

Funding & Financing Climate Action & Resilience

Developing a Resilient Funding Strategies for Climate Action & Resilience



Chatham County Climate Retreat Day 2

November 6, 2025

Disclosure and Disclaimers

HIP Investor Inc. is an investment adviser registered in the States of California, Illinois, Louisiana, Massachusetts, New York, and North Carolina, with clients across the USA.

Nick Gower is a registered investment adviser representatives.

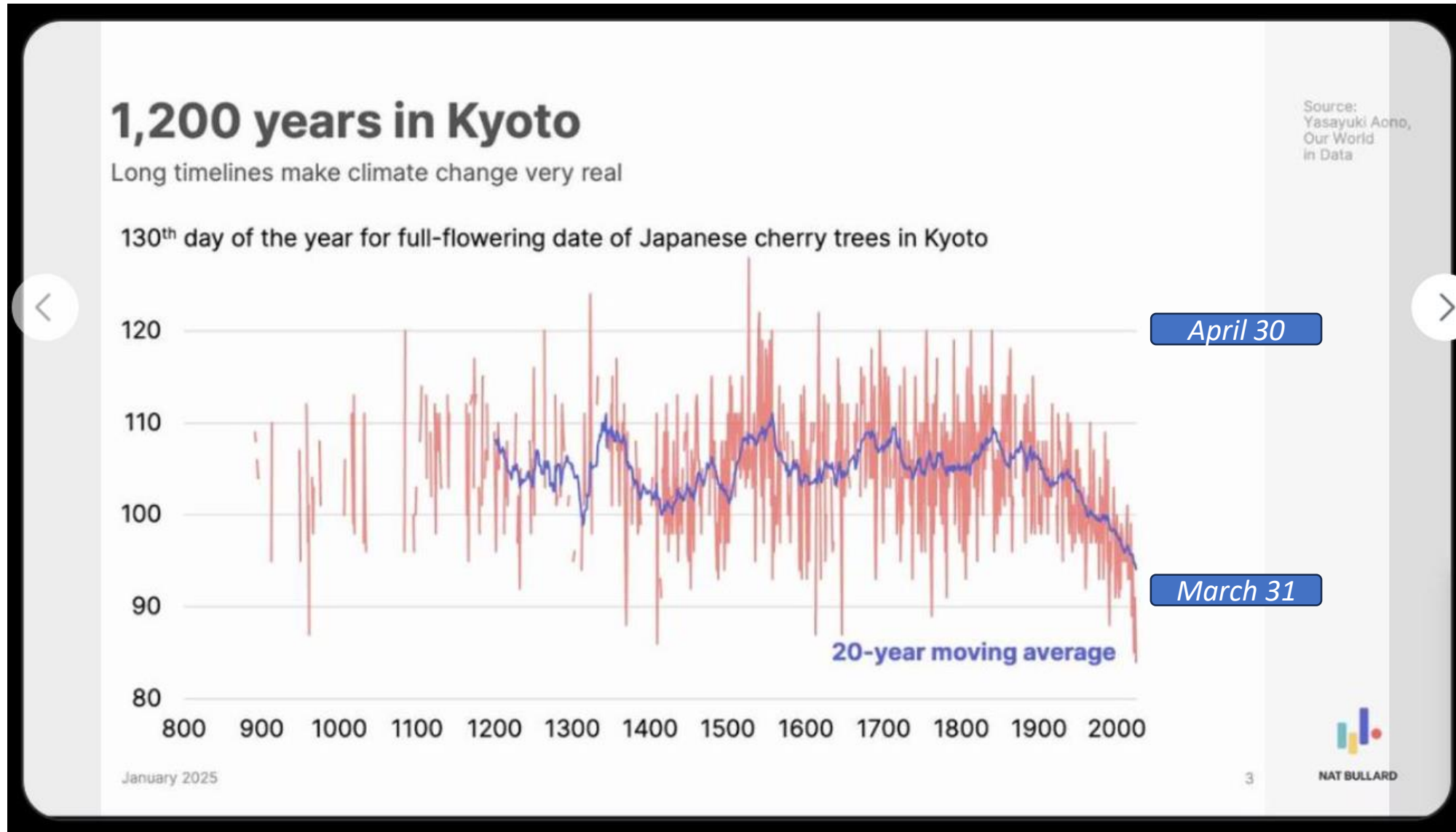
HIP Investor Ratings LLC is a California limited liability company, providing 427,000+ impact ratings on future risks and opportunities, including climate threats and resilience, for investors, advisers, fund managers and retirement plans and for investees seeking funding.

This is not an offer of securities. All investing has risks.

Past results are not indicative of future performance.



Climate: Spring Arriving Earlier



19th Year of Advancing Impactful Investing

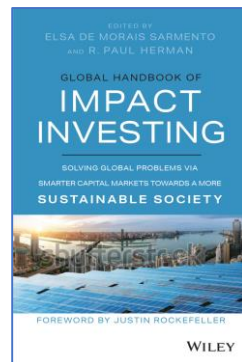


Founded 19 years ago in 2006

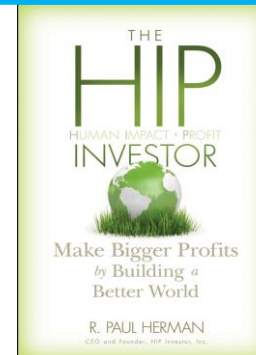
(RATE) HIP Impact Ratings of 427,000 stocks, bonds, funds;
and HIP Climate Threat Resilience ratings of 3,100 counties

(INVEST) 7 HIP Fossil Free Strategies (of equities)
5 HIP Fossil Free Portfolios (of funds)

(ADVISE) How To Fund and Finance Climate Action



(EDUCATE)
HIP-authored books
Published by Wiley

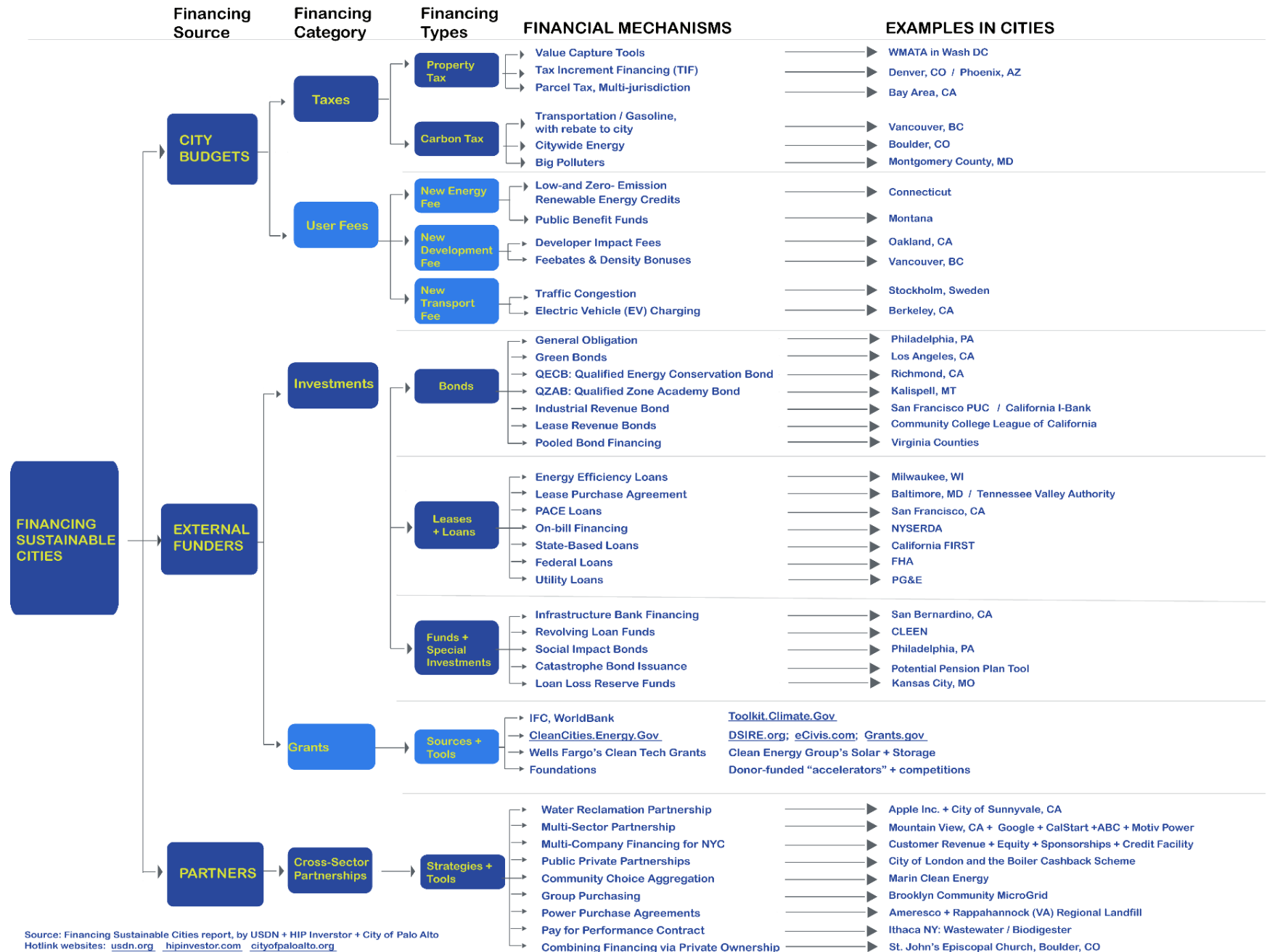


<https://HIPinvestor.com/>

Financing Sustainable Cities and Communities:

Funding Strategies and Live Examples

Co-developed with USDN cities in 2016



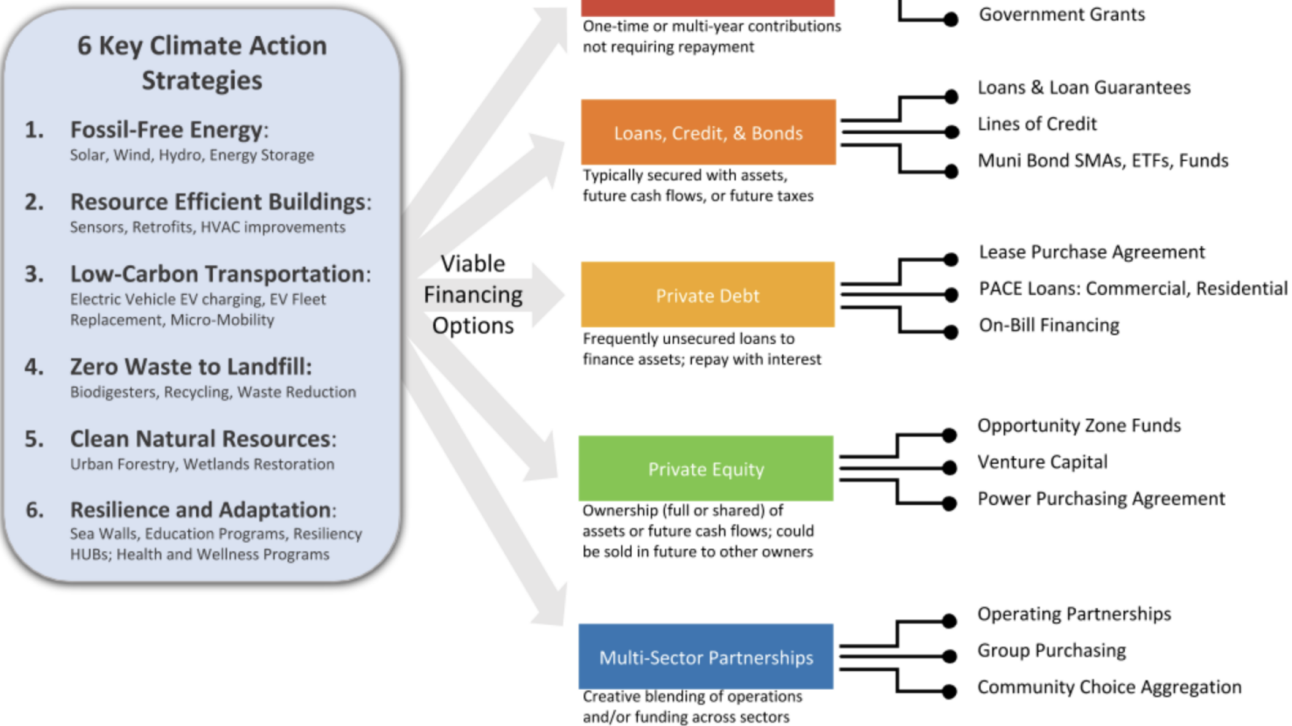
Source: Financing Sustainable Cities report, by USDN + HIP Investor + City of Palo Alto
Hotlink websites: usdn.org, hipinvestor.com, cityofpaloalto.org

Source: [HIP Investor](https://hipinvestor.com) research and analytics for [USDN.org](https://usdn.org), with City of Palo Alto leadership

CONFIDENTIAL © 2006-2025 HIP Investor Inc.

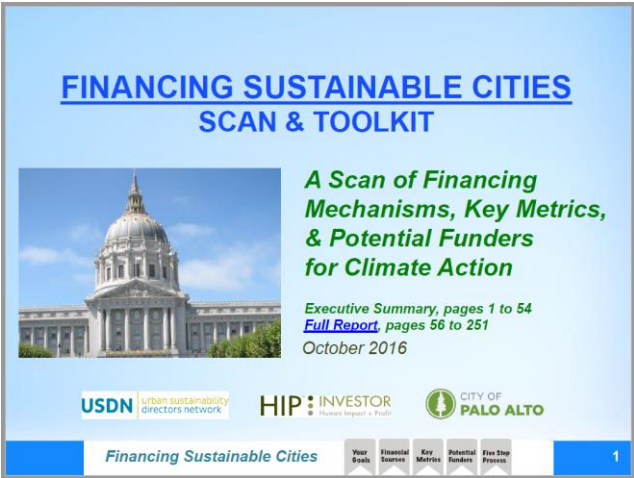
Funding and Financing Frameworks from HIP Investor, CDP, and RISC

City + Community Climate Action Plan Strategies and Potential Pathways For Funding and Financing



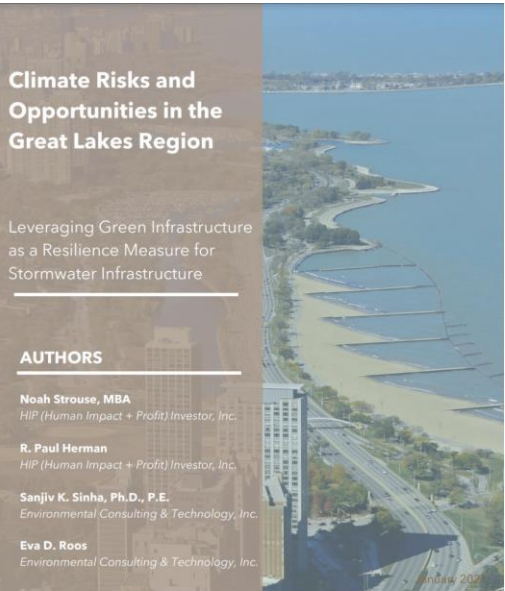
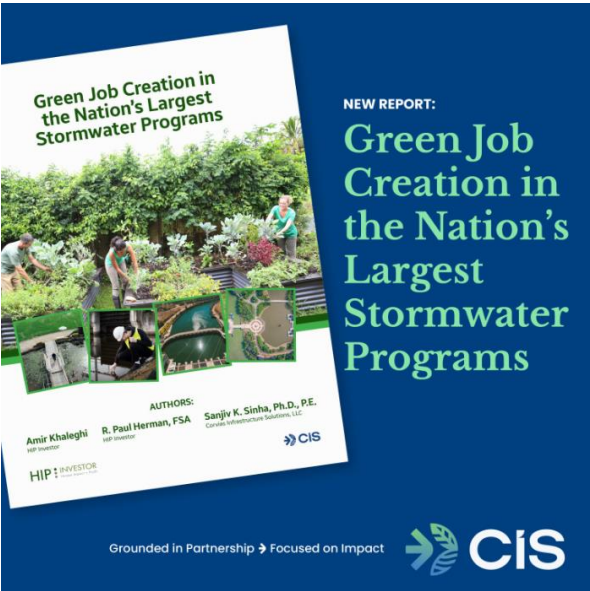
Source: City Climate Action Plans; HIP Investor Inc. research
For questions, contact the HIP Investor Inc. team; www.HIPinvestor.com, BeMoreHIP@HIPinvestor.com
THIS IS FOR INFORMATION AND EDUCATION: THIS IS NOT A SOLICITATION NOR AN OFFER OF SECURITIES

Sources: www.HIPinvestor.com/municipality CDP.net
<https://www.cisolutions.com/project/resilient-infrastructure-sustainable-communities-risc/>



Making Climate Infrastructure Equitable
A Toolkit and Workbook

CDP
DISCLOSURE INSIGHT ACTION



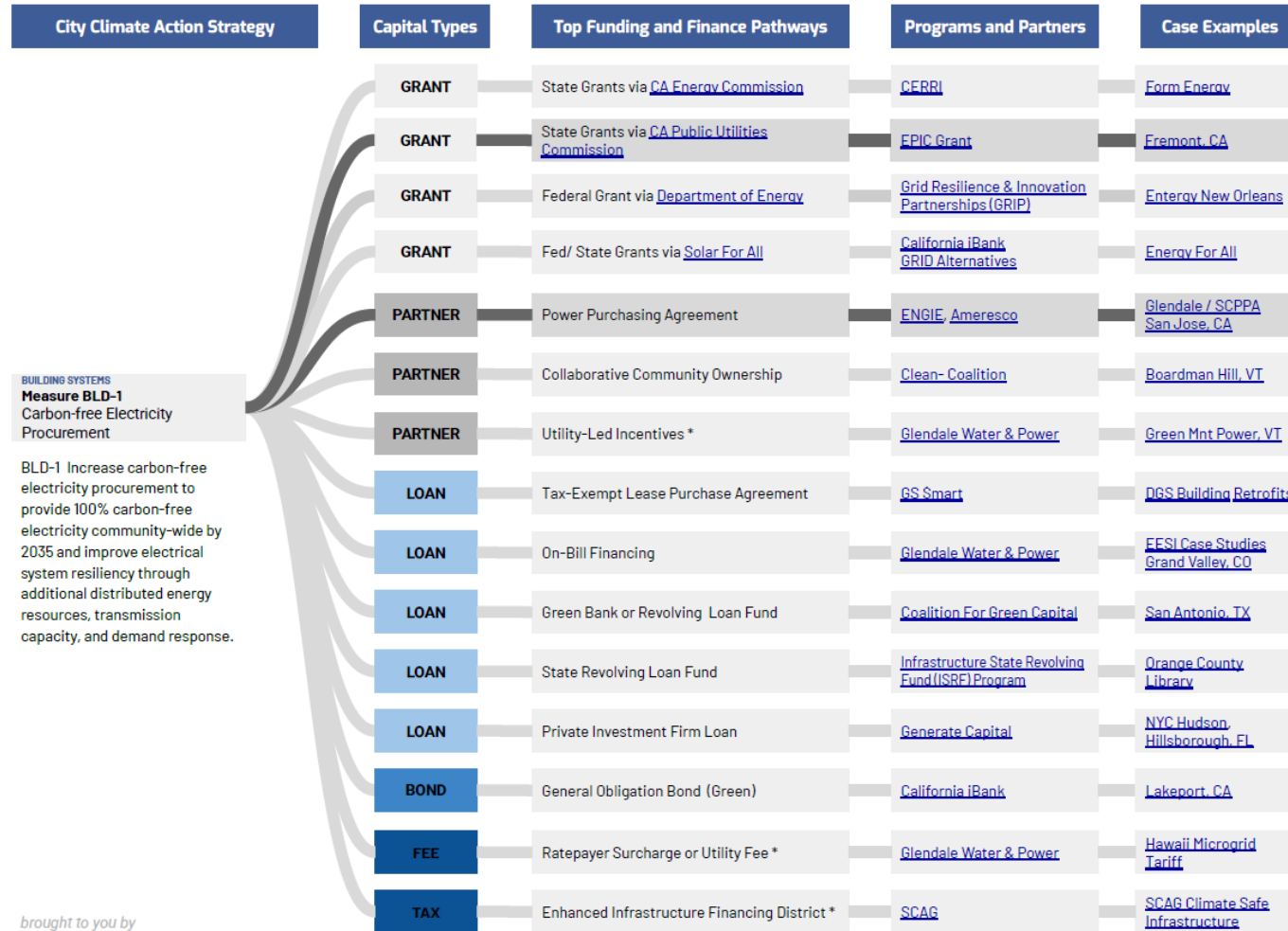
Financing Sustainable Cities and Communities

Funding Strategies for Glendale Calif. CAAP (August 2025)



Climate Action Finance Map Pathways to Capital for The City of Glendale's 2025 Climate Action & Adaptation Plan

August 2025



brought to you by
HIP INVESTOR
Human Impact + Profit

Pathways highlighted in darker gray are particularly applicable and/or accessible to the City of Glendale
* Indicates a pathway may involve Residential & Commercial Costs

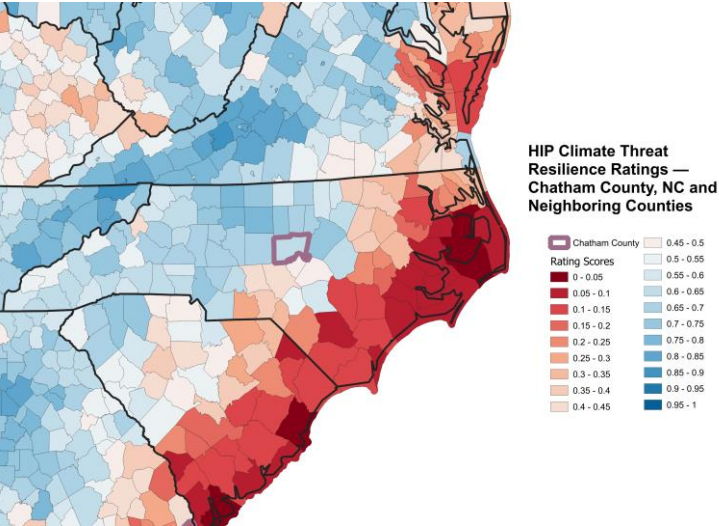
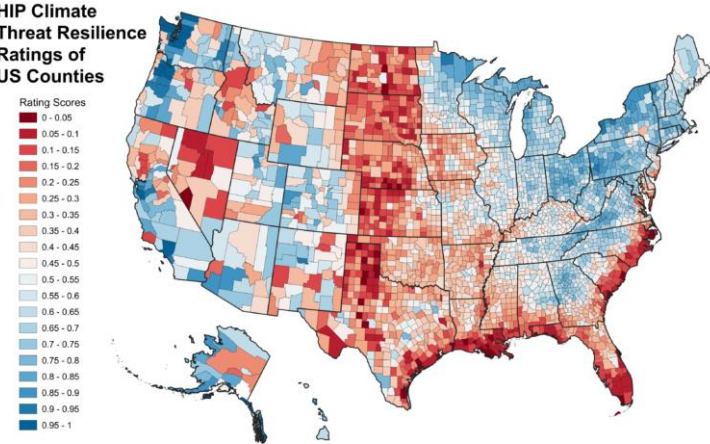
Page 1

Source: City of Glendale, CA / Rincon Consultants / HIP Investor – August 2025

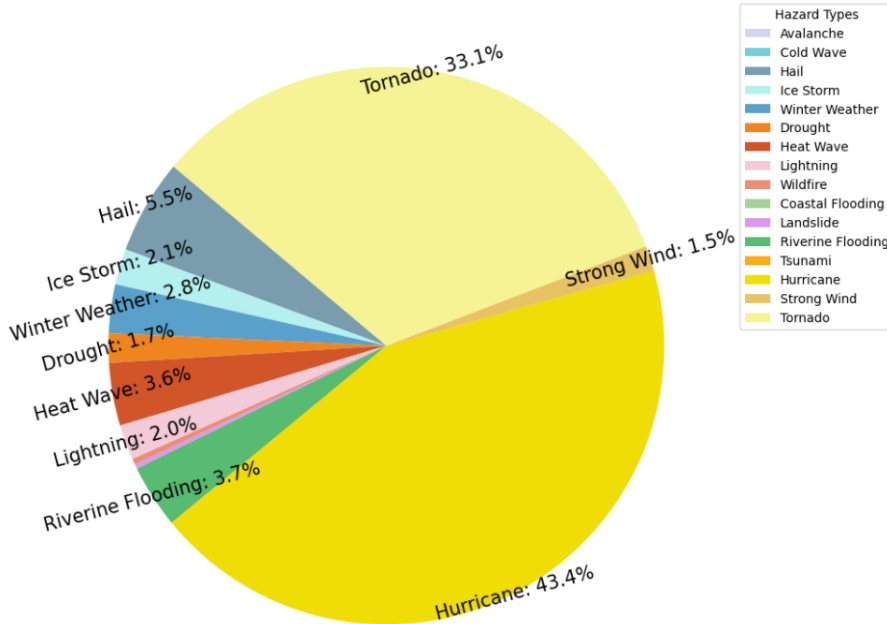
<https://glendalecaap.rinconconsultants.com/wp-content/uploads/2025/08/Glendale-CAAP-Final.pdf>

Impact Investors Examine Your Climate Threat Resilience Rating

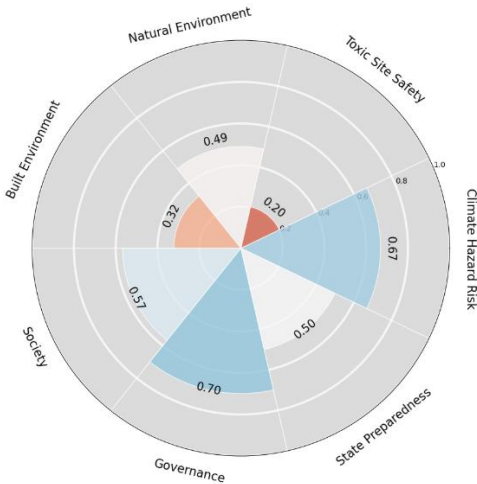
- * Weather Hazard Risk
- * Toxic Site Multipliers
- * Resilience Factors



Hazard Loss Proportions of County -- North Carolina, Chatham



Municipality	State	Population Size	County	Rating HIP Overall Climate Threat Resilience Rating	Climate Hazard Pillar (Inverse)	Toxic Site Safety Pillar	Community Resilience Pillar
Kemah	Texas	2,562	Galveston County	1%	4%	0%	59%
City of Boynton Beach	Florida	81,267	Palm Beach County	8%	16%	0%	35%
Fort Lauderdale	Florida	184,255	Broward County	8%	21%	0%	46%
City of North Miami	Florida	59,008	Miami-Dade County	13%	29%	0%	48%
Yolo County	California	220,544	Yolo County	14%	21%	0%	60%
City of Belton	Missouri	25,534	Cass County	21%	19%	100%	35%
Lake City	South Carolina	5,961	Florence County	24%	28%	50%	43%
City of Salida	Colorado	5,900	Chaffee County	24%	18%	100%	36%
City of Ames	Iowa	65,686	Story County	29%	23%	67%	68%
City of Iowa City	Iowa	75,678	Johnson County	30%	26%	92%	59%
Cedar Rapids	Iowa	135,958	Linn County	45%	46%	59%	61%
City of Dubuque	Iowa	58,877	Dubuque County	50%	48%	77%	68%
Douglas County	Kansas	120,553	Douglas County	55%	54%	86%	66%
City of Fairfax	Virginia	25,144	Fairfax city (independent)	55%	63%	4%	50%
City of Windcrest	Texas	5,759	Bexar County	60%	71%	91%	48%
Hawaii County (Hilo)	Hawaii	207,615	Hawaii County	61%	59%	76%	49%
Las Cruces	New Mexico	114,892	Dona Ana County	69%	83%	1%	34%
Missoula County	Montana	121,849	Missoula County	69%	69%	86%	63%
City of Kalamazoo	Michigan	73,126	Kalamazoo County	70%	77%	30%	53%
City of Lancaster	Pennsylvania	57,153	Lancaster County	72%	79%	0%	56%
City of Plymouth	Minnesota	77,648	Hennepin County	72%	73%	14%	65%
City of Takoma Park	Maryland	17,464	Montgomery County	73%	79%	34%	52%
City of North College Hill	Ohio	9,463	Hamilton County	73%	76%	53%	52%
City of Boise	Idaho	235,421	Ada County	77%	78%	89%	70%
City of Grand Rapids	Michigan	196,608	Kent County	78%	84%	64%	58%
City of Richmond	Virginia	229,247	Richmond city (independent)	78%	87%	60%	47%
Mendon	Massachusetts	6,228	Worcester County	78%	79%	33%	64%
Bend	Oregon	104,557	Deschutes County	81%	78%	91%	67%
San Mateo County	California	101,327	San Mateo County	82%	95%	0%	65%
City of Grand Junction	Colorado	69,412	Mesa County	89%	94%	100%	51%
City of Dublin	California	69,128	Alameda County	90%	96%	0%	63%
City of Berkeley	California	118,962	Alameda County	90%	96%	0%	63%
City of Burlington	Vermont	44,528	Chittenden County	94%	96%	76%	64%
South Burlington	Vermont	21,043	Chittenden County	94%	96%	76%	64%
Eugene	Oregon	177,899	Lane County	94%	95%	96%	61%
City of Bainbridge Island	Washington	24,254	Kitsap County	98%	98%	92%	57%
City of Palo Alto	California	29,910	Santa Clara County	98%	99%	46%	63%
Whatcom County	Washington	94,720	Whatcom County	98%	98%	100%	66%
City of Gresham	Oregon	110,685	Multnomah County	99%	100%	94%	62%
City of Tigard	Oregon	55,590	Washington County	99%	100%	99%	59%
City of Sammamish	Washington	65,116	King County	100%	100%	100%	68%
City of Redmond	Washington	80,280	King County	100%	100%	100%	68%
City of Issaquah	Washington	38,977	King County	100%	100%	100%	68%
City of Tumwater	Washington	27,239	Thurston County	100%	99%	99%	66%



Funding Climate Action

Doesn't have to have all budgetary expense or debt

When structured effectively, financed climate initiatives can produce cost reductions that outpace debt service or repayment obligations.

Public Private Partnerships can offtake costs and risks, but may forgo some of the upside potential in revenue or cost savings

Efficiency and Resilience means investing in your facilities and community



Funding Climate Action In Local Government

With A Resilient Funding & Financing Strategy and Suite of Options

HIP Investor engages with a city or county's sustainability director and staff to refine a catalog of priority, high impact climate action initiatives. We then work with the finance department to understand the community's unique financial landscape and connect with local elected officials to identify political sensitivities.

Funding Strategies demonstrate the breadth of funding approaches available to fund both government and community costs to implement climate action measures + provide a roadmap for implementation with blended finance and a resilient capital stack.

Implementation can be fiscally conservative and does not have to be all debt or heavily reliant on budgetary spending.

Climate Action Funding Maps:

- Detail a suite of finance options to pursue climate measures
- Showcase relevant case studies for each financing strategies
- Communicate funding needs and options to attract identified partners and programs
- Blend multiple approaches for a resilient capital stack
- Create opportunities for collaboration to scale and drive coordinated action

Methodology For Building a Funding & Financing Map

1. Prepare, Plan, and Align Expectations with community and local government
2. Document Financial and Political Sensitivities by engaging with other government departments & Economic Development Corporations
3. Prioritize Capital Intensive Climate Action Measures for Financial Analysis
4. Estimate Capital & Operating Costs and Return on Investment (typically categorical as most projects are not yet scoped for implementation)
5. Generate List of Funding Pathways – This is the funding & financing map
6. Build Relationships with External Funders and Partners
7. Moving Towards Implementation

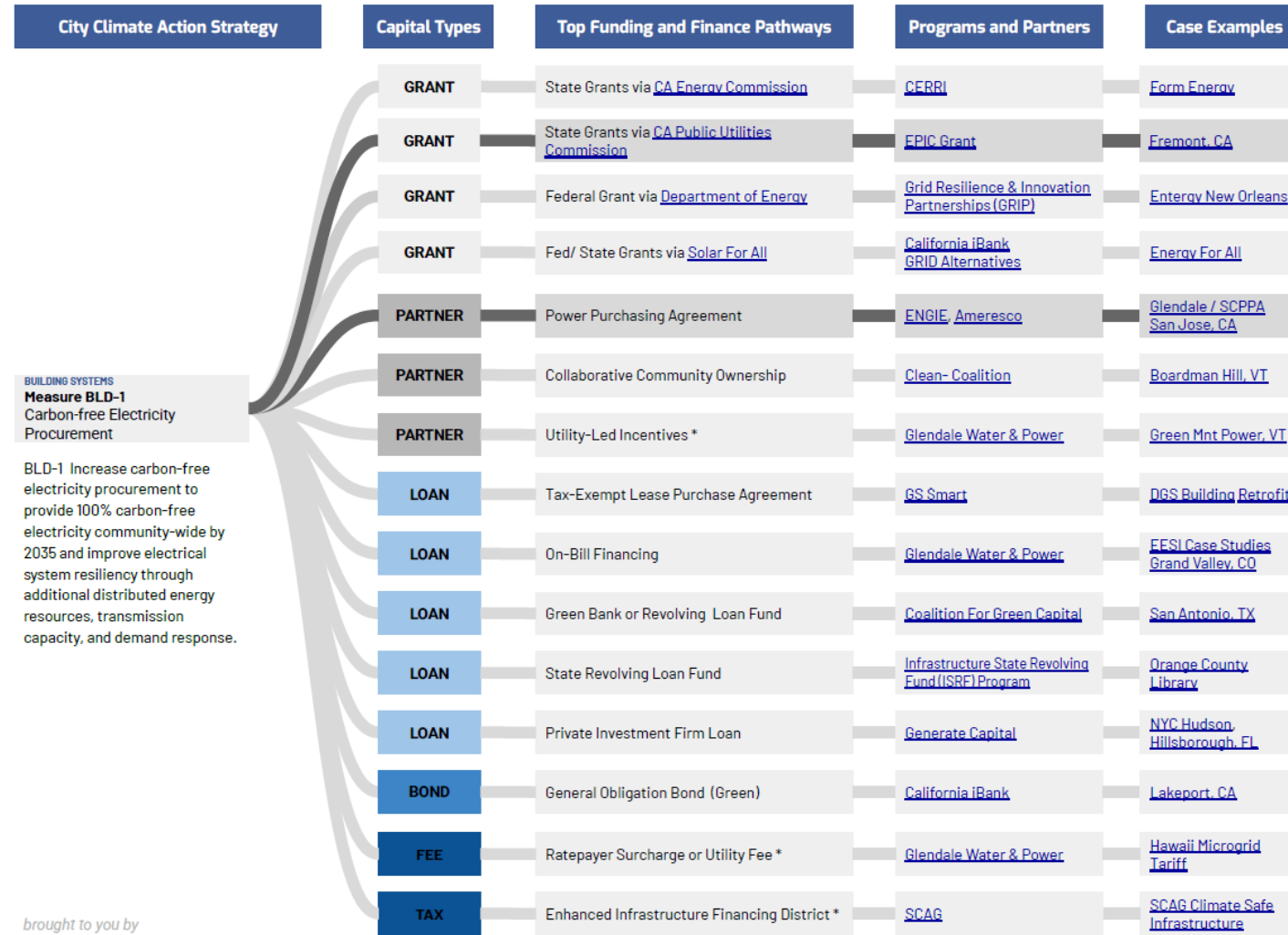




Climate Action Finance Map

August 2025

Pathways to Capital for The City of Glendale's 2025 Climate Action & Adaptation Plan



brought to you by
HIP: INVESTOR
Human Impact + Profit

Pathways highlighted in darker gray are particularly applicable and/or accessible to the City of Glendale

* Indicates a pathway may involve Residential & Commercial Costs

Page 1

Source: City of Glendale, CA / Rincon Consultants / HIP Investor – August 2025

<https://glendalecaap.rinconconsultants.com/wp-content/uploads/2025/08/Glendale-CAAP-Final.pdf>

How Local Governments Are Financing Climate Action

Without Federal Funding

How Local Governments Are Financing Climate Action

By Nick Gower of HIP (Human Impact + Profit) Investor

With federal funding drying up, this article provides an assessment of the US local government funding landscape with innovative case studies of real-world pathways for funding and financing of climate action and adaptation projects with a focus on blended finance (grants, loans, equity) and public private partnership.

“The US federal climate funding environment will likely remain volatile and complex for the foreseeable future. Local governments that make progress in this environment will explore new sources of funding – from private credit to private equity to partnerships to non-federal grants.

A combination of financing pathways can mobilize private capital and partnerships at a greater scale and accelerate the transition towards a low-carbon economy.

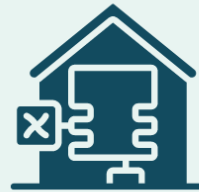
Climate action requires both technical innovation in climate solutions and financial innovation in funding approaches. The urgency of climate action demands that we become educated on these evolving funding mechanisms quickly and effectively. The landscape may be more dynamic and challenging than in previous years, but it also offers more opportunities for creative, impactful solutions to benefit the health of our communities, nature, and our economic sustainability.”



Climate Action Can Reduce Lifecycle Costs

Efficiency, On-Site Generation, Operating Costs, Maintenance / Repair....

Examples of Energy Efficiency



Heat Pumps



Solar



Electrification



Smart Meters



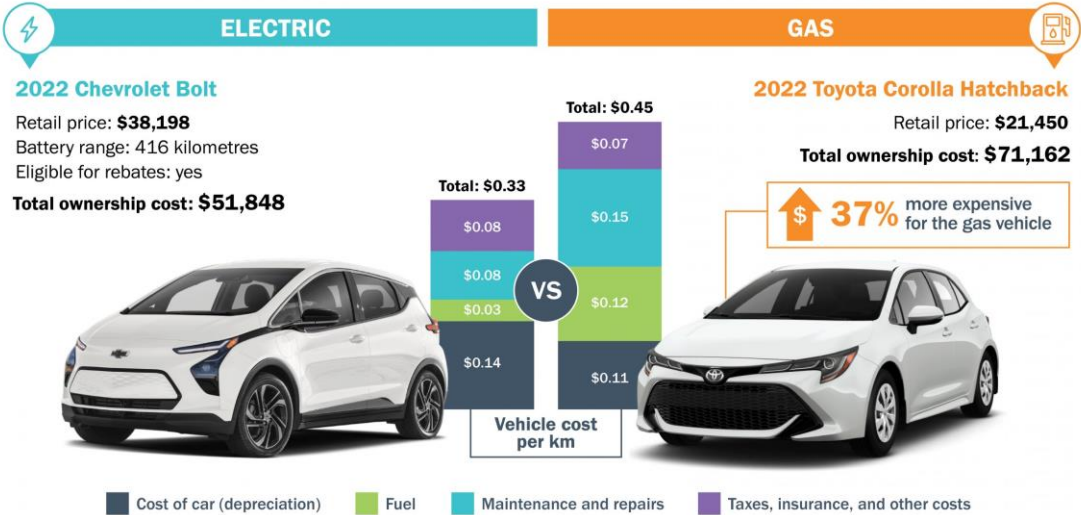
Insulation



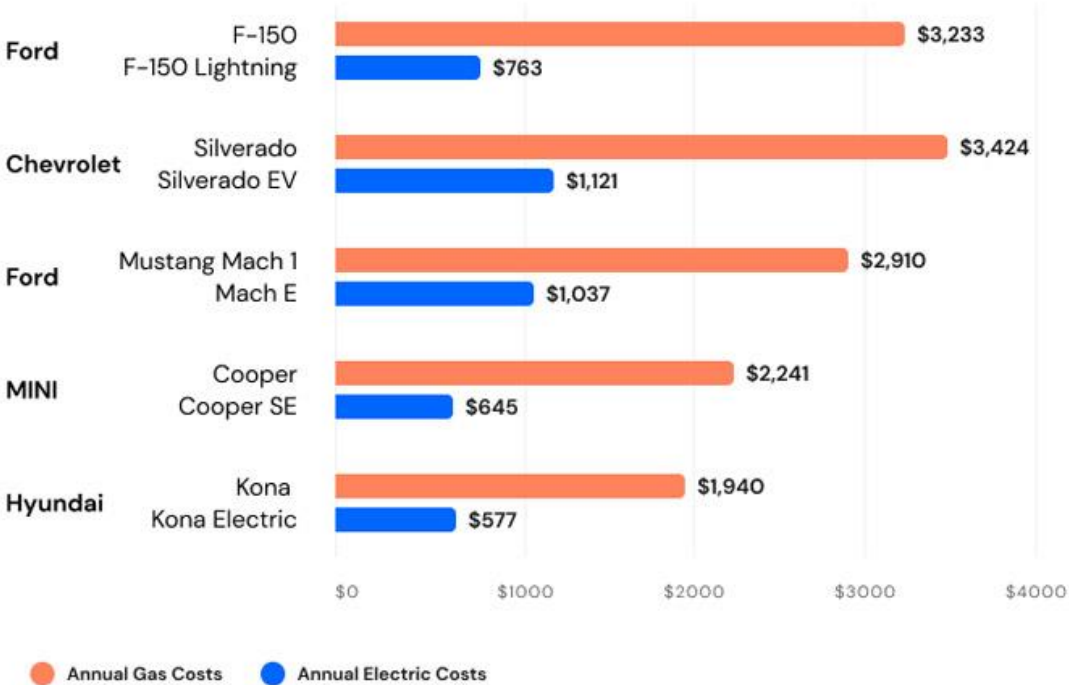
Climate Action Can Reduce Lifecycle Costs

Efficiency, On-Site Generation, Operating Costs, Maintenance / Repair....

The full cost of an EV and an equivalent gas car



Electric vehicle costs vs. gas car costs



Disclaimer: Gas and electric costs are from The Office of Energy Efficiency and Renewable Energy and assume 15,000 miles of driving per year at a fuel price of \$3.88 per gallon.

Source: Insurify's analysis of The Office of Energy Efficiency and Renewable Energy data.

Types Of Costs (and Savings)

Variables to consider in “stacking” funding and financing pathways

Cost Considerations

For each strategy, cost can be attributed to both internal costs (municipal-focus) and external costs (community-focus). Insight into the variability of these costs can include these primary variables that determine funding effectiveness:

Upfront Versus Lifecycle Costs

When discussing how much a strategy or action costs, it is important to differentiate between the upfront costs, the cost of an electric vehicle, versus the lifecycle costs of purchasing, operating, maintaining, and ultimately disposing of that vehicle.

Long Term Cost Savings

Many GHG reduction measures would not only reduce emissions but also generate long-term cost savings for both the government and the community over the life of the investment.

Financing and Funding Availability

One of the major financial tools available to make large investments in infrastructure, vehicles, or buildings is financing. Financing allows us to leverage the time value of money and put future expected money flows to use today. Paired with cost savings, the ability to finance can make seemingly high-cost investments low to no cost over time.

Incremental Costs

When discussing costs, it is important to specify the difference between how much a project costs overall and what the incremental or marginal cost is. The incremental or marginal cost is the difference in cost between the new action and the old or standard purchase.

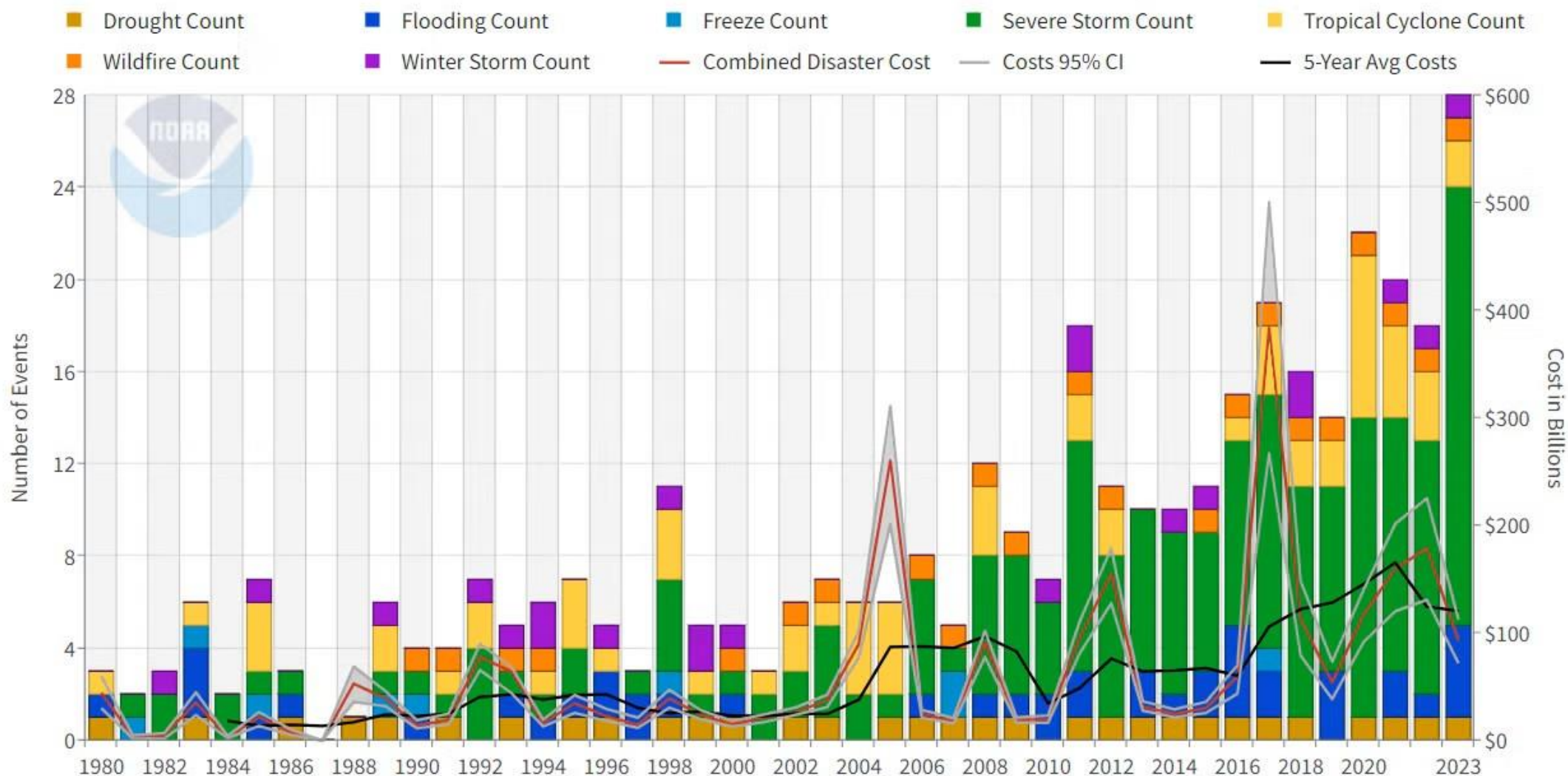
The Cost of Doing Nothing

Despite the complexity of understanding the true impact of climate change and the cost to both mitigate and adapt, economists and scientists around the world recognize that the cost is already high and will continue to increase the longer we wait to act.

And Climate Inaction Is Getting More Expensive

Disaster Events Are Growing, as is the Cost Of Doing Nothing

United States Billion-Dollar Disaster Events 1980-2023 (CPI-Adjusted)



Source: [National Oceanic and Atmospheric Administration](https://www.noaa.gov/data/analyses/disasters), 2024

Categories of Financial Mechanisms for Equitable Climate Action

Grants

Pros: Grants do not have to be repaid and enable governments to be the sole owner and operator of a project.

Cons: Requires government capacity to apply and manage, grants typically have strict spending restrictions and burdensome reporting requirements.

Partnerships

Pros: Requires little/no upfront funding and can leverage private sector expertise to spark innovation.

Cons: Local government forgoes some agency, and their ability to recoup cost savings, capture revenue generation and build community wealth.

Loans and Private Credit

Pros: Loans provide upfront capital and can spread the cost of a project across the useful life of the asset.

Cons: Loans add debt to the balance sheet, require ongoing payback and may have stipulations on what the borrowed capital can be spent.

Bonds

Pros: Bonds enable local governments to borrow large amounts of upfront capital with fixed low-interest rates and long repayment periods

Cons: Issuing general obligation bonds can be a politically charged process if your local government requires voter approval

Budget

Pros: Government budget funds can be available immediately, and can have few restrictions

Cons: The amount of funding available each year is limited, so large projects could potentially exhaust an agency's entire capital budget for the year

Fees, Taxes and Revenues

Pros: New or raised taxes and fees can produce stable sources of ongoing revenue that can provide consistency and budget flexibility

Cons: New or increased taxes and fees require significant political capital and community support to implement

What is a Resilient Capital Stack?

A **Resilient Capital Stack** is the way to structure financing —layering different types of capital (equity, debt, grants, guarantees, etc.) — so that a project can weather risks, attract diverse investors, and remain financially viable even under stress.

Examples in Practice -- for a **community solar project**:

EQUITY

- **Equity:** Provided by the **developer** and possibly an impact **fund**.

LOANS

- **Senior debt:** From a **bank**, backed by long-term power purchase agreements.
- **Mezzanine debt:** From a green infrastructure **fund** willing to accept moderate risk.

PPPs

- **Tax equity or credits:** Monetized through federal/state renewable energy **incentives**.

GRANTS

- **First-loss guarantee:** From a **foundation or green bank**, to protect senior lenders if revenues dip.

This blended approach gives the project financial resilience

Case Study: West Union, IA (pop. 2,400)

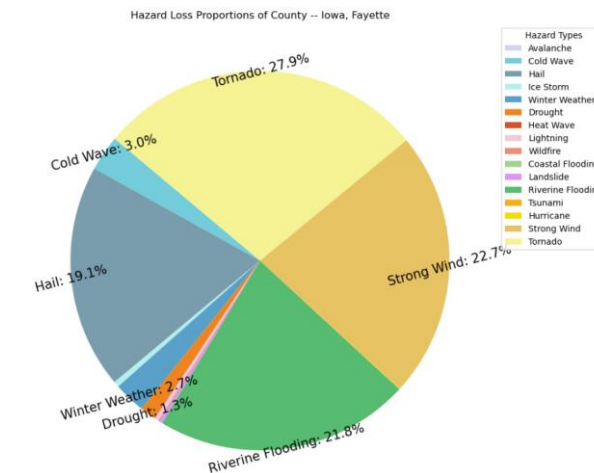
Downtown Geothermal Network

The City of West Union (population 2,435) built a **district geothermal loop** under its historic downtown to convert aging, hard-to-retrofit buildings—including municipal facilities like the **Fayette County Courthouse** and the **public library**—from gas boilers to **electric heat pumps**. Today, both public and private buildings have installed geothermal heat pump equipment and connect to the shared ground loop, where more connections are pre-staged.

The resilient capital stack

- **Federal and State Grants (\$2.2M):** DOE, HUD, EPA, and Iowa Main Street grants covered loop construction.
- **Utility Incentives:** *Alliant Energy* rebates—loop rebate to city, in-building rebates to owners.
- **Building-Level Financing:** Owners used USDA REAP funds plus utility incentives for heat pumps.
- **Governance/O&M:** City owns the loop, leased to **West Union District Energy (WUDE)**, a user group that contracts O&M and holds reserves (~3 years of costs).
- In 2019-2021, WUDE needed to look at the best, most economical, options available for O&M management and an initiative named **Green Up West Union** brought in an outside consulting to lead community engagement and the reorganization of WUDE for a positive partnership.
- In 2020 **Geothermal Eco Options** was brought on to manage operations and brought substantial savings, while **Winona Controls** took on systems equipment management

*This is a good example of partners with aligned incentives, where Governance is lead by WUDE - project users. Although the initial O&M provider did not work out, WUDE was incentivized to find an appropriate replacement.



Case Study: West Union, IA (pop. 2,400)

Downtown Geothermal Network

GRANTS

Federal & State Grants

DOE, state energy office, and stimulus funds covered feasibility and upfront capital costs.

LOANS

Municipal Bonds / Local Financing

City issued debt to support downtown street reconstruction tied to geothermal installation.

PPPs

Private Property Owner Contributions

Building owners connected to the network and paid connection fees or assessments.

PPPs

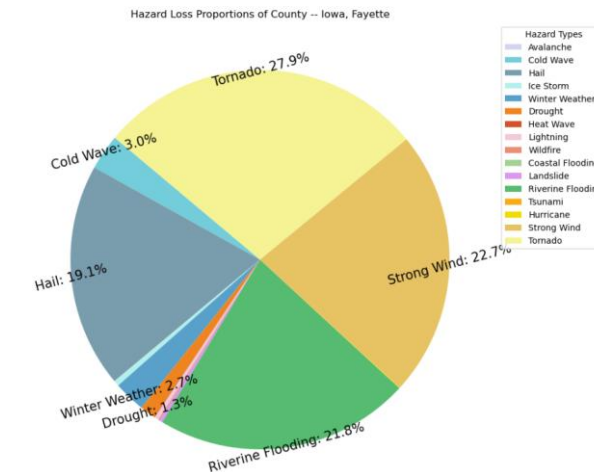
Utility Partnerships

Local utility provided technical support and integration with district energy systems.

COST SAVINGS

Operational Savings

Shared geothermal loop reduced heating/cooling costs and stabilized long-term energy expenses.



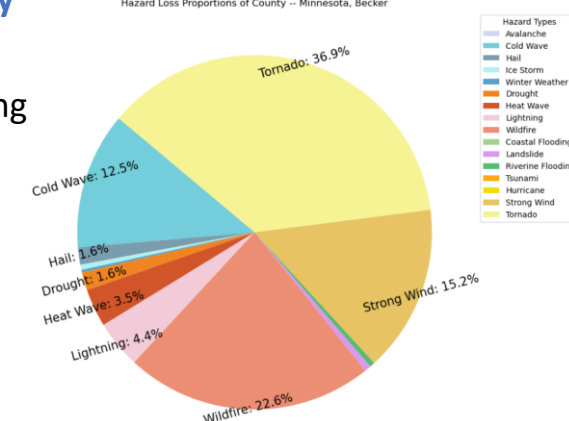
Case Study: White Earth Nation, MN (pop. 9,600)

Pine Point Resilience Hub

The White Earth Band of Ojibwe is developing a solar-powered microgrid resilience hub at the Pine Point School and Community Center. This hub will combine **rooftop solar and battery storage** to provide essential power during outages, reduce energy bills, and support community resilience in a rural tribal setting (~330 residents).

The resilient capital stack

- **Federal Grants (DOE – Energy Storage for Social Equity Initiative):** Provided technical assistance, planning support, and initial funding for solar + battery system design.
- **Tribal Government (White Earth Nation):** Contributed leadership, community engagement, and site hosting through the school and community center.
- **Private & Philanthropic Partners (Emerging):** **Exploring** partnerships with clean energy developers and philanthropic backers to co-fund construction and maintenance.
- **Operational Savings (Revenue Layer):** Lower utility bills and avoided diesel fuel costs create ongoing savings that support long-term sustainability.
- **Climate justice** organization **10Power** supports Native American Tribal Nations by working to make **renewable energy affordable and accessible** for tangible improvements in livelihood and prosperity.
- **Job Creation:** **Located on the White Earth Reservation**, **8th Fire Akiing Solar** is a Native-run solar organization working to **manufacture** and install thermal solar systems across the region.



Case Study: White Earth Nation, MN (pop. 9,600)

Pine Point Resilience Hub

GRANTS

Federal & State Grants

DOE, FEMA, and state energy programs supported initial design and construction.

PPPs

Tribal Government Contributions

White Earth Nation provided land, governance, and in-kind support to align hub with community priorities.

GRANTS

Philanthropic & Nonprofit Funding

Foundations and nonprofits funded resilience programming, workforce training, and community services.

PPPs

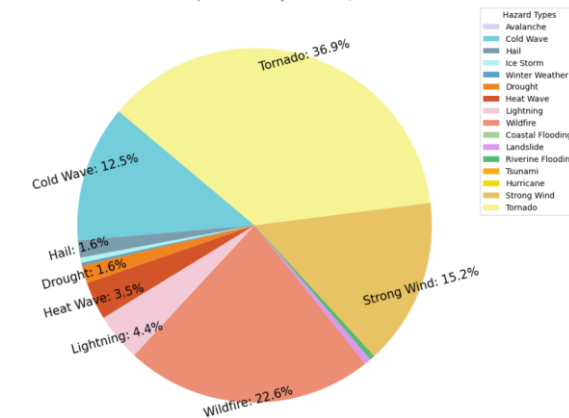
Private Financing & Partnerships

Developers and clean energy investors supported solar, storage, and microgrid assets.

CASH FLOW

Revenue & Cost Savings

Solar+storage reduce utility bills, with hub facilities generating service revenues.



Climate Action Measure Examples

Natural & Working Land Systems



Climate Action Finance Map

Pathways to Capital for The Ramona-Barona 2026 Climate Action & Resilience Plan

January 2026

City Climate Action Strategies	Capital Types	Top Funding and Finance Pathways	Programs and Partners	Case Examples
NATURAL AND WORKING LANDS SYSTEMS Measures NWL-1, NWL-2, NWL-3, NWL-4, Conserve and Protect Natural Land NWL-1 Protect natural landscapes, increase community resilience, and prevent increased GHG emissions through implementation of a regional fuel reduction program. NWL-2 Increase carbon sequestration through compost and mulch application on RMWD and Barona-owned and operated lands and support compost and mulch application on County-owned and operated lands as well as privately owned land by disseminating culturally relevant information. NWL-3 Enhance carbon sequestration by increasing the implementation of climate smart practices on agricultural lands. NWL-4 Increase community resilience and safeguard long-term carbon storage through conservation, ecosystem restoration, and sustainable water resources management strategies. Prioritize efforts that protect culturally significant landscapes, enhance watershed health, and strengthen biodiversity, while supporting Tribal stewardship practices.	GRANT	State Grant via California Natural Resources Agency	Tribal Nature based solutions & Envir Enhance. & Mitigation	2024 Awardees
	GRANT	State Grant via CAL FIRE	Tribal Wildfire Resilience Grants	Koy'o Land Conservancy
	GRANT	UC Agriculture Research & Education Program	Sustainable Agriculture and Food Systems small Grant	Oakland, CA
	GRANT	Federal Grant via The Forest Service	Joint Chiefs' Landscape Restoration Partnership	Blackfoot River, MT
	GRANT	Federal Grant via The Forest Service	Community Wildfire Defense Grant Program	Lake County, CA
	GRANT	State Grant via California Air Resources Board	Funding Agricultural Replacement for Emission Reduction	San Joaquin, CA
	GRANT	Grants and on farm support	Foodshed small farm cooperative	Select Ramona Farmers
	GRANT	Federal Grant via Natural Resources Conservation Service	Conservation Technical Assistance	Iowa Farmers
	GRANT	Federal Grant via Natural Resources Conservation Service	Regional Conservation Partnership Program (RCPP)	San Diego County
	GRANT	State Grant via CalRecycles	Community Composting for Green Spaces Grant	Fresno Yo'ville Community Garden
	Tax Credit	State Natural Heritage Preservation Tax Credit Program	Conservation Easements	Henry Ranch, CA
	PARTNER	The Landbanking Group	Nature Equity	Sekem, Egypt
	PARTNER	Truterra Carbon Credits	Truterra sustainability programs	Oakland, CA
	LOAN	Federal Loan via Environmental Protection Agency (EPA)	Clean Water State Revolving Fund	Yurok Tribe, CA
	BOND	Environmental Impact Bond (defined here)	Quantified Ventures	SW Colorado

brought to you by
HIP: INVESTOR
 Human Impact + Profit

Pathways highlighted in darker gray are particularly applicable and/or accessible to the Ramona-Barona Community
 * Indicates a pathway may involve Residential & Commercial Cuts
 ** Pathway cancellation currently under dispute

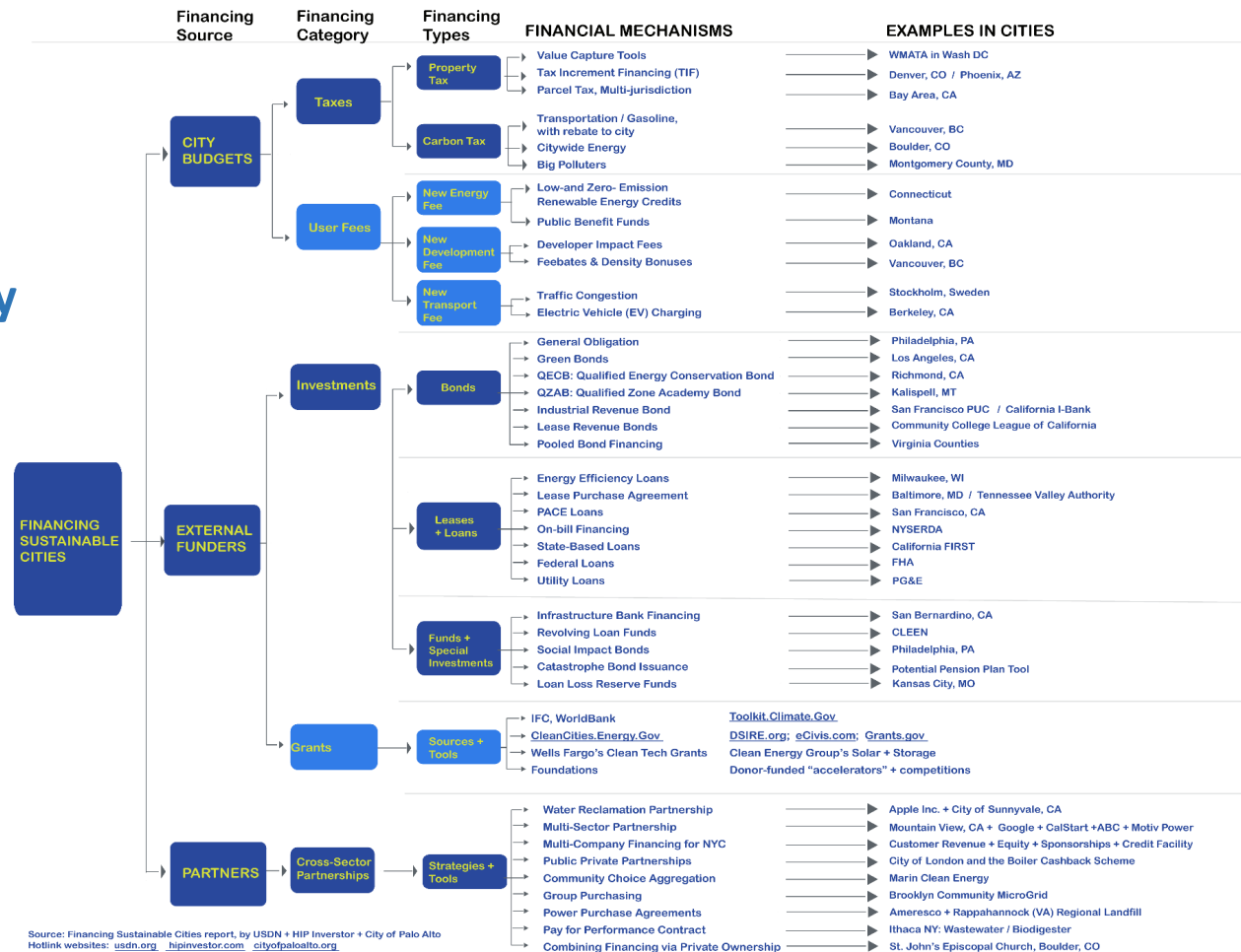
Page 5

+ soil wealth areas : Croatan Institute

Who are key partners to include in the process?

INTERNAL: Encourage a conversation across departments to see which funding and financing approaches are supported, sensitive or off the table

HIP Funding & Financing Survey



Funding Partners – Green Banks

Focus Areas

Green Banks

Green banks are the “glue” in a resilient capital stack: they blend public and private money, de-risk early or underserved projects, and standardize terms so banks and tax equity will come in.

- **Credit enhancement / first-loss:** Reserve funds, guarantees, and subordinated loans that crowd in senior lenders for projects perceived as risky (small/community solar, first-time storage)
- **Concessional & flexible debt:** Below-market or longer-tenor loans for clean power, efficiency, storage, and now **resilience/adaptation** measures (flood, stormwater, backup power).
- **C-PACE channel:** Many green banks originate/administer **Commercial PACE** so resilience/EE/solar costs can be repaid via the property tax bill—often senior to mortgages
- **Aggregation/warehousing:** They bundle smaller deals (e.g., community solar portfolios) to reach scale for private funder take-out.
- **Local match & braid-in:** They help **braid grants** (state/local/federal) with loans/tax credits so projects hit financial close—e.g., municipal resilience, stormwater, or community solar.

As a component of a resilient capital stack:

Community center “resilience hub”: solar + batteries + hardening

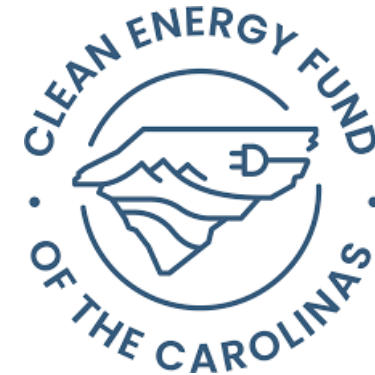
- **Grants:** State/municipal resilience grants + philanthropy as the catalytic layer.
- **Tax credits:** IRA ITC (storage eligible; direct pay for tax-exempt owners).
- **Green bank loan / C-PACE:** Long-tenor financing for solar, storage, roof, envelope, and resilience measures
- **Utility incentives / performance payments:** Where available.
- **Take-out / aggregation:** Green bank aggregates similar hubs for cheaper refinancing.
(For inspiration: CT Green Bank has backed microgrid-adjacent and resilience projects)

Affordable multifamily: community solar + storage + electrification

- **Program grant or revolving fund:** e.g., DC Green Bank’s Solar for All/affordable housing facilities or planned revolving loan fund to lower rates for LMI beneficiaries.
- **Senior debt:** From a mission bank/credit union; green bank may co-lend or provide credit enhancement
- **Tax equity / ITC adders:** Low-income, energy community, or domestic content adders where eligible.
- **PACE or mezz:** For non-recoverable resiliency scopes (stormwater, roof).
(Proof point: DC Green Bank co-financed a **\$20M** community-solar portfolio expected to serve 1,000+ households and deliver ~\$7.5M in bill savings.)

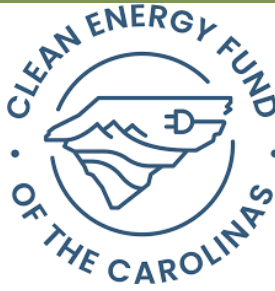
Community-scale solar or microgrids (town, co-op, C&I campus)

- **Development capital/warehouse:** Green bank provides early construction or warehouse lines; standardizes offtake contracts and underwriting.
- **Senior project debt:** Brought in once the portfolio is standardized; sometimes with a green-bank guarantee.
- **Tax equity & ITC/PTC:** Monetized at portfolio scale.
- **Grants for resilience “extras”:** Switchgear, controls, community facilities upgrades
(See also NREL’s policy stack for resilient microgrids—finance follows enabling policy.)



Clean Energy Fund Of The Carolinas

Formerly NC Clean Energy Fund



The Clean Energy Fund of the Carolinas (CEF Carolinas) - Green Bank

[The Clean Energy Fund of the Carolinas](#), operates as a nonprofit Green Bank to finance clean energy, energy efficiency and resilience projects by partnering with public and private investors, foundations, and existing financial institutions in North and South Carolina. CEF Carolinas provides direct lending to consumers and businesses as well as credit enhancements for other lenders, leveraging private capital alongside public and private investment.

As a nonprofit organization, CEF Carolinas relies on partnerships with public and private investors, foundations and other nonprofit organizations to deploy sustainable financing solutions. CEF Carolinas works closely with philanthropic partners to leverage their dollars in support of clean energy deployment, especially in rural and other underserved areas. Local foundations and family foundations associated with large or growing companies could be a future source of grants as a part of a blended finance solution to meet community needs.

This summer, CEF Carolinas launched its consumer loan program [Carolina SURE \(Smart Upgrades for Residential Efficiency\)](#), a **lending program designed specifically to provide an accessible loan product that removes financial barriers for homeowners in North Carolina and South Carolina seeking to electrify their homes and improve energy efficiency**. CEF Carolinas is also part of the EnergizeNC Coalition, led by NC Department of Environmental Quality's State Energy Office, which was awarded a \$156 million EPA Solar for All grant to support solar deployment across the state. Unfortunately, this grant is paused, in jeopardy and consequently, so is the EnergizeNC mission to provide clean affordable renewable energy to NC communities in the most need.

Carolina SURE Eligible Projects

What Can You Finance?

- **Heating and Cooling Systems** – heat pumps above 16 SEER/ 15.2 SEER 2, high efficiency air conditioning, HVAC, and water heating
- **Solar & Battery Storage** - Generate and store your own power
- **Home Envelope** - Windows, doors, and insulation
- **Infrastructure** - Septic to sewer conversions, electrical upgrades, roof repair and replacement
- **And More** - Any project that includes energy efficiency improvements, resiliency measures, aging in place, and water conservation measures may qualify

Innovative because there is no minimum FICO Score requirement & financing is designed to reduce your energy costs, creating long term savings and wealth building

More coming soon for Electrify The Triangle

Funding Partners – CDFI's

Focus Areas

Community Development Financial Institutions (CDFIs)

CDFIs are the “community underwriter” in a resilient capital stack. They translate grants and policy incentives into bankable projects, then crowd in private lenders.

Originate & underwrite in LMI places. CDFIs know local borrowers (cities, co-ops, schools, nonprofits, small developers) and can size debt to real cash flows for projects like resilience hubs, microgrids, water/stormwater upgrades, and efficient housing. They're mission-driven lenders certified by Treasury to serve low-income communities.

Provide flexible, catalytic capital. Pre-development loans, bridge-to-grant/ITC, subordinated/mezz debt, and long-tenor senior loans—often paired with technical assistance—to get first-of-a-kind or small-ticket portfolios over the line.

Braid public funds. They match FEMA BRIC/HMGP awards, state/local grants, and utility incentives with loans/tax credits—so resilience scopes (islanding, hardening, storage) actually close.

Aggregate & standardize. They bundle small municipal, school, or nonprofit projects into portfolios that private banks/green banks will refinance, lowering cost over time. (This “portfolio-ize for scale” approach is a recurring finding in resilience finance literature.)

Stay on the field. Many CDFIs service loans and provide ongoing TA—critical for long-life assets like storage, microgrids, and building upgrades

Where They Sit In The Capital Stack:

1) Community resilience hub (school/church/rec center):

Grants (FEMA/state/philanthropy) → **CDFI bridge & senior/PACE loan for solar + storage + hardening** → ITC/direct pay (if eligible) → later take-out by bank/green bank. CDFI also funds pre-dev and owner's rep capacity.

2) Affordable multifamily electrification + backup power:

Investment Tax Credit (ITC) + Low-median Income (LMI) adders → **CDFI senior/co-lend or mezz** (pairs with housing sources and utility incentives) → green-bank credit enhancement/warehouse → permanent refi once operating history is proven.

3) Community-scale solar/microgrids (town/co-op/C&I campus):

Developer equity → **CDFI standardization/design/warehouse (sets standard offtake docs)** → senior project debt + tax equity → long-term take-out via green bank or bank syndicate.



Self-Help Credit Union

CDFI

Self-Help Credit Union & Community Development Financial Institutions (CDFIs)

Self-Help Credit Union (based in Durham, NC) is a community development financial institution (CDFI) and nonprofit credit-union network with a long history of financing underserved communities and mission-driven businesses.



Under the banner of “Climate United,” Self-Help is part of a coalition (with Calvert Impact and Community Preservation Corporation) that was awarded approximately \$6.97 billion by the EPA via the National Clean Investment Fund (NCIF) to help finance clean-energy, efficiency and climate-resilience projects, with particular emphasis on disadvantaged communities.

Self-Help offers “green loans” (for energy efficiency, solar, EVs, water savings) and via its Climate Capital affiliate is mobilizing private capital and subsidies to broaden access to clean-energy financing.

What services/financing they provide & how they could support municipal climate action

- They design and originate **loans and credit products** for energy-efficiency upgrades, renewables, electrification and resilience. For example, their “Green Loans” cover HVAC, insulation, windows, solar installations.
- They act not only as a direct lender but also as a **capital-provider/aggregator** for community-based clean-energy finance. Via Climate United, they aim to **leverage public funds + private capital** to finance “qualified projects” in underserved/lower-wealth geographies.
- For municipal or public-sector usage: although explicit case studies of Self-Help funding *municipal government buildings* are limited, their capabilities align with public-sector facility upgrades, especially in smaller jurisdictions: e.g., municipal buildings needing energy audits, HVAC upgrades, solar + storage, water reductions. Self-Help could provide the financing or partner with municipalities or local governments as lender/intermediary.
- Their approach emphasizes **equity, accessibility, and underserved communities** (e.g., their commitment under Climate United to deploy at least 60% of funds in low-wealth/disadvantaged communities).

Key considerations & fit for municipal climate-action

- Municipalities often require financing structures that allow upfront investment (e.g., for building upgrades) and repayment through savings or cost reductions. Self-Help’s green-loan and clean-energy product lines can fit such needs, especially if local governments partner with them or use their financing as part of a broader stack (including state/local incentives, grants, ESCO finance).
- Because Self-Help emphasizes underserved communities, smaller municipalities (especially rural or lower-income) may benefit from their mission-driven financing products—this may help fill gaps where traditional lenders are less active.

Funding Partner - ESPC

Focus Areas

Energy Savings Performance Contracts

Energy Savings Performance Contracts allow counties and municipalities to fund energy efficiency and infrastructure upgrades **without upfront capital costs**. North Carolina's legislation (G.S. 143-64.17) authorizes public agencies—including counties, cities, and local governments—to enter into ESPCs, where **future energy savings guarantee repayment** of the project.

How ESPCs Reduce Municipal Costs

Budget Neutral: Projects are financed through guaranteed future utility savings, avoiding new taxes or debt service from general funds.

Modernized Infrastructure: Upgrades to HVAC, lighting, and building controls reduce deferred maintenance and improve building reliability.

Guaranteed Savings: Energy Service Companies (ESCOs) guarantee performance—if savings fall short, the ESCO covers the difference.

Operational Efficiency: Automated systems reduce staff time managing outdated or inefficient systems.

Lower Lifecycle Costs: Comprehensive retrofits reduce long-term operating expenses, freeing funds for community services.

Reinvesting energy savings into public infrastructure can **modernize facilities, reduce emissions, and improve fiscal resilience**—all without increasing taxpayer burden.

Who Provides the Upfront Capital for ESPCs in North Carolina

The **upfront capital** for an ESPC project in North Carolina **almost always comes from private capital providers**—such as commercial banks, specialty energy financiers, or leasing companies.

The **ESCO (Energy Service Company)** designs and implements the project, but **does not typically fund** it directly.

Once the ESPC contract is approved, the **local government enters into an installment-financing agreement** with the lender, secured by the future guaranteed energy savings.

The **Local Government Commission (LGC)** must approve this financing before execution.

In some cases, the ESCO (e.g., Schneider Electric, Trane, Siemens, Johnson Controls, Ameresco) **arranges the financing** by bringing in one of their preferred lending partners.

Green-bank style organizations (such as NCCEF) are exploring ways to provide **credit enhancements, loan loss reserves, or co-investment** to help smaller municipalities access ESPC financing on better terms. This can lower interest rates, shorten payback periods, or make projects feasible for rural or low-capacity governments that might not qualify for traditional credit.

How the Flow of Funds Typically Works

- **ESCO designs & guarantees project performance** → defines scope, cost, and projected savings.
- **Local government signs an ESPC** → commits to repay over 10–20 years from energy-cost savings.
- **Private lender provides upfront capital** → pays ESCO for construction and equipment.
- **Local government repays lender annually** using energy and operational savings.
- **ESCO monitors performance** → guarantees savings through M&V process; reimburses any shortfalls.

The ESCO's performance guarantee ensures that **annual energy savings ≥ annual debt service**, making the deal "budget neutral."

Case Study: Wilson County, NC

ESPC

Energy Savings Performance Contracts - Case Study: Wilson County, North Carolina

The Wilson County, North Carolina ESPC modernized ten county-owned buildings totaling more than 360,000 sq ft through a \$1.2 million energy-savings contract with **TAC Energy Solutions**. The project introduced advanced energy management systems, efficient lighting, and water-conservation upgrades, financed entirely through guaranteed utility savings. Phase I achieved roughly \$107,000 in annual cost reductions, and a follow-up phase expanded improvements to the county's detention and administration buildings, generating an additional \$29,000 per year. Together, these upgrades enhanced comfort, reduced emissions, and allowed Wilson County to reinvest utility savings without raising taxes.



Performance contracts totaling \$1.2M over 12 years

- Guaranteed annual savings: \$136,892
- Number of buildings: 10 (363,000 sq.ft.)
- Energy conservation measures:
 - New and upgraded EMS
 - Water conservation measures
 - Lighting upgrade Installation

2007 Environmental facts: Wilson County annually saves energy equivalent to

- Reducing CO2 emissions by 183 tons
- Removing 37 automobiles from the roads
- Planting 50 acres of trees

Outcomes & Benefits

Utility cost reduction: The county achieved roughly US\$107,000 in annual savings after the initial \$900,000 in improvements. A second project phase (~US\$330,000) targeting additional facilities (Detention Center, newly acquired Administration building) yielded additional annual savings of ~\$29,000.

Improved indoor comfort, upgraded controls, centralized monitoring, and enhanced building performance were realized alongside cost savings.

Fiscal impact: Because the upgrades were funded via guaranteed energy savings rather than new taxes, the county manager noted:

"Since we are trading the money we were spending on utilities to complete the work, our citizens are not burdened with a tax increase."

Funding Partner – Private Capital

Focus Areas

Private Capital – Climate First Bank



Climate First Bank is an FDIC-insured community bank self-identifying as “the world’s first commercial bank dedicated to the environment and sustainability.” It has a mission focused on environmental well-being, social justice and governance (ESG) commitments. In 2024 they reported lending over US\$210 million into mission-driven projects including rooftop solar, affordable housing, small businesses. CFB is a certified B Corporation, a member of the Global Alliance for Banking on Values (GABV) and has made clear its intention to focus on “banking for climate impact” rather than purely commercial banking.

Financing Capabilities & Relevant Product Lines

- Their commercial & sustainable lending products include **Commercial solar loans, energy improvement loans (up to 90% financing for energy efficiency / retrofits)**, and loans for “owner-occupied commercial real estate” and “sustainably certified commercial buildings.”
- They also offer SBA loans that can be used for real-estate purchases, retrofits (HVAC, lighting, window/lighting upgrades), solar installations or EV charging stations.
- On the impact side, CFB highlights its support of sustainable building, water-/energy-efficiency, green-certified construction and mission-aligned capital. For example: “We finance solutions to reduce global carbon emissions such as residential and commercial solar, EV charging infrastructure, and green building retrofits.”

Municipal / Public-Sector Alignment — How CFB Could Serve Municipal Projects

- **Energy/efficiency retrofit financing:** Municipal buildings undertaking energy efficiency upgrades (e.g., HVAC, lighting, controls) could match CFB’s “energy improvement loan” product.
- **Solar + clean infrastructure:** If a municipality is deploying solar + energy storage or EV charging at public buildings, CFB’s commercial solar lending fits.
- **Mission/impact alignment:** Municipalities seeking to show climate-resilience or carbon-reduction value could align with CFB’s mission branding (which may help municipal entities access preferred pricing or innovative structure).
- **Flexible financing/debt options:** Because CFB is a private bank, it may offer non-traditional structures (e.g., interest-only draws, equipment financing, lease-purchase) which could complement public financing frameworks (like ESCO contracts) or act as bridge funding.

Last month CFB financed two 10-MW battery projects in Virginia, providing \$32 million in financing, creating additional grid resilience and reducing peak load demand.

Funding Pathway – C-PACE

Focus Areas

Commercial Property Assessed Clean Energy / Capital Expenditure (C-PACE)

Last month, Chatham County (BoC) adopted the final resolution to allow C-PACE in the county.

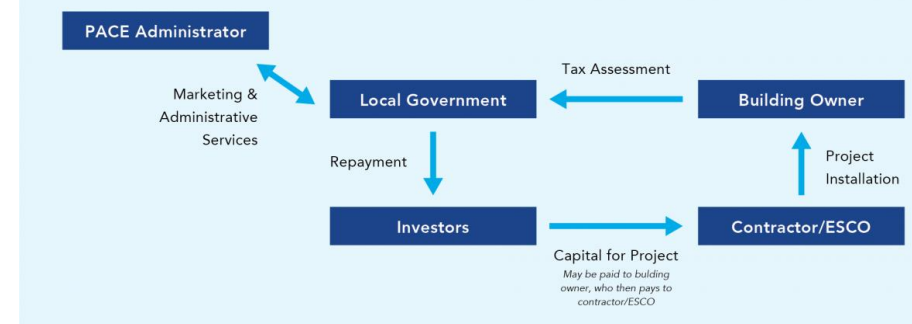
How C-PACE works

- **Eligibility and approval:** Property owners consult with the NC EDP C-PACE program administrator to confirm their project is eligible, which typically focuses on energy, water, or resiliency improvements.
- **Project proposal:** The property owner works with a contractor to define the project scope and its estimated costs, often including a calculation of the energy savings compared to the costs (Savings-to-Investment Ratio).
- **Securing capital:** Once the project is approved, capital providers fund 100% of the project's costs upfront.
- **Repayment:** The cost of the loan is added to the property's regular tax bill as a special assessment.
- **Long-term repayment:** The assessment is repaid over a long period, often up to 30 years, and the annual savings from the project can help offset the cost.
- **Transfer of ownership:** If the property is sold, the remaining assessment and repayment obligation is transferred to the new owner.

Key Benefits

- **Zero upfront cost:** Property owners can finance projects with no money down.
- **Cash flow positive:** The energy savings can exceed the cost of the assessment, potentially improving cash flow from day one.
- **Property-tied:** The loan is tied to the property, not the owner, and is repaid via the tax bill, which is considered a senior lien.
- **Low-Cost Funding:** A senior lien on the property can lower the investment risk and reduce the interest rate required by the capital provider

Typical C-PACE Financing Structure



Funding Pathway – Conservation Easements

Focus Areas

Conservation Easements

A **conservation easement** is a voluntary, legally binding agreement that permanently limits certain types of development or land use in order to protect a property's natural, agricultural, or cultural resources. By preserving forests, farms, wetlands, and open space, easements help sequester carbon, safeguard biodiversity, and reduce future emissions and infrastructure costs—making them a powerful tool for local climate action and resilience.

How to Implement in Chatham County

- Local governments or land-trusts in Chatham County could identify **priority parcels** (forest, wetland, farmland) that are highly vulnerable to conversion or that provide high ecosystem services.
- Develop easement programs that incorporate **climate-specific language** (e.g., carbon sequestration, water-retention, habitat corridor protection) so that easements are explicitly aligned with climate objectives.
- Pair easements with **incentives** for landowners: tax benefits, cost-share for regenerative practices, support for monitoring.
- Integrate easements into the county's **resilient capital stack** and climate-action strategy: link land-protection with stormwater infrastructure, urban-edge growth management, and green-infrastructure financing.
- Track and quantify: estimate carbon sequestered, emissions avoided through avoided land conversion, and infrastructure operations & maintenance cost savings from avoided infrastructure/road expansion or flood damage.

Triangle Land Conservancy has seen major progress in farmland preservation efforts in Chatham County, where momentum continues to grow thanks in large part to local government support and long-standing community ties to the land.

Now entering its second year, the Chatham County Organizational Support Grant—created by the county in 2024 to bolster agricultural conservation work—has significantly expanded TLC's capacity to protect working lands in Chatham County, which is home to more than **114,000 acres of farmland**. The grant, which was voted on by the Board of Commissioners, enabled TLC to hire a dedicated Working Lands Manager. This key role is helping accelerate farmland conservation across the county. Today, more than **875 acres of working farmland and forests** are in the process of being permanently protected through conservation easements.

Reclaim Status as a Carbon Sink

– lost due to STAR coal ash recycling facility



International, but based in RTP & Burlington, NC

Funding Pathway – Public Private Partnerships

Focus Areas

Additional Partnerships Examples

Partnerships make a resilient capital stack actually work by solving non-financial bottlenecks—policy, demand, execution, and trust. They can be industry experts with technical expertise, market participants, community organizers or a variety of different agents of support

12 ways partners add value beyond capital

- **Demand aggregation & standardization** Pool small projects (schools, clinics) into a portfolio; share template RFPs & term sheets. Lowers soft costs and unlocks take-out financing.
- **Revenue & credit enhancement (non-cash)** Anchors (city, school district, hospital) sign offtake/lease/availability agreements, guaranteeing minimum revenues so senior lenders show up.
- **Permitting, interconnection, and site control** Local governments/utilities create fast lanes, master permits, site access agreements, and queue priority—cutting months off timelines.
- **Technical assistance & owner's rep** Universities, ESCOs, extension services, and nonprofits supply pre-dev help: audits, one-lines, load studies, scope/budget validation, grant paperwork.
- **Operations & maintenance (O&M) backstops** Provide performance guarantees and long-term service plans; insurers add equipment breakdown or parametric covers for extreme weather.
- **Program design & braiding** Green banks/CDFIs coordinate IRA tax credits, FEMA BRIC/HMGP, state incentives, utility programs—so grants, tax equity, and loans line up in time.
- **Community legitimacy & co-governance** CBOs (e.g., Hispanic/Tribal orgs, faith networks) lead outreach, set benefits (cooling hours, resilience services), and sit on investment committees.
- **Data, MRV & transparency** Neutral data partners stand up meter-level dashboards (kWh, load coverage hours, outage ride-through), equity metrics, and open-data reporting.
- **Workforce & supplier pipelines** Workforce boards/colleges pre-train local crews; anchors adopt local-hire and M/W/DBE targets; OEMs offer curricula and credentials.
- **Procurement leverage** Anchors run joint buys or “catalog contracts” with pre-negotiated pricing/warranties; piggyback clauses let smaller towns join later.
- **Policy & tariff enablement** Utilities/regulators craft tariffs (e.g., standby credits, resilience service payments, on-bill recovery) that make the pro forma pencil without extra cash.
- **Ownership & stewardship models** Co-ops, public authorities, or nonprofit SPVs keep assets mission-aligned, recycle surpluses locally, and manage end-of-life reserves

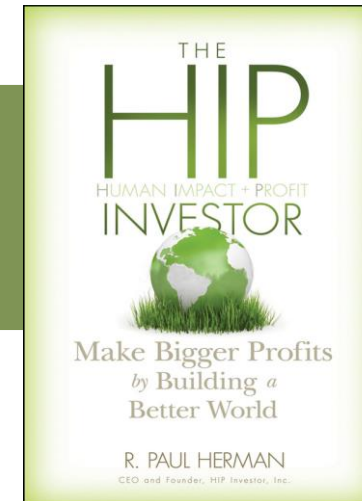
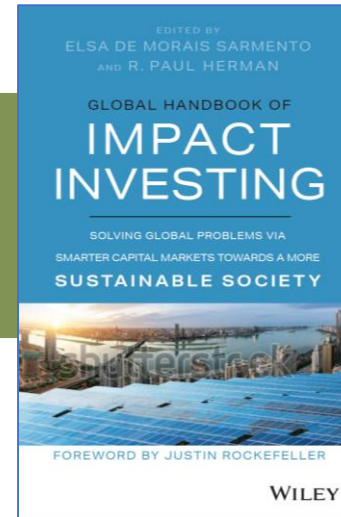
Who to recruit (role → typical partner → what to ask for)

- **Anchor off-taker:** County/school/hospital → long-term offtake/lease, outage-use protocols.
- **Community voice:** CBO/tribal council/faith anchor → co-design benefits, sit on credit committee.
- **Underwriter/originator:** CDFI → pre-dev + bridge, standard docs, portfolio aggregation.
- **Credit enhancer:** Green bank/city → guarantees, subordinated tranche, C-PACE channel.
- **Utility/regulator:** Co-op/IOU + PUC → interconnection fast track, resilience tariff, TOU alignment.
- **Technical bench:** ESCO/OEM/university → stamped designs, performance guarantees, O&M plans.
- **Data/MRV:** University or third-party platform → open metrics and annual public report.
- **Workforce:** Community college/workforce board → training cohorts, placement guarantees.
- **Insurer:** Carrier/broker → parametric cover, deductible buydowns, premium credits for M&V.

HIPSM : INVESTOR

Human Impact + Profit

Contact Me:
Nick.Gower@HIPinvestor.com



Categories of Financial Mechanisms for Equitable Climate Action

Pros, Cons, & Red Flags

Grants

Grants are the premier source of “free” capital. Grants make the most sense for local governments with the necessary staff capacity (*1-2 full-time equivalents, either internal or external experts*) to track grant opportunities, craft meaningful proposals that link to the goals and mission of the donors, submit applications, and track results required for ongoing reporting.

Pros:

- Grants do not have to be repaid
- Given foundations’ priorities and federal mandates, grants can be uniquely available to fund projects that directly aid marginalized, vulnerable, and/or lower-income community members
- Grants can support purchases that enable governments to be the sole owner and operator of a project and maintain control over project details
- Grants can attract media and generate credibility when awarded by national institutions, helping further climate leadership and innovation

Cons:

- Competitive. Can require compromising community needs to appeal to the funder’s agenda, and effort spent applying is not always rewarded
- Not sustainable for the long term; need to reapply, often with uncertain outcomes
- Government grants typically have strict spending restrictions and burdensome reporting requirements.
- Can sometimes come with ‘match’ requirements, where the grantee has to find donors for ~10-50% of the total budget

Local Government Role:

- If the local government is the grantee, they are responsible for grant management. Additionally, they would ultimately own any equipment and infrastructure purchased through a grant and would be responsible for ongoing maintenance, unless they arrange otherwise.
- If not the grantee, they can provide letters of support and coordinate with the grantee to accelerate permitting and project delivery

Funding Amount:

- Community foundations can grant hundred dollars for gardens, while federal agencies award billions for transportation projects

2025 Landscape:

- Several federal grant programs have recently been frozen and their long-term viability is uncertain. Many of the grant programs from the Inflation Reduction Act (IRA) and the Infrastructure Investment and Jobs Act (IIJA) appear to be at risk by the current Administration. With this uncertainty, grant management may require additional internal local government resources for compliance and legal review. State-level grant programs for climate action vary widely and may also be affected by federal funding. As foundations (family, corporate, community) and nonprofit grant-makers increasingly prioritize climate mitigation and adaptation work, the amount of non-federal grant funding is expected to grow to fund action

Red Flags:

- Do not pursue: if your government team has extremely limited staff capacity to research, apply, manage, and report on grants. Possible strategies include outsourcing grant writing to a third-party consultant, volunteer, or environmental fellow (e.g. EDF.org Fellows)

Source: Rincon Consultants / HIP Investor – August 2025

<https://glendalecaap.rinconconsultants.com/wp-content/uploads/2025/08/Glendale-CAAP-Final.pdf>

Categories of Financial Mechanisms for Equitable Climate Action

Pros, Cons, & Red Flags

Partnerships

Partnerships often secure action, collaboration, funding from private actors, and spread the financial risk of a project across multiple public, private, and/or nonprofit entities. They are well-suited for local governments that cannot or do not want to own their project outright, and/or that are willing to share possible cost savings and revenue generation with a third-party.

Pros:

- Private partners can expedite project design, initial implementation, ongoing management
- Partnerships can leverage private sector expertise to spark innovation, try novel approaches, and better design, build, and manage projects
- Partnerships can enable public sector entities to capture tax incentives and other private-market benefits

Cons:

- Partnerships may require the government to relinquish ultimate ownership of project, and thus they may lose operational control
- If a local government forgoes ownership, their consequent inability to recoup cost savings and other benefits enables private parties to profit from the project, instead of enabling community wealth-building or reduced cost burdens on the municipality. This transfer of profits or cost savings to private partners, however, is often what enables private partners to provide upfront capital for projects

Local Government Role:

- Partnership structures vary widely by project

Funding Amount:

- Partnerships take many forms, and the amount of funding and/or financing provided by third-parties in partnerships varies widely. For example, in *Power Purchasing Agreements*, the private sector can bring 100% of the upfront capital for governments to develop renewable energy projects but those companies also capture significant cost savings as private profit. In *Collaborative Purchasing*, local governments bring the upfront capital, but by aggregating demand, multiple cities can leverage their combined buying power and reduce asset costs through economies of scale

2025 Landscape:

- The complexity of solving climate challenges with an increasingly savvy funding landscape has given rise to sophisticated public-private partnership (PPP) models that leverage private capital and expertise while mitigating associated risks with public sector resources. These partnerships have traditionally taken the form of infrastructure projects, but most recently evolved into innovative financing mechanisms. Public-private partnerships are increasingly being used to fund and/or finance climate action—especially as local governments across the United States and world are facing budget constraints, and innovative partnership and contracting structures enable private sector actors to take on financial and operational risks of capital-intensive projects

Red Flags:

- Do not pursue: if you want to capture 100% of revenue or cost savings generated by a project, or want complete control over decisions
- Caution: ensure that potential partners share the core values and desired outcomes (including any co-benefits). Pay attention to partners' commitment to principles and actions related to diversity, equity, community-driven process, environmental outcomes, and social benefits

Categories of Financial Mechanisms for Equitable Climate Action

Pros, Cons, & Red Flags

Loans and Private Credit

Loans provide local governments access to upfront capital, which must be repaid with interest. While local governments should first consider grants and private partners that can provide debt-free capital, loans can be a dependable alternative. In many cases, municipal borrowers and impact-driven projects can secure financing with low interest rates, especially with an investment-grade credit rating

Pros:

- Loans provide upfront capital, and are possible on shorter notice, with stated terms and time-based contracts
- Loans spread the cost of a project across the useful life of the asset, and thus allocates cost recovery to current and future users
- Depending on the parties and circumstances, in some cases, loans could be forgivable (e.g., foundations achieving an eco goal might forgive loans)
- Loans can be purposefully structured in ways that reduce burdens on lower-income borrowers, such as *tariff on-bill financing* and *income mandates*

Cons:

- Loans add debt to the balance sheet, which can impact other pursuit of further debt issuances, including muni bonds
- Lenders may have stipulations on what the borrowed capital can be spent on (e.g. assets vs. operating costs like wages)
- Banks and private investors usually offer loans with higher interest rates than municipal bonds
- When offered directly to residents, businesses, and nonprofits, loans can prohibit lower-income individuals and families from participating due to credit checks, or a desire to avoid personal debt. Additionally, historical and existing predatory lending practices have led to a general distrust of community loans, as well as a relative preference for grant funding.

Local Government Role:

If the government is the borrower, it is responsible for negotiating loan terms and paying regular loan payments and interest. In this case, the government would carry the debt load of the loan. A government's finance team needs to analyze if this debt capacity is on or off the balance sheet, and how repayment can be balanced with other obligations

Funding Amount:

Loans can range from thousands to millions of dollars depending on the lender and project

2025 Landscape:

Municipalities are increasingly using private lenders to finance capital projects. As funding shortages for climate infrastructure globally swelled to approximately [\\$86 billion](#) in 2024, according to CDP.net, municipalities are relying on banks and other public or private lenders to fill the gaps and implement climate action projects

Select loan programs geared towards municipalities and high-impact climate projects can come with highly favorable loan terms. These loan programs are typically managed by government agencies and foundations, and in some cases, interest rates can be as low as zero percent. For example, the San Francisco Foundation's [\\$1 million PRI or program related investment](#) program provides zero-interest loans for affordable housing related projects. Blended finance is allowing private capital to ease into climate-related investments. Combining private investment with public funding to target both return and impact can both derisk investment and leverage limited public funds as matching funds or guarantees

Red Flags:

Do not pursue: if bond financing is an option and available at lower interest rates, or if loan repayment will extend beyond the life of the project

Categories of Financial Mechanisms for Equitable Climate Action

Pros, Cons, & Red Flags

Bonds

Bonds provide dependable, predictable financing for large infrastructure projects that cost millions to billions of dollars. A local government can issue a bond directly, or apply for funds through a federal or state bonding program. Bonds can be backed by general funds or specific revenue sources.

Pros:

- Bonds enable local governments to borrow large amounts of upfront capital with fixed low-interest rates and long repayment periods
- Bonds spread out costs over useful life of project—which can be decades—and allocate cost recovery to current and future users of the project
- Tax-exempt municipal bonds can attract capital from high-net-worth investors, especially local wealthy individuals and families who can benefit from tax deductions

Cons:

- Issuing general obligation bonds can be a politically charged process if your local government requires voter approval
- Bonds cannot be repaid through cost savings from a project; they must be repaid through additional topline revenues coming from a project or from reallocated funds within the municipal budget. If a third party is generating revenues from the installation or operation of a project, those revenues can be used to support the bond. When combined with an *Energy Savings Performance Contract*, this is also called a “[Morris Model Bond](#)”
- Credit-agency bond ratings affect the interest rates of municipal bonds, with poorly credit-rated governments typically incurring higher interest rates on their bonds. This can be challenging for small or lower income communities

Local Government Role:

- Local governments are the issuer of municipal bonds and are responsible for structuring bonds and setting interest rates and maturity dates. Once the bond is on the market, it is responsible for regularly paying interest to investors, and then repaying the bond in full upon its maturity date

Funding Amount:

- Bonds provide the most capital out of all the funding and finance methods. The total municipal bond market in the U.S. is nearly [\\$4.2 trillion](#), and there are more than 1.5 million municipal bonds in existence ([emma.msrb.org](#)). More than 50,000 state, local governments and nonprofits issue muni bonds. Most muni bonds are issued for local projects, and so most munis tracked by Bloomberg have an issuance size of less than [\\$1 million](#)

2025 Landscape:

- Municipal bonds remain in high demand as historical default rates are low, and bonds are seen as a generally safe and low-risk investment vehicle. As interest rates come down, so has the costs for issuing governments. As equity market volatility increases, bonds can be considered a safe haven.
- Green, Social, and Sustainability Bonds – which can be General Obligation, or revenue bonds issued with a “green-label,” often verified by a third party – are used to promise specific use of proceeds, and potentially related outcomes, that are sustainable, social, or climate-related. In 2024, global issuances of these types exceeded \$1 Trillion ([WorldBank](#)) The demand for green bonds is historically very strong and typically sell out fast, with many green bonds having 2x to 10x the demand relative to supply ([Bloomberg 2019](#)). Informal findings suggest that green bonds can save governments up to a quarter of a point on their interest rates due to high investor demand on the primary and secondary markets.

Red Flags:

- Do not pursue: if you are unwilling to put a bond measure up to vote (only applicable when considering issuing a general obligation bond and have voter approval requirements), or if you have an extremely poor credit rating and can only secure high-interest rate bonds

Categories of Financial Mechanisms for Equitable Climate Action

Pros, Cons, & Red Flags

Budget

Budget refers to allocating money from a local government's general fund to capitalize projects. Every year governments collect tax revenue and other fees to populate their general fund, portions of which are appropriated to new capital projects and infrastructure investments. If using government budget is an option, well-suited projects tend to have total costs that are small enough to fit into 1 to 3 years of the budget, and/or have costs distributed over a number of years or decades, such as the costs related to staffing a new program.

Pros:

- Government budget funds can be available immediately, and thus can respond to pressing time-sensitive funding needs
- Government budget funds can have few restrictions, and can be tailored to exactly match community desires and project needs
- Compared with loans and bonds, funding from the government budget does not increase debt burden, and thus it comparatively frees up future budget that would otherwise be spent servicing debt payments with interest
- Budget funding utilizes existing contractual relationships, and does not require creating new partnerships or entering into new legal arrangements

Cons:

- The amount of funding available each year is limited, so large projects can exhaust an agency's entire capital budget for the year
- Similarly, it can take decades to accumulate enough to pay upfront costs of major infrastructure projects. If governments do save portions of the budget for several years in order to have enough capital to cover the upfront costs of a project, they can end up paying more due to inflation
- Budget-funded climate action may be unrealistic for local governments with declining revenues, rising expenses, or debt concerns

Local Government Role:

Governments manage their budget, collecting tax revenue and other fees. The budget is the only funding mechanism that is wholly internal to governments, with government actors having discretionary decision-making power over where funds go and what they are spent on. In this case, governments are also responsible for spending those funds and executing projects, potentially with the support of external contractors

Funding Amount:

The amount of government budget available for capital projects varies widely by a government's size and population, but also year to year depending on economic growth, property values, and changes in local taxes and fees. Regardless of size however, budget funds are limited and highly sought after, and using government budget typically limits the scope of a project more than using bonds, loans, and other financing structures

2025 Landscape:

Government budgets are increasingly constrained by the rising costs of providing basic services, catching up on deferred maintenance, and covering government employee salaries, benefits, and pensions. Consequently, government budgets' capacity to fund capital intensive climate projects are progressively limited, and sustainability leaders can prioritize additional funding pathways and mechanisms beyond their own budgets. However, if a local government has strong political leadership on climate issues, sustainability leaders can pursue the opportunity to work with elected officials on directing both operating budgets and capital budgets towards meaningful climate action

Red Flags:

Do not pursue: if your local government has other major capital expenditures planned or limited political support for climate action.

Categories of Financial Mechanisms for Equitable Climate Action

Pros, Cons, & Red Flags

Fees, Taxes and Revenues

New taxes and fees, as well as cost savings and other revenues, can create new pools of capital to fund climate action. Most often however, ongoing revenue generation is not saved and earmarked for a particular project, but rather immediately consumed by local government general funds, or leveraged through financing, as is the case with revenue bonds. Revenue generation makes sense for governments that have not significantly raised taxes or fees on residents in the past year or two, for projects that don't need immediate upfront capital, or for pursuing a revenue bond that needs a source of project-based revenues.

Pros:

- New or raised taxes and fees can produce stable sources of ongoing revenue that can provide consistency and budget flexibility for decades
- With adequate political support and restrictive legislation, revenues from taxes and fees can be set aside to create funds for very specific purposes, with revenues generated from specific stakeholder groups

Cons:

- New or increased taxes and fees require significant political capital and community support to implement
- There may be state-level regulation affecting which tax and fee structures a local government can use
- Certain tax structures and fees can be regressive, resulting in a higher burden on lower-income individuals, families, and communities
- Revenues generated from specific taxes and fees can fluctuate based on economic conditions and citizen behavior changes, which can create surprises or shortfalls

Local Government Role:

- Municipalities, utilities, and other service providers can all charge residents, businesses, and/or transient users to cover the cost of climate action projects. These charges can apply to goods including retail purchases, property, utility bills, roads, and development
- If the government is charging the tax or fee, they are responsible for communicating with residents, collecting fees, and using political processes (could be a piece of legislation or the budgeting process) to appropriate that funding to one or more specific climate action programs and projects

Funding Amount:

- The amount of capital generated by raising a tax or fee varies widely by the amount, frequency, and number of individuals being affected or charged. In the case of cost savings, the amount varies by the change in efficiency delivered by a new process or new equipment

2025 Landscape:

- Local Governments currently employ a wide variety of tax and fee schedules to meet their budgetary needs. While the addition of new charges on residents and businesses is usually unpopular, clear communication about how those charges will contribute to results, such as lowering future risk from climate change mitigation and adaptation, can garner community support. In New York City, congestion pricing (a driving fee that funds public transportation projects) was approved in 2019 with support from a broad coalition of community and environmental advocates, but is in dispute with the current federal Administration

Red Flags:

- Do not pursue: if your government has just significantly raised taxes, or is facing significant pushback from residents about the local tax burden and/or fees for municipal services
- Caution: ensure a rigorous impact study is performed related to the benefits and costs to lower income residents to ensure that the new tax or fee is not regressive (adversely impacts lower income people), and ideally has a negligible or net positive benefit for residents living near or below the poverty line

Climate Action Measure Examples

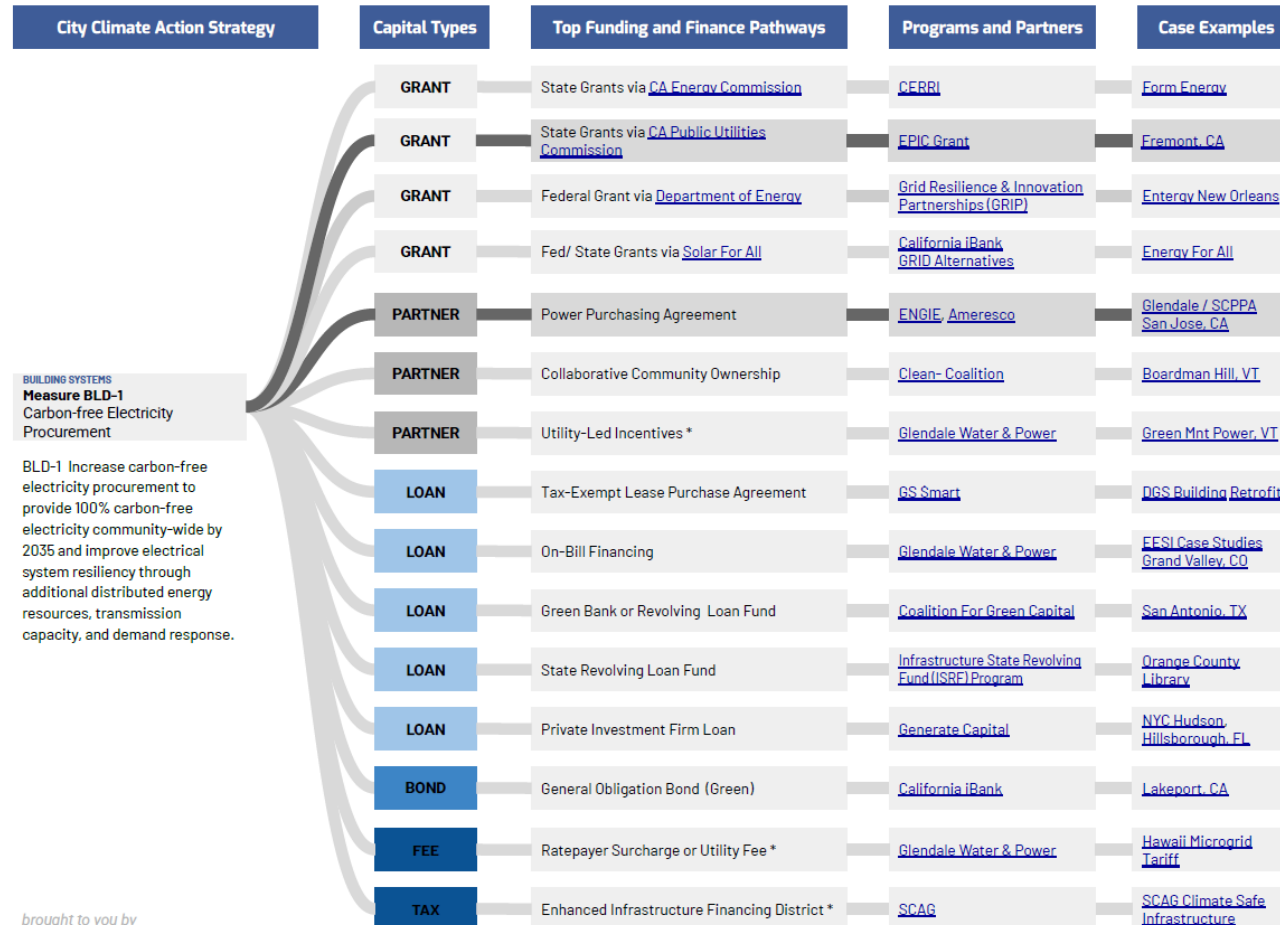
Carbon Free Electricity Procurement



Climate Action Finance Map

Pathways to Capital for The City of Glendale's 2025 Climate Action & Adaptation Plan

August 2025



brought to you by

HIP: INVESTOR
Human Impact + Profit

Pathways highlighted in darker gray are particularly applicable and/or accessible to the City of Glendale

* Indicates a pathway may involve Residential & Commercial Costs

Page 1

+ agrisolar leasing - Enerweath Solutions

Climate Action Measure Examples

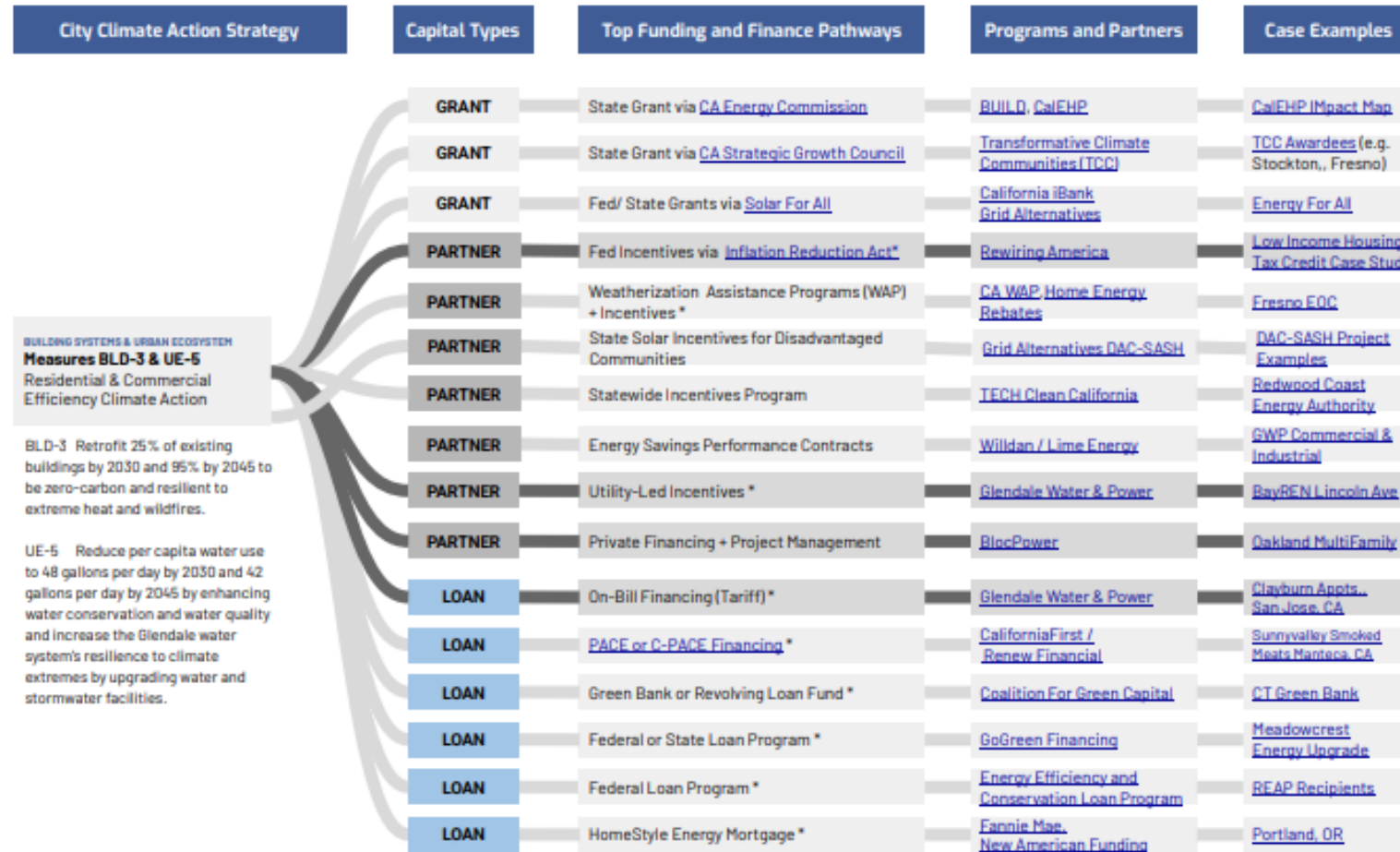
Residential & Commercial Energy Efficiency



Climate Action Finance Map

Pathways to Capital for The City of Glendale's 2025 Climate Action & Adaptation Plan

August 2025



+ residential & commercial solar leasing

Climate Action Measure Examples

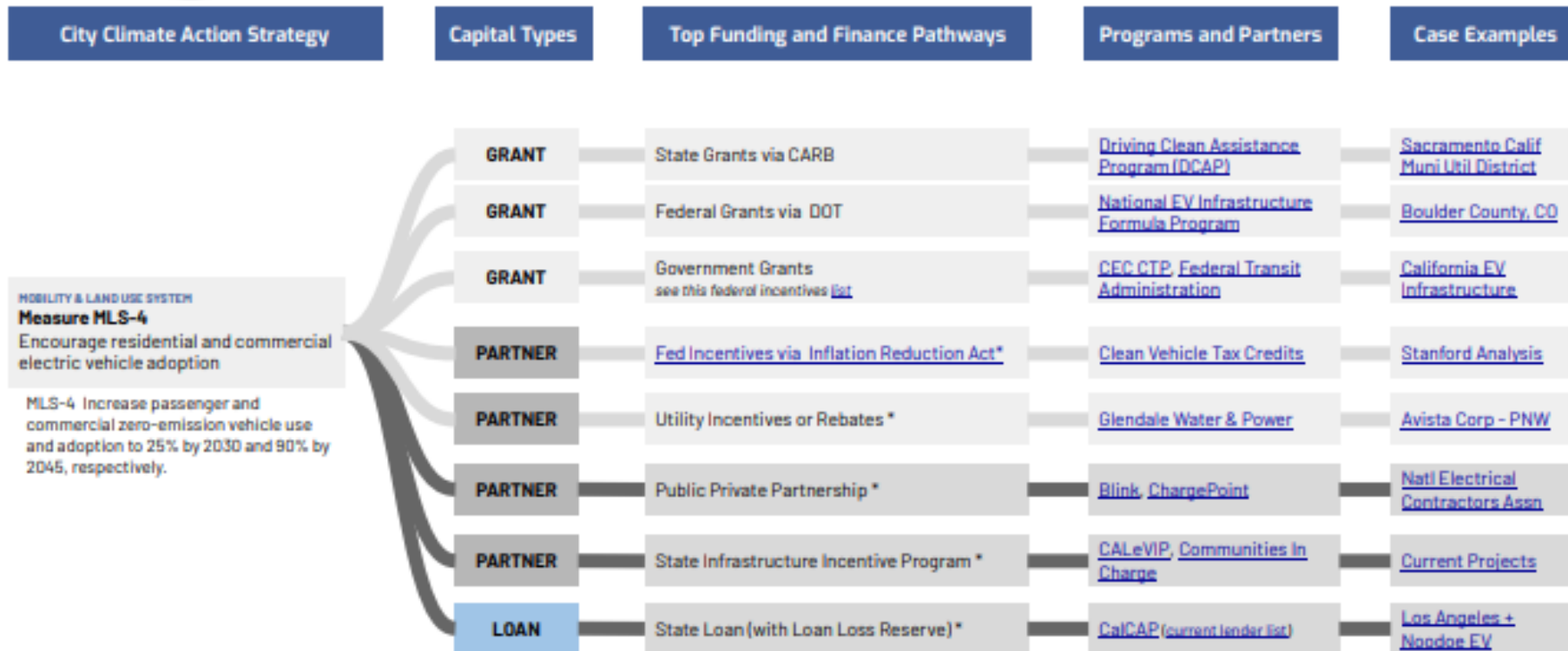
Clean Transportation



Climate Action Finance Map

Pathways to Capital for The City of Glendale's 2025 Climate Action & Adaptation Plan

August 2025



brought to you by
HIP INVESTOR
 Human Impact + Profit

Pathways highlighted in darker gray are particularly applicable and/or accessible to the City of Glendale

* Indicates a pathway may involve Residential & Commercial Costs

Page 2

- + apply idling fee for staying after charging is complete
- + can be different rates or free for residents vs non-residents

Climate Action Measure Examples

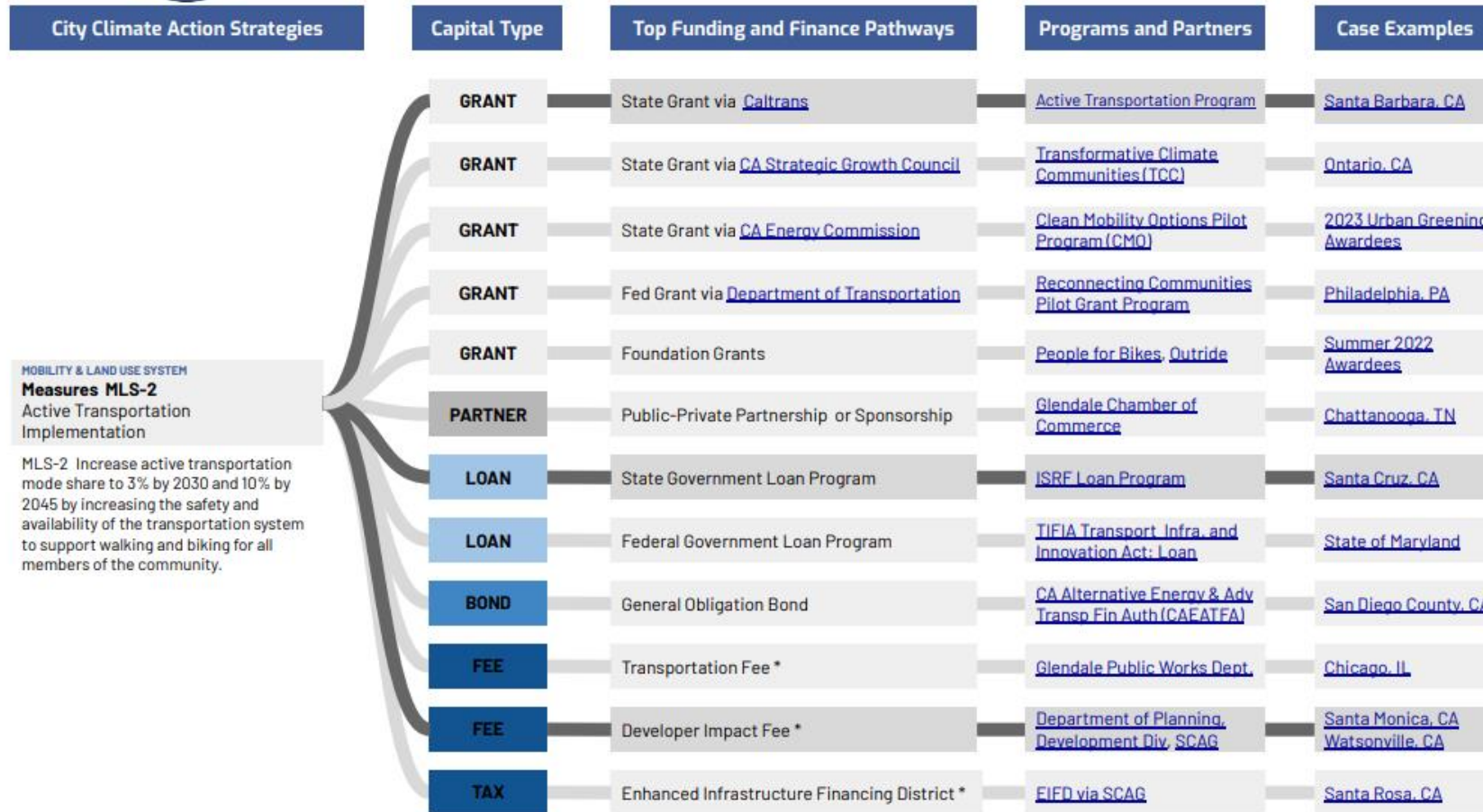
Active Transportation



Climate Action Finance Map

Pathways to Capital for The City of Glendale's 2025 Climate Action & Adaptation Plan

August 2025



Climate Action Measure Examples

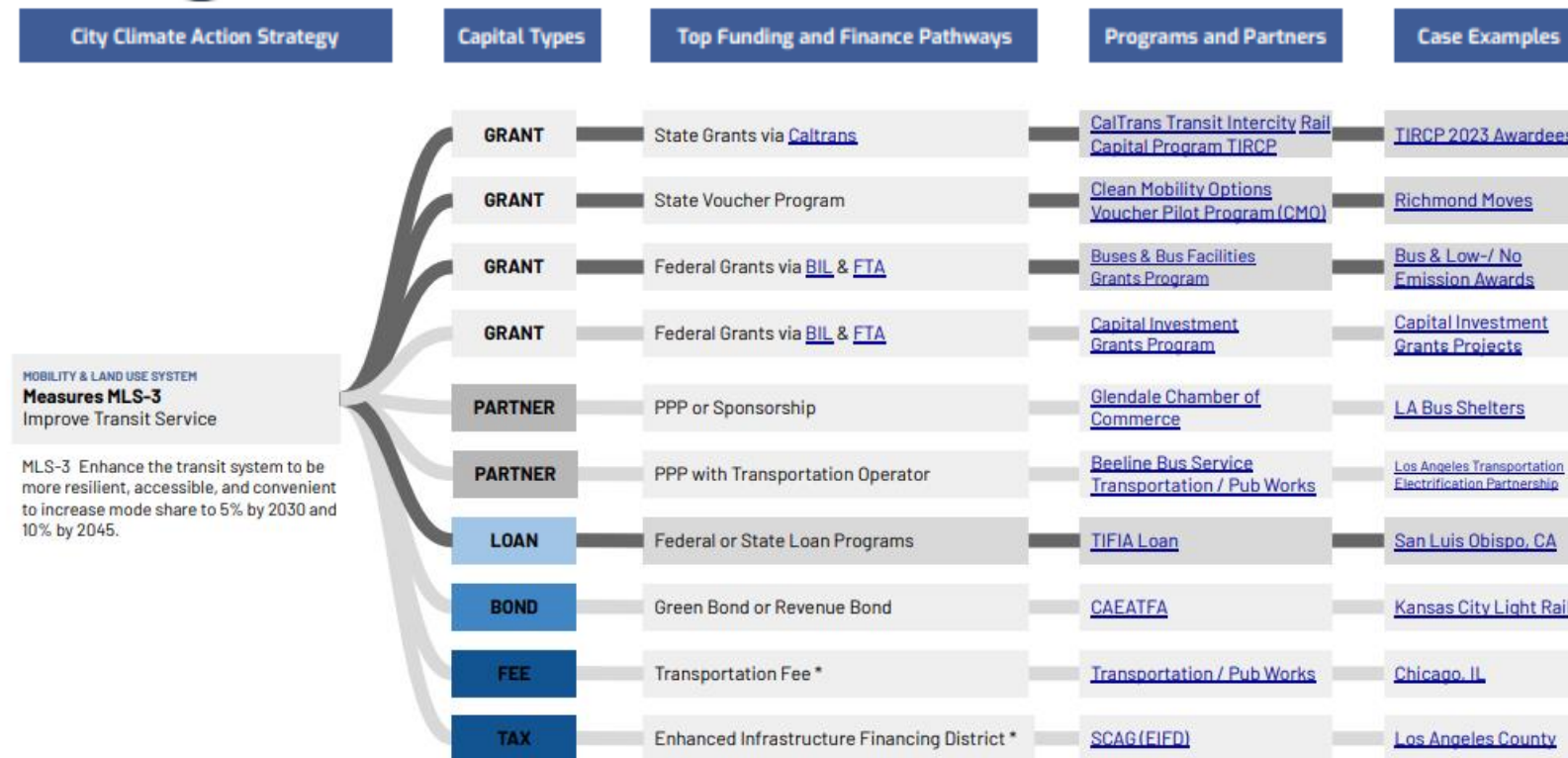
Transit Development / Expansion



Climate Action Finance Map

Pathways to Capital for The City of Glendale's 2025 Climate Action & Adaptation Plan

August 2025



brought to you by
HIP:INVESTOR
 Human Impact + Profit

Pathways highlighted in darker gray are particularly applicable and/or accessible to the City of Glendale

* Indicates a pathway may involve Residential & Commercial Costs

Page 3

Climate Action Measure Examples

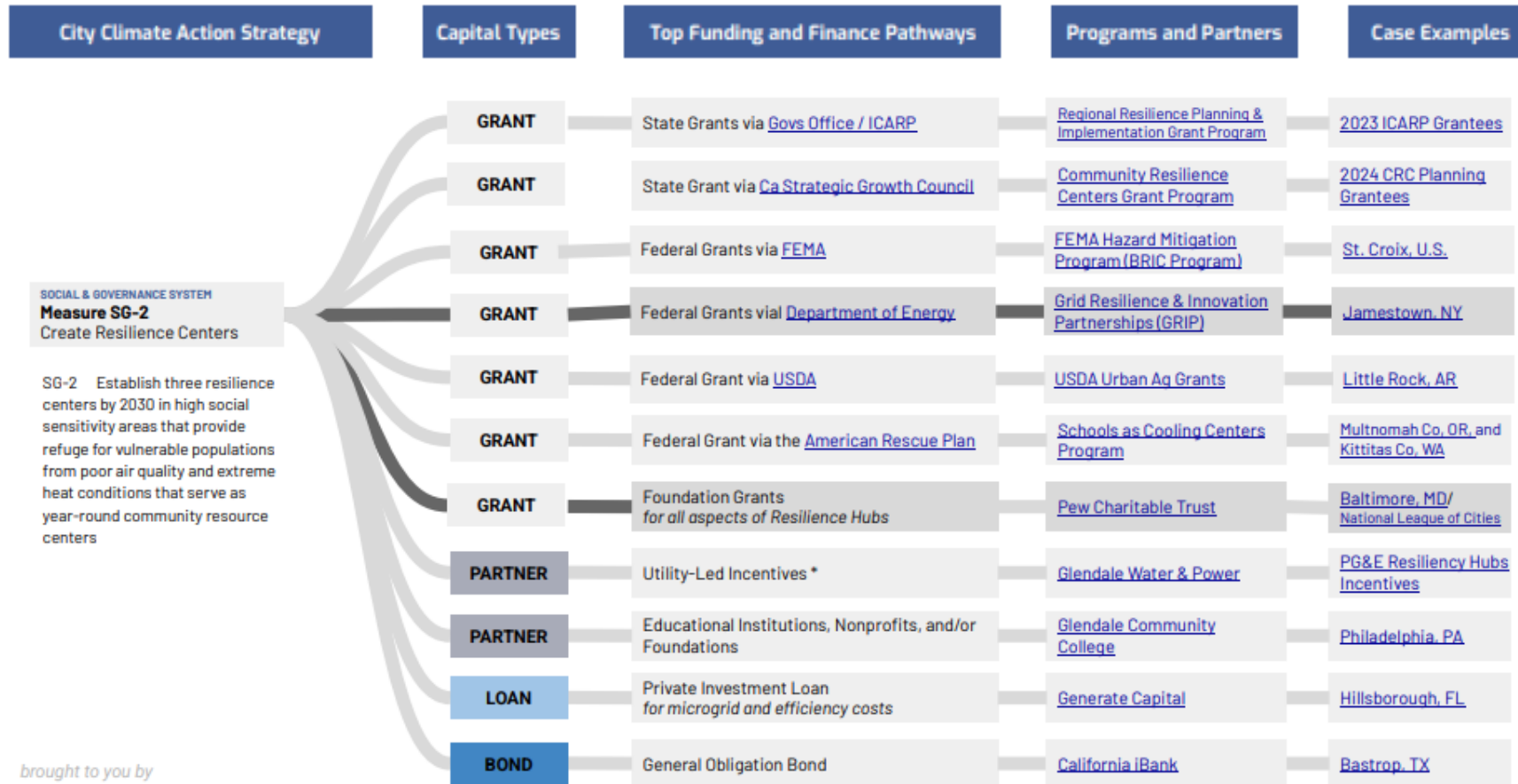
Resilience Centers



Climate Action Finance Map

Pathways to Capital for The City of Glendale's 2025 Climate Action & Adaptation Plan

August 2025



brought to you by

HIP INVESTOR
Human Impact + Profit

Pathways highlighted in darker gray are particularly applicable and/or accessible to the City of Glendale

* Indicates a pathway may involve Residential & Commercial Costs

Page 4

Climate Action Measure Examples

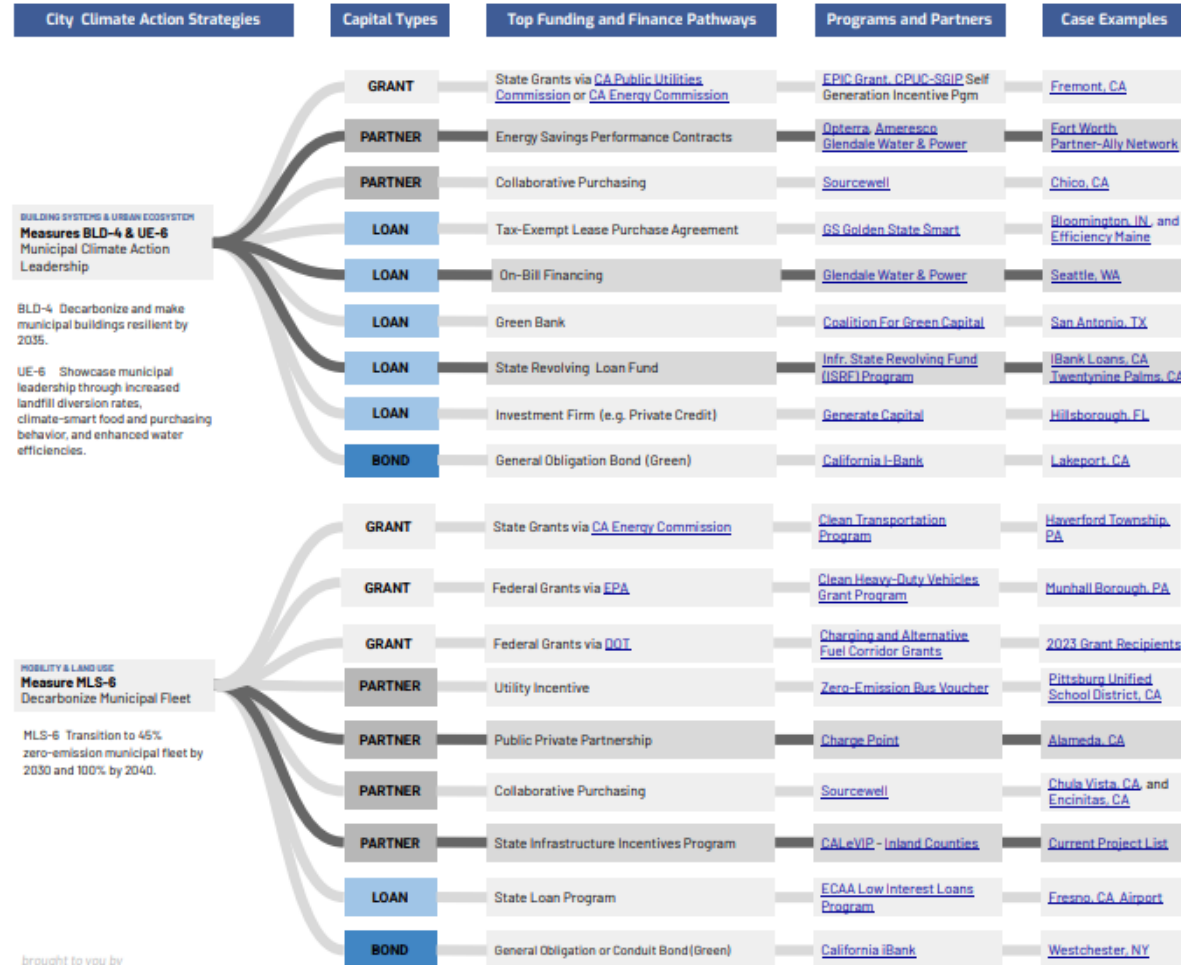
Municipal Climate Action Leadership



Climate Action Finance Map

Pathways to Capital for The City of Glendale's 2025 Climate Action & Adaptation Plan

August 2025



brought to you by
HIP:INVESTOR
 Human Impact + Profit

Pathways highlighted in darker gray are particularly applicable and/or accessible to the City of Glendale
 * Indicates a pathway may involve Residential & Commercial Costs

Page 5