climate action efforts. This type of cooperative purchasing is often seen at the local government level with cities or municipalities partnering to select and purchase a product(s) or service(s) that benefits each entity. While possible to partner with other jurisdictions, this type of partnership usually occurs within a local government. This funding mechanism is well-suited for financing climate initiatives consistent across a region where cost savings can be realized through collecting buying power, such as smart LED streetlights or fleet electrification. Engagements in group purchasing can occur via a services contract or joint agreement with other municipalities or organizations. Alternatively, organizations have the option to join existing collaboratives, such as the Climate Mayors Electric Vehicle (EV) Purchasing Collaborative.

While there are many benefits to sharing the costs of goods and services, there are critical factors to consider before entering into a partnership. First, all partners need to be aligned on needs, outcomes, and final costs for any products or services being procured as a group. There should also be validation of benefits of group purchasing, whether cost savings, time savings, greater geographical impact, etc. Overall, the benefits of this type of purchasing need to outweigh the costs.

Deadlines and Timeframes

Policies, procedures, and contract terms specific to the group purchasing agreement will dictate deadlines and timeframes that must be adhered to as a part of participation.

Relevant Sectors

Energy Efficiency, Renewable Energy, Clean Transportation, Urban Greening, Circular Economy, Green Buildings

Inspiring Case Studies

Ann Arbor, MI	
<i>Municipal Fleet Electrification</i>	
The City of Ann Arbor sought to electrify their vehicle fleet as a part of greenhouse gas reduction efforts. To do this, the city joined the Climate Mayors Electric Purchasing Vehicle Collaborative and used the platform to inform and purchase 20 additional electric vehicles for the city's fleet.	
Additional Case Studies	
Pennsylvania	<i>Multi-Municipal Partnerships for Recreation & Parks</i>
Dallas, TX	<i>Cooperative Contract from Omnia Partners</i>
Climate Mayors	<i>Municipal Fleet Electrification Case Studies</i>
Colorado	<i>Evaluation of Colorado Electric Vehicle Group Purchase Programs</i>

Useful Links and Resources

The Institute for Public Procurement – [*Cooperative Procurement and Cooperative Purchasing Programs*](#)

7.3 On-bill Financing

Description

On-bill financing (OBF) is financing available to a utility customer from the utility to finance energy efficiency, renewable energy, or other clean energy-related projects. This financing allows the utility to incur the cost of the energy upgrades, with an expectation of repayment from the customer as a part of regular utility bills. The benefits of this type of financing include low interest rates, convenient payment structure, and transferability of repayment obligation should property ownership change (depending on OBF terms). There are some limitations with OBF such as limited or low funding caps, making it less suitable for large-scale improvement projects. Further, loans are often collateralized by both the customers power connection as well as any equipment installed as part of the upgrade. This means that if the customer stops making loan payments, they risk power loss from utility disconnection.

Not all utilities support OBF programs, meaning this type of funding is only available in certain regions. If an OBF option is offered, the customer will need to confirm eligibility which often includes ownership or occupancy of a facility served by the utility, information on energy retrofit or conservation effort, and meeting the requirements for customer type (i.e. commercial, industrial, government). There could be additional stipulations as a part of OBF including the requirement to use a pre-approved contractor for upgrades. If eligible, the customer and utility will align on loan terms including loan amount, monthly payments, anticipated energy savings, interest rate, and payback period.

If OBF is not currently provided by the local utility, the municipality has the opportunity to advocate for on-bill financing from the local energy provider. In the case where the local utility is owned by the municipality, the municipality should investigate options for providing on-bill financing to help property owners and tenants in the community finance energy efficiency and renewable energy projects.

Deadlines and Timeframes

The loan repayment reschedule will be dictated by the terms of the loan provided through on-bill financing.

Relevant Sectors

Energy Efficiency, Renewable Energy, Water and Wastewater Management, Pollution Prevention and Control, Natural Resources Management and Land Use, Urban Greening

Inspiring Case Studies

Philadelphia, PA	
<i>On-Bill Financing in a Regional Setting: PIDC and the Philadelphia Navy Yard</i>	
The Philadelphia Navy Yard developed plans to reduce electricity consumption by 20% by 2020. To achieve this goal the Navy Yard Energy Master Plan defined strategies for electricity consumption reduction, including energy efficiency measures. To finance energy retrofits On-Bill Financing has been evaluated as a financing strategy for C&I tenants at the Navy Yard from the Navy Yard Electric Utility (NYEU).	
Additional Case Studies	
Sonoma County, California	<i>PAYS On-Bill Financing Energy and Water Case Study: Windsor</i>
Locations across U.S.	<i>Environmental and Energy Study Institute OBF Case Studies</i>

Useful Links and Resources

Office of Energy Efficiency & Renewable Energy – [Bill Financing and Repayment Overview and Resources](#)

Environmental and Energy Study Institute – [Interactive Map of Utilities with On-Bill Financing Programs](#)

NRDC – [On-Bill Financing: Overview and Key Considerations for Program Design](#)

7.4 Property Assessed Clean Energy (PACE) Programs

Description

Property Assessed Clean Energy (PACE) is a federal program administered through the State and subsequently local jurisdiction providing financing for energy efficiency, renewable energy, and water conservation projects. PACE operates as a debt of property program where participants receive upfront financing for renewable energy or energy efficiency projects and pay back those funds on their property tax bill over a set period of time. Non-payment usually carries the same penalties as a failure to pay property tax, and repayment obligations may transfer with property ownership (if the PACE obligation remains on the property). PACE thus typically finances larger, permanent investments (not portable items such as efficient appliances). Who is eligible to participate in PACE rests on the local jurisdiction (and federal rules) administering the program though this largely includes both residential and commercial property (CPACE) owners. PACE, and CPACE, can be utilized by jurisdictions who seek to expand their GHG mitigation efforts to property owners by providing this program to property owners in their jurisdiction. PACE can also unlock financing for community solar projects. Currently 32 states and Washington, D.C. have PACE-enabling legislation. Some states, such as California, permit publicly-owned buildings to participate in PACE programs however these buildings must be able to receive a property tax bill.

Upfront funding can be provided either through government reserve funds or bond issuance, or through private investors. Municipal funding can be provided through bond issuance, which may affect the amount of funds available for the program to disperse. For example, a municipality may wait and aggregate projects to meet a specific dollar value before issuing a bond. Alternatively, a municipality may use an unallocated reserve pool (funded by revenue bonds) to finance projects as they are completed. PACE programs can utilize private funding sources, such as a private capital provider. PACE program administrators may work to connect PACE applicants to such investors.

Deadlines and Timeframes

Deadlines, if any, are dependent on the jurisdiction administering the program.

Relevant Sectors

Energy Efficiency, Renewable Energy, Water Efficiency, Adaptation / Resilience

Inspiring Case Studies

San Francisco, CA	
<u>Prologis: CPACE Financing at Historic Pier 1</u>	
Prologis, Inc. received \$1.4 million in PACE financing for energy efficiency and renewable energy at their San Francisco headquarters. Pier 1 where the headquarters are located, is owned by the Port of San Francisco which under most PACE programs would not permit PACE financing to be used. However underlying City legislation enabled Prologis to pursue PACE financing as leasehold interest served as collateral in lieu of a lien on the property. Prologis installed a 200kW rooftop solar array, upgrading lighting fixtures, and building systems controls. Overall, the improvements are estimated to reduce utility bills by nearly \$100,000 a year.	
Additional Case Studies	
San Francisco, CA	<u>GreenFinanceSF: Commercial PACE Program</u>
Lucas County, OH	<u>BetterBuildings Northwest Ohio and PACE Financing</u>
Milwaukee, WI	<u>PACE Financing Program</u>

Useful Links and Resources

Institute for Building Efficiency – [Setting the PACE: Financing Commercial Retrofits](#)

Department of Energy – [Property Assessed Clean Energy Programs](#)

The Solar Foundation - [Civic Power: A Primer of PACE-Secured Solar Power Purchase Agreements](#)

7.5 Community Funding

Description

There are opportunities for collaboration between local municipalities and their community members to enable and fund renewable energy initiatives. An example of this is demonstrated through Community Solar programs.

Community Solar allows community members to participate in a solar program without installing panels on their own property. They do this by subscribing to a local solar farm, which provides clean power to the electric grid, and allows the customer to earn credits on their utility bill, via what is referred to as virtual net metering. These credits can save customers money on their energy costs while supporting clean energy.

Local governments can play a key role in enabling community programs, such as community solar. For example, the municipality can work with the utility to identify potential for community solar and inform requirements for a program in the community. Further the municipality may be in a position to provide lands for solar use, which may be leased or sold to an energy service company (ESCO). Overall, local governments can take on an advocacy, facilitation, or technical role to support community funded programs that address environmental challenges.

Deadlines and Timeframes

Deadlines and timeframes for community funding will be particular to the specified program.

Relevant Sectors

Renewable Energy, Urban Greening

Inspiring Case Studies

Colorado	
<i>Low Income Community Solar: A Case Study in Colorado</i>	
The Colorado Energy Office (CEO) seeks to provide clean and cost-effective energy to all Coloradans. The CEO partnered with the Energy Outreach Colorado (EOC) and Xcel Energy to provide subscription-based community solar programs to low-income Colorado households. The case study outlines challenges, achievements, and resources related to the community solar implementation in these communities.	
Additional Case Studies	
Colorado, Iowa, Minnesota	<i>Environmental and Energy Study Institute Community Solar Case Studies</i>
Illinois	<i>Community Solar Case Study Overview</i>
North Carolina	<i>Community Solar for the Southeast</i>

Useful Links and Resources

Elevate Energy – [*Community Solar Business Case Tool*](#)

7.6 Energy Performance Contracting

Description

An energy performance contract (EPC), sometimes referred to as an energy savings performance contract (ESPC), is a contract between an energy service company (ESCO) and a customer, typically a building owner but could be applicable to leased spaces where leases are long-term. This contract establishes an agreement between the two parties where an ESCO will typically design and install energy measures and receive payment through realized energy savings. Often, these contracts include a guarantee for energy savings to protect the customer and ensure significant energy savings are realized. Depending on available funding, the ESCO may upfront all costs for the project but some customers may provide funds to cover a portion of the initial costs.

Energy performance contracts are most often used for large, complex projects, or smaller projects across a portfolio. Due to the nature of these contracts capitalizing on energy savings, the contract periods often last between 10 to 20 years. During the contract period, the ESCO typically maintains the new equipment and will pass off maintenance duties at the end of the contract. It is best practice to ensure that the contract include maintenance and operational training by the ESCO for building staff to support any new equipment.

For city governments, EPCs are often used to perform upgrades on municipally-owned buildings, housing developments, schools and other facilities.

Deadlines and Timeframes

Energy performance contracts are unique to each project and can take several months to develop. These contracts often last between 10 to 20 years, over the course of the project payback periods.

Relevant Sectors

Energy Efficiency

Inspiring Case Studies

Jersey City Housing Authority	
<i>Energy Performance Contracts for Energy Efficiency Projects</i>	
<p>The Jersey City Housing Authority (JCHA) had established a sustainability plan in 2008 which committed to implementing portfolio-wide energy efficiency measures. To help achieve its goals, JCHA entered into an \$8.5 million energy performance contract with the ESCO Siemens, which would cover heating upgrades, lighting improvements, and other measures across the portfolio. To help with funding, JCHA secured incentives through the New Jersey Clean Energy Program and utilized additional funding from the American Recovery and Reinvestment Act and federal disaster relief funding for a few buildings that had been damaged by Hurricane Sandy. Ultimately, the renovation work occurred in three phases, mostly aligned with available funding sources. The cumulative savings from the first two years of the project exceeded the amount of savings guaranteed in the EPC where JCHA had saved more than \$5 million since the beginning of the project.</p>	
Additional Case Studies	
Housing Authority of the City and County of Denver (DHA)	<i>Self-Managed Energy Performance Contracting</i>
City of Virginia, MN	<i>Minnesota City Uses \$2.5 Million Energy Savings Performance Contracts to Upgrade 12 Buildings</i>

Useful Links and Resources

U.S. Office of Energy Efficiency & Renewable Energy – [Model Documents for an Energy Savings Performance Contract Project](#)

Building Owners and Managers Association – [BOMA Energy Performance Contracting Model](#)

National Association of Energy Service Companies – [Find an ESCO for Your Project](#)

7.7 Pension Plans

Description

Pension plans investing in climate change mitigation and adaptation are increasingly common. Pension plans are built upon contributions to retirement savings by individuals or their employers. These retirement contributions are made to a diversified fund, ultimately providing regular fixed payments during retirement for that individual (or their beneficiaries). These retirement funding schemes are more common in the public sector. According to the Bureau of Labor Statistics, about 85% of public employees are covered by a defined benefit retirement plan (commonly referred to as a pension plan)⁵. These plans have a set pay-out and are controlled by employers, though these plans have a set pay-out, there are factors such as vesting, that control when an employee begins to acquire rights in pension assets. These assets are pooled in a pension plan that is managed by professional fund managers, who decide on how and where to invest the funds.

The funds selected to support a pension plan are an opportunity to invest in organizations that support **environmental, social, and governance (ESG) principles**. Given that pension plans generally have longer time horizons, they present an opportunity to support long-term climate action investments. The financial community is increasing focus on ESG investing, evidenced by actions like BlackRock's commitment to 100% of their portfolios integrating ESG metrics by the end of 2020. The Net Zero Owner Alliance, established and announced by the UN in 2019, is a group of thirty of the largest investor groups representing over \$5 trillion in assets, who have committed to decarbonization strategies in accordance with the IPCC.⁶ Founding members include Allianz SE, Caisse des Dépôts, La Caisse de dépôt et placement du Québec (CDPQ), Folksam Group, PensionDanmark, and SwissRe, Alecta, AMF, CalPERS, Nordea Life and Pension, Storebrand, Zurich, Aviva, AXA, CNP Assurances, Fonds de Réserve pour les Retraites (FRR), Generali, and the Church of England.

ESG Principles

Investing or other decision-making processes are increasingly looking to environmental, social, and governance indicators, alongside traditional financial information, to inform decisions and priorities. Climate-related action is included within ESG principles. Learn more through MSCI's [ESG 101](#) guidance.

Pension plan funds must still provide a return to investors, which guides their investment strategies. Pension plans have long term liabilities, and thus choose investment strategies that reflect a need for consistent low-risk, long-term growth. Infrastructure investments are derived from government funding, bank lending, and capital markets. Pension plans can invest in green projects through equity investments (mutual funds), fixed income, and green bonds, or direct investment through private equity or green infrastructure funds ([OECD](#)). Historically, pension plan investment in infrastructure is done through investing in private-equity funds that purchase infrastructure assets from owners. Investing in public infrastructure reemphasizes the long-term duration of the loan and stable returns (via interest rates), which complements the nature of a pension plan well. Identifying such funds is a key strategy in securing finance for private sector and government entities taking on climate action.

Divesting from fossil fuels and considering GHG emissions and similar factors when deciding where to invest funds is best practice for cities across the globe. Shifting municipal pension plans away from carbon-intensive industries will help to support a low-carbon future and spur further investment in new technologies and implementation of climate-

⁵ According to the BLS "[Retirement Benefits: Access, participation, and take-up rates, State and local government workers, March 2017](#)"

⁶ [UN Net Zero Alliance](#)

related action. While this funding mechanisms is not direct for municipal-focused action, it is key for achieving climate action at scale.

Deadlines and Timeframes

Deadlines and timeframes are negotiated with each project, these funds often work through bond programs (Refer to [Section 2.2 Green Bonds](#)).

Relevant Sectors

Energy, Transportation, Water

Example Programs

[California State Teachers Retirement System \(CalSTRS\)](#), [California Public Employees' Retirement System \(CalPERS\)](#), [Pittsburgh Pension Fund](#)

Inspiring Case Studies

Pittsburgh, PA	
Pittsburgh Pension Fund Adopts Sustainable Investment Policy	
<i>In 2020, the City of Pittsburgh's Comprehensive Municipal Pension Trust Fund successfully adopted guidelines for investing that are socially responsible. These new guidelines will inform future investments by the pension trust fund to ensure that they are aligned with ESG principles and three specific focus areas for the City: protection of the environment, reduce arms production, and promotion of human dignity.</i>	
Additional Case Studies	
United Nations	Net-Zero Asset Owner Alliance
California Public Employees' Retirement System (CalPERS)	CalPERS' Investment Strategy on Climate Change

Useful Links and Resources

UN Environment Programme Finance Initiative – [How Leading Public Pension Funds are Meeting the Challenge](#)

Organisation for Economic Co-operation and Development (OECD) – [The Role of Pension Funds in Financing Green Growth Initiatives](#)

C40 Cities – [Divest / Invest Forum](#)

8 Recommendations for Securing Climate Funding

Climate action projects are often cross-cutting, bringing together numerous governmental departments for a multi-beneficial project, and thus can involve funding from multiple sources, beyond the local government's budget. Finding, and winning, this funding also requires a multi-faceted approach. While there is a web of funding available for climate action, accessing this funding requires both thinking outside of traditional financing mechanisms and understanding the **co-benefits** of projects in order to access tangential funding streams. Financing strategies can include combining multiple funding types, for example federal and state grants, or government grants and bonds or loans. When combining financing types, particularly grants with another funding source, the applicant should have a good grasp of grant policies, particularly as they relate to co-funding requirements and spending stipulations. Oftentimes, grant application processes can come quick and have short turn-around times. Because of this, there are some things to have ready, in advance, for when the right opportunity comes along. Items to track are include in Figure 2.

Co-Benefits

Co-benefits of a project include all of the beneficial outcomes. For climate-related projects, these would be beneficial outcomes besides climate mitigation or adaptation such as improved air quality, increase in jobs, reduce costs, etc. Identifying co-benefits of projects can be a key to unlocking funding opportunities and gaining community buy-in. For more information, refer to CDP's report on [The Co-Benefits of Climate Action](#).

Proactive Considerations

- What are your priority areas for funding (i.e. GHG inventories, climate resilience, renewables, EV deployment, environmental justice)?
- What are the existing community challenges in these priority areas and how can you help address them?
- What progress have you made thus far in addressing these challenges (i.e. information and data collection, previous programs/grants/case studies)?
- Who are your potential partners in each priority area? If needed, maintain or further build these relationships for future success.
- Who are potential funders and when do they typically release grant opportunities? Use the GCoM Climate Funding Tool to identify funders and collect information on typical schedules and timelines.

Figure 2: Proactive Considerations to Prepare for Future Funding Opportunities

Beyond having a baseline understanding of funding types and general requirements as they pertain to a proposed project, potential applicants are encouraged to establish strong partnerships with their funding offices in order to fill knowledge gaps and understand city budgeting. Consider setting up regular meetings with the Finance Department in your city to discuss options and plan for climate work. When funding opportunities have been identified and potential projects developed, there is certain information that is often collected and recommended for consideration, particularly for private funding opportunities. Refer to Figure 3 for a list of project considerations.

Project Considerations for Funding Applications

- What project characteristics can be matched to the funding or financing opportunity?
- What project data can be gathered, assessed, and used to inform investment decisions? How will this information be stored and communicated with stakeholders? The public?
- Who are the project stakeholders and potential partners? (e.g. corporate, non-profit, community organizations, academic institutions, philanthropic, federal, state, utility commission)
- Who benefits from the project, who is impacted, and who pays?
- What revenue streams, if any, can be collected from the project and for how long?
- What is the timeframe to implement the project?
- What are the complete lifecycle costs?
- Is there a positive return on investment (ROI), net present value (NPV), internal rate of return (IRR) and/or low payback period for the project?

Figure 3: Project Considerations for Completing Funding Applications

Funding does not have to come from a single source, nor is the City the only one doing climate action work. Seeking out and building strong partnerships with CBOs not only builds trust with community members but is key to unlocking some funding streams, particularly in the philanthropic sector, and can result in projects that are better-aligned with the community's needs. While philanthropic grants should be a supplementary funding source, not a sole source, they still play an important role. Philanthropic grants can close funding gaps on grants or other funding opportunities where a cost share is required.

A funding decision matrix to help regions, cities and jurisdictions determine the appropriate funding is in Figure 4.

Grants	
Philanthropic Grants	Do you have partnerships with community organizations who can lead or co-lead?
	Will social justice be addressed in your project?
	Does the project focus on a specific foundation's mission, vision, and priorities?
Federal Grants	Do you have a large infrastructure project that requires funding?
	Are you willing to cost share?
	Can you demonstrate a favorable benefit-cost ratio?
	Is your project timeline relatively flexible?
	Do you have dedicated staff to spearhead the application?
	Is your project located in or does it directly benefit historically disadvantaged communities that suffer from underinvestment?
State Grants	Are you willing to cost share with staff time or in-kind?
	Can you demonstrate a favorable benefit-cost ratio?
	Is your project timeline relatively flexible?
	Do you have dedicated staff to spearhead the application?
	Is your project located in or does it directly benefit historically disadvantaged communities that suffer from underinvestment?
Loans	
Green Bank Loans	Are you interested in a clean energy or multi-building energy efficiency implementation project?
	Has your loan application for a climate action implementation project been rejected by a typical financial institution?
	Can you demonstrate clear profitability (ROI) from your project?
State Loans	Are there loan programs offered by your state that align with city priorities or initiatives?
	Is your project located in an area of the state that has historically seen underinvestment?
Revolving Loan Funds	Do you require supplemental funding after receiving private financing or another type of loan?
	Are you having trouble getting access to 100% private financing?
	Do you have implementation projects with short paybacks?
Bonds	
Green Bonds	Can you borrow debt?
	Do you have a high credit rating?
	Do you have experience issuing traditional bonds?
	Is there a stable revenue stream associated with the project?
Technical Assistance	
Technical Assistance	Do you have the expertise to perform feasibility programs or determine if a project is applicable?
Others	
Public-Private Partnerships (P3)	Do you have a very large infrastructure project that you cannot fund on your own?
	Is your project in an area where public projects typically face issues such as project delays or cost overruns, whereby a private partner would be advantageous?
	Are there a number of private institutions that can finance the project?
	Do you have the internal capacity to manage or structure a P3?
Public-Public Partnerships	Are there similar agencies (in your city or state) that can leverage shared capacity, resources and better serve users?

Group Purchasing and Procurement	Are there climate initiatives consistent across a region or city agencies where cost savings can be realized through collective buying power?
On-bill Financing	Do you have a municipal utility?
	Does your utility offer on-bill financing?
	Do you have constituents interested in investing in efficiency improvements who do not have access to conventional loans or find loans too expensive?
Property Assessed Clean Energy (PACE) Programs	Does your state have a PACE program or is your state a home-rule state?
	Do you have constituents that do not want to assume traditional debt?
	Does your project have a payback period of up to 20 years?
Community Funding	Do you have a proactive community interested in solar or urban greening projects?
Energy Performance Contracting	Do you have a portfolio of buildings but do not have the capital to cover the energy efficiency upgrades/retrofits and operational costs?
Pension Plans	Is your project a low risk, long-term public or private infrastructure project with high liquidity?

Figure 4: Funding Decision Matrix

9 Conclusion

Interviews with sustainability and climate offices across the United States paint a picture of the current state of climate action funding. While philanthropy has been heavily involved in the climate sphere for a number of years, their support to local governments and government projects is waning. It is becoming increasingly apparent that the philanthropic sector can not be solely relied upon for climate action funding, and partnerships with CBOs is of increasing importance to secure any philanthropic funding. The Buro Happold team created a matrix of funding sources for climate action work at the federal, state, and philanthropic level. The matrix requires at least bi-annual updating in order to maintain accurate deadlines and funding amounts as these change in response to the federal budget or stock market performance (particularly for philanthropic grants). Organized by funding type and applicant eligibility, the tool notes the level of resource intensity and other details that are immediately pertinent to potential applicants such as eligible project types and sectors. With multiple funding types and sources listed, users are able to identify multiple funding sources at once by filtering as appropriate. With the GCoM Climate Funding Tool, cities and regions across the U.S. will be able to easily understand and identify funding sources for their climate action planning and projects.

10 Appendix

10.1 Additional Categories for GCoM Climate Funding Tool

In addition to the key categories provided for each funding option section, additional categories were evaluated for each specific funding opportunity included in the database and online tool. These additional categories are provided below with definitions.

Geography: State level designation for where each climate funding option is available.

Funding Agency: An overview of the funding agency typology whether it's a level of government (i.e. state, federal) or a private sector group (i.e. non-profit, utility, green bank, investor).

Sector: Relevant project sectors that are the focus for each funding opportunity. Sectors include but are not limited to: Adaptation/Resilience, Energy, Energy Efficiency, Renewable Energy, Transportation, Active Transportation, Waste, Stormwater Wastewater, Greening and Land Use.

Support for: The project development stage for which the funding opportunity is designed to support. Project development stages include: Project Definition, Project Feasibility, Project Structuring and Preparation, Transaction/Investment, and Implementation.

Support to: Level of government and other parties that are eligible for each funding opportunity.

Type of Funding: The high-level funding type that is relevant to each specific funding opportunity. Funding types include: Grants, Loans, Bonds, Pensions, and Technical Assistance.

Co-Funding: If a funding opportunity requires that other funding sources are utilized for a specific project.

Cost Share %: If co-funding is relevant for a funding opportunity, the percentage of the overall cost that needs to be met by outside funding sources.

Resource Intensity: The amount of resources, both time and cost, needed to apply for and manage each funding opportunity on a Low-Medium-High scale. Some funding opportunities will require significant staff time for applications and for tracking progress as the funding is utilized while others will require less time commitment – this resource intensity category is meant to provide a high-level expectation for the resources needed for each funding opportunity.

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