ACTION

Agenda Item 5

June 16, 2017

Subject: Proposed Adaptation Financing Framework and Case Studies
Staff Lead: Nuin-Tara Key

RECOMMENDED ACTION:
Approve staff recommendation on proposed Adaptation Financing Framework and Case Studies, including direction on ICARP Council Members' assistance with expanding the framework with a series of examples.

BACKGROUND:
At the March 27, 2017 meeting the ICARP Technical Advisory Council (TAC) agreed that adaptation financing needs to be a key focus area for the Council in 2017. The Council discussed the need to better understand the current challenges and opportunities around adaptation financing generally, while also expressing a goal of highlighting the economic value of adaptation investments. The TAC proposed developing a set of *case study, plus* products to help unpack current adaptation financing challenges and opportunities.

To support this effort the Council formed a Financing Workgroup, which met on May 5, 2017. At this meeting the workgroup discussed how best to approach the *case study, plus* idea, given the complexity of adaptation financing issues and the large number of potential areas for the Council to choose from. It was agreed that before the workgroup could decide on a set of proposed case studies, they needed a basic framework that describes the current landscape of adaptation financing and funding mechanisms, including where there are existing resources and where there are gaps.

The workgroup agreed to use the "Adaptation Financing Framework" developed by the Los Angeles Regional Collaborative for Climate Action and Sustainability (LARC) as a starting point (see Attachment 1).[1]

The workgroup also proposed developing a two-tiered approach to the case studies:

1. Tier 1: situations in which funding is available and could be scaled to other sectors, climate impacts, or geographies.
2. Tier 2: situations in which funding is not available, but should be an area of focus.

With this direction from the workgroup, OPR staff developed the following proposal on (1) how to expand and build upon the LARC framework to develop a catalogue of existing financing/funding options and (2) options for three initial case studies, two focused on existing funding opportunities (tier 1) and one in an area without clear existing funding mechanisms (tier 2).

[1] The LARC Financing chapter is not intended to be an exhaustive list of all currently-available funding and financing categories, but includes many potential resources for funding adaptation efforts.

PROPOSED ADAPTATION FINANCING FRAMEWORK AND CASE STUDIES

Expanded Adaptation Financing Framework

Using the LARC adaptation financing paper as an initial framework for categorizing potential financing mechanisms, OPR staff propose the TAC, through the Financing Workgroup, identify adaptation funding and financing examples for each category presented in Attachment 2. (The table in Attachment 2 includes illustrative examples for a few existing funding resources or tools that have been used to support adaptation and resiliency efforts in California. These are presented for demonstration purposes only.)

Adding demonstration examples to the existing LARC financing framework could support a number of potential areas, including but not limited to the following suggestions from the Financing Workgroup:

1. The development of an adaptation 'toolkit' for local governments, with special focus on resources that can support jurisdictions with different capacities (e.g. staffing capacities or revenue options).
2. Daylighting categories where there are significant adaptation funding or financing gaps.
3. Examples that demonstrate or highlight implementation of the TAC's proposed Adaptation Principles.

Case studies

While additional topic areas will likely evolve out of the "adaptation financing framework" effort described above (if approved), OPR staff propose three case studies that respond to the proposed tiers presented above.

1. **Existing funding opportunity (Tier 1) – Senate Bill 1 Adaptation Planning Grants** (Senate Bill 1 will be discussed in greater detail during Agenda Item #6.)

   While this would be a longer term effort, the TAC could track implementation of the Adaptation Planning Grants through SB 1, with a focus on providing support in the following areas:

   - How to facilitate and enable regional coordination (what works, what doesn't)
   - Are there opportunities during the planning process to better support implementation
   - Lessons learned that could be applied to other existing or future adaptation planning or implementation grant programs
   - Insight into how the Adaptation Planning Grants can support implementation of the TAC's Adaptation Vision and Principles

   Key Audience

   - Primary: state and local grant program managers
   - Secondary: elected officials

2. Tier 1: Tuolumne County National Disaster Resilience Competition

California was awarded $70 million from the US Department of Housing and Urban Development through the National Disaster Resilience Competition (NDRC). The grant is being used to implement the Community and Watershed Resilience Program (the Program) in Tuolumne County. The Program was designed to integrate work across three areas: forest and watershed health, biomass utilization, and community resilience. The Program was designed to address unmet recovery needs in the County and to build resilience to future wildfires, but also to design and test a replicable model for supporting rural economic development and community resilience in communities across the mountain west.

To achieve the latter goal, the implementation team has established a Replicability Working Group with the goal to document program implementation and develop a tool to enable other communities to learn from and implement similar efforts in their own communities. The Replicability Working Group will be documenting and regularly reporting on Program implementation through a lens of learning and replication. The Working Group will report on progress twice a year and work toward a final replicability tool that can assist other communities.

The Working Group would like to present its progress updates to the TAC. Presentation to the TAC will assist the Replicability Working Group by:

- Providing input on the utility of the information collected
- Giving feedback on presentation of the information to make it most useful for other communities and audiences
- Identifying lessons that can be drawn from the work underway

Key Audience: Local jurisdictions

3. Tier 2: Funding or financing gap – public-private partnerships that support financing in low-income communities.

OPR is exploring a potential partnership with the San Francisco Federal Reserve Bank to convene private sector financial institutions and intermediaries to explore the following:

- What are the investable opportunities that will help low-income communities better adapt to climate change?
- What financing mechanisms can be used and/or are available to ensure that adaptation financing and funding flows into low-income communities?
- How can we unlock capital (e.g. financial products, regulations, partnerships) to support adaptation financing in low-income communities?

OPR staff seek the TAC's input on the following scoping questions:

- Suggestions on the type of private-sector institutions to include in this effort?

- Additional and/ or refined research or 'convening questions'?
- Existing resources or related efforts that OPR staff should connect to?

If the partnership with the San Francisco Federal Reserve Bank moves forward, OPR staff will work through the TAC Financing Workgroup to solicit additional input on the scope for this effort.

OPR staff will also deliver the proceedings from the convening(s) to the Financing Workgroup and the full Technical Advisory Council for guidance on how the findings from these convening(s) can serve as the basis for a case study, potentially on the role of public-private partnership in directing adaptation financing and funding into low-income communities.

Key Audience: TBD

Questions for ICARP TAC consideration and feedback:

Approach

- **Is there support for this approach?**

Framing

- **Are there any missing categories from the LARC framework?**
- **Can TAC members take an active role in developing a catalogue of existing financing/funding options?**

Proposed Case Studies

- **Feedback on the three proposed case studies?**
- **Are there other case studies the TAC wants to explore at this time?**

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ATTACHMENT 1

June 16, 2017

A Greater LA: Climate Action Framework", Finance Chapter

The Framework is a project of The Los Angeles Regional Collaborative for Climate Action and Sustainability (LARC) and was development in partnership with LA County Metro with funding from The California Strategic Growth Council

Available at http://climateaction.la/finance/

"FINANCE

Acknowledgements

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Introduction

FUNDING AND FINANCING

- Funding: Federal and state grants; local revenue; philanthropic sources
- Financing: Government and private financing

For the last several decades, the State of California has led the nation in the creation of climate policy, starting with progressive energy efficiency programs and regulations; followed with legislative work to incentivize the use of renewable sources of energy; and an ambitious climate mitigation policy aimed at the rapid reduction of GHG emissions. At the same time, the state is now developing a series of climate adaptation programs and strategies with the objective of mitigating the impacts of climate change on the local communities.

Finance options for local climate adaptation projects do exist from the public and private sectors, and this document aims at identifying different modalities of climate adaptation funding.

The following list serves as a broad overview of notable funding platforms available for local and regional governments, with case studies for each that document adaptation finance successes across the country. While most projects incorporate a mix of different mechanisms, many of the methods involve innovative tactics applicable to other sectors and reflect growing potential as mainstream alternatives.

The following list of funding options and examples is not intended to be exhaustive; rather, it is meant to highlight practices that could be used to support climate change resilience initiatives. This summary should not be considered policy guidance.

The following is a list of financial opportunities at state, regional, and local level that can help the implementation of climate adaptation programs and strategies in the communities of Southern California.

GRANTS

Grants are funds that are not expected to be paid back and are typically awarded by governmental or philanthropic organizations. Since most grants are awarded based on a competitive application process, they remain less dependable than other sources of funding. A number of federal agencies (e.g. USEPA, Department of Energy), state agencies (e.g. Natural Resources, Public Utility Commission), metropolitan planning organizations (e.g. the Southern California Association of Governments, which directs state and federal grants to local agencies), utilities (e.g. Southern California Edison), and foundations (e.g. Rockefeller, Kresge, Skoll, Hewlett-Packard) all disperse grants of various sizes for projects involving climate adaptation. Please note that grant making priorities change year-by-year, and these opportunities may change. *Source*

State Grants

1. **Greenhouse Gas Reduction Fund (GGRF) grants, also known as California Climate Investments**: Disadvantaged communities in California are specifically targeted for investment of proceeds from the state's cap-and-trade program. These investments are aimed at improving public health, quality of life, and economic opportunity in California's most burdened communities. The California Global Warming Solutions Act of 2006 (AB 32) authorizes the cap-and-trade program to deposit some of the funds received from the program into the GGRF and appropriated by the legislature. Senate Bill 535 directs that, in addition to reducing GHG emissions, 25% of the proceeds from GGRF must also go to projects that provide a benefit to disadvantaged communities. A minimum of 10% of the funds must be for projects located within those communities. AB 1550 (2016) adds an additional 5% of funds to benefit low-income households and low-income communities that are outside of, but within half a mile of, disadvantaged communities. Greenhouse Gas Reduction Funds are administered by state and local agencies for a variety of greenhouse-gas cutting programs, including energy efficiency, public transit, low-carbon transportation, and affordable housing. Guidelines written by the Air Resources Board help these agencies develop programs that meet statutory requirements for reducing emissions while maximizing the benefits to disadvantaged communities. *Source*
2. **California State Coastal Conservancy grants**: Some of these grants are The Water Quality, Supply, and Infrastructure Improvement Act of 2014, also known as Proposition 1, which includes funding to address water quality, water supply, and watershed protection and restoration. Chapter 6 of Proposition 1 allocates $100.5 million to the Conservancy for competitive grants for multi-benefit ecosystem and watershed protection and restoration projects. The Conservancy has identified four priorities for Proposition 1 expenditures. The four priorities project types include: water sustainability improvements, anadromous fish habitat enhancement, wetland restoration, and urban greening. *Source*
3. **California Natural Resources Agency (CNRA) grants**: The CNRA grants are another source of funding for specific projects. Right now, The Urban Rivers Grant Program is open for solicitation. This is a competitive grant program for projects that meet at least two of the following five statutory conditions: Promote Groundwater Recharge and Water Reuse; Reduce Energy Consumption; Use Soils, Plants, and Natural Processes to Treat Runoff; Create, or Restore Native Habitat; and Increase Regional and Local Resiliency and Adaptability to Climate Change. *Source*

4. **California Energy Commission (CEC) grants**: The CEC is committed to helping applicants through the process. Tools and resources on this page are designed to help expedite filing an application for approval. New materials and updates get posted as they are available.

5. **Eligible Local Educational Agencies (LEAs)**: These agencies – including county offices of education, school districts, charter schools, and state special schools – can request funding by submitting an energy expenditure plan application to the California Energy Commission. For the first year, there is an option to receive part or all of a school's allocation for energy savings planning purposes. The Energy Commission approves plans and works with the California Department of Education, which subsequently distributes funds after plans have been approved.

6. **The California Clean Energy Jobs Act (Proposition 39)**: Prop. 39 changed the corporate income tax code and allocates projected revenue to California's General Fund and the Clean Energy Job Creation Fund for five fiscal years, beginning with fiscal year, 2013-14. Under the initiative, roughly up to $550 million annually is available for appropriation by the legislature for eligible projects to improve energy efficiency and expand clean energy generation in schools. *Source*
7. **Examples of use of state grants**
   State grants often target even more specific projects, as can be seen in the following two examples:

   i. Climate Adaptation Planning for Silicon Valley: Funded through a grant by the cabinet-level Strategic Growth Council, the Silicon Valley 2.0 Project aims to mitigate and adapt to climate change in the South Bay by working towards completing various deliverables. These include: preparing a comprehensive climate adaptation plan, conducting a vulnerability risk assessment, launching a decision making tool for local jurisdictions and organizations to evaluate climate vulnerability, and drafting a short- and long-term roadmap for implementing policies and technological strategies to reach an ambitious midcentury carbon reduction goal. Though managed by the Santa Clara County Office of Sustainability, the Strategic Growth Council's grant truly allowed the project to take form, as the committee carried out its mission to ensure that regional sustainability planning efforts meet state emission reduction measures. In addition to sustainable planning, the Council also distributes grants for urban greening projects and incentives for collecting planning data.

   ii. Address Sea Level Rise through Science and Policy Support: The California Ocean Protection Council's Local Coastal Program Sea Level Rise Grants dole out over $1 million annually to support coastal adaptation planning, data collection, and policy formulation. The state's grant money originates from the 2008 Proposition 84 coastal protection bond and trust fund for general adaptive management and coordination plans. Past and proposed projects include: the City of Eureka's coastal flood modeling with LIDAR elevation data and potentially hydrologic connectivity mapping, Santa Cruz and Monterey County's sea level rise vulnerability assessments, and Sonoma County's inventories of coastal policies and planning options.

PRIVATE GRANTS

Private grants could entail broad and nonspecific project support, but those from local foundations often play a more participatory role and act as catalysts for forming public-private partnerships and collaborations. Including local nonprofits in proposals could increase the probability of winning grants.

LOANS

Loans are monetary assistance from a government entity, bank, private corporation, or individual specifying the amount of interest, in addition to the principal sum, that the borrower will repay by a certain future date. As a prime avenue for completing any costly project, different types of loans with various stipulations exist – e.g. see entries for loan guarantees and lines of credit.

REBATES AND INCENTIVES

A rebate is a portion of a commodity's price returned to the buyer after making the full payment. Government entities or private companies often give rebate incentives to consumers or commercial enterprises for purchasing clean energy vehicles and energy efficient products.

BONDS

Bonds are debt instruments that allow governments and other entities to borrow money from investors and repay that investment over a certain time at a certain rate. Government bonds often remain tax exempt, meaning the interest that investors earn is tax exempt. Bonds are a very traditional and familiar platform for financing public infrastructure and government programs, and recently the market has developed "green" bonds to finance green infrastructure. Government bonds may be backed by general funds, or by specific revenue streams, but certain types of bonds can also be used to finance private activities that Congress has determined are in the public good, such as pollution control and waste management. While private activity bonds have been used heavily to assist California in meeting its recycling mandates, they can also finance climate adaptation projects.

LOAN GUARANTEES

A loan guarantee is the one provided by a third-party funder (bank or private party) and guaranteed by a government agency, in which the lender agrees to purchase debt in the event that the borrower defaults. Government-guaranteed loans allow financial assistance to flow to borrowers perceived as high-risk.

REVOLVING LOAN FUND

A funding mechanism typically for water and energy-related improvement projects, whereby loans to local government entities generate loan repayments that circulate back into the fund. Once properly seeded with an initial fund, these loan repayments stimulate reinvestment and supply funds for continuous additional rounds of financing.

Agencies at the federal and state level remain the primary but not exclusive source of providers of revolving funds for local governments and private sector entities.

CREDIT ENHANCEMENT

Financial support, often in the form of a loan or bond delivered to a lender, intended to give the lender more assurance that the borrower will pay its obligation. Governments or other entities can provide lenders like banks with a credit enhancement to encourage lending to businesses or projects increasing climate resiliency. Traditional credit enhancements include additional collateral, insurance, guarantees, and reserves. However, credit enhancements can take many forms and can be tailored to meet very specific types of programs and program outcomes.

PROPERTY TAX AND SALES TAX

Local governments can use funds from conventional property and sales taxes for desirable retrofit and resiliency projects. A study called "Climate Change Preparedness and Resiliency: Funding and Financing Strategies for New Jersey" by the NJ Climate Adaptation Alliance presents an analysis of how state and local governments could fund adaptation projects through these methods, with many California municipalities as models. *Source*

USER FEES

Charges for using public infrastructure (such as a toll road or wastewater plumbing) to cover the system's annual operating, maintenance, and capital expenses. Though not always feasible, increasing the charge of user fees can provide extra revenue to fund new infrastructure improvements, so long as long-term project benefits remain substantial and the fees' target audience remains engaged and receptive.

VALUE CAPTURE

Creation of a new tax, fee, or revenue-sharing agreement that capitalizes on the increased value of an area or service generated by improvement projects, such as new enhanced infrastructure enhancement districts. Examples include establishing a one-time impact mitigation fee for new development and creating a voter-approved special tax or assessment district to finance public infrastructure projects and facility improvements (outside prior redevelopment areas).

In California, the Community Facilities Act (more commonly known as Mello-Roos) was a law enacted by the California State Legislature in 1982 and enabled "Community Facilities Districts" (CFDs) to be established by local governments in California as a means of obtaining additional public funding. Counties, cities, special districts, joint powers authority, and school districts in California form a CFD to finance major improvements and services within the district, which might include schools, roads, libraries, police and fire protection services, or ambulance services. The taxes are secured by a continuing lien and are levied annually against property within the district. These CFDs must attain two-thirds approval from property owners or registered district voters to institute a new local property tax, while a special assessment district requires simple majority approval.

CARBON FEE

A charge on carbon-fueled activities effectively raising the price of fossil fuels to reduce total emissions and encourage clean renewable alternatives. The impact of these price hikes on low-income households can be tempered with a host of different strategies including selective revenue distributions (dividends) and cutbacks to existing tax rates that hinder job growth (tax-shifting).

OFF-SITE RETROFIT PROGRAM

A financing technique for improvement projects whereby reduced resource use produces net monetary savings that pay into a private sector fund. This model typically involves water efficiency projects but could also apply to energy retrofits as well. While the viability of offsetting initial payments with accumulated near- or medium-term savings depends on the project time frame and financial capacity of private sector industries, comprehensive legislation can actualize this type of funding system.

TRANSFERABLE DEVELOPMENT RIGHTS

A market-based growth management system whereby land with zoning codes that incentivize development ("receiving areas") provides landowners a source of windfall profits, which the state can then purchase and transfer to landowners with development restrictions ("sending areas" e.g. for cropland, forest, or open space). Once a deed restriction is placed on property barred from further development, developers in designated districts can purchase the development rights from an environmentally significant area as credits. Often, a specialized bank monitors regional development rights and accumulated interest, in addition to overseeing transactions.

This strategy can prevent development in areas most vulnerable to climate change and even encourage higher-density urban development.

TECHNICAL ASSISTANCE PROGRAMS

Services offering comprehensive capacity building for local and regional entities, often able to leverage and tap into unused financial resources. Technical development programs work to attract future investment opportunities for local governments by initiating the adaptation planning and monitoring often necessary for attaining grants and loans, as well as by supporting a local adaptation knowledge base for implementing future projects. The estimated worth of technical assistance can far exceed the actual cost, which regionally-aligned private stakeholders frequently cover.

JOINT PROCUREMENT/LEASING

Leasing essential equipment at a fixed rate for a certain period of time, rather than purchasing the equipment outright, eliminates risks associated with ownership. These deals often involve low-cost financing due to net tax benefits and are especially desirable because of their rapid transaction times and simpler payment methods, making it possible to obtain leased farm irrigation equipment to improve local resiliency. *Source*

PUBLIC-PRIVATE PARTNERSHIP

Partnerships between public and private entities allow pooling of assets, funds, resources, and networks.

LINE OF CREDIT (LOC)

A commitment to finance a borrower for a certain duration at an amount not to exceed a specified sum. The borrower may draw the entire amount for the term of the commitment, although it is more common to use the LOC to meet cash needs as they occur. Thus, the LOC could, and most likely will, have multiple draw-downs and repayments during its commitment period. The difference between a line of credit and regular loan lies in the fact that lenders typically will not charge interest for unused credit once the borrower reduces the loan term. Federal Lines of Credit for Infrastructure Upgrades can be used to identify common advantages of this more flexible financial tool when considering large-scale infrastructure projects or capital improvements.

PROPERTY-ASSESSED CLEAN ENERGY (PACE)

A program that allows property owners to fund renewable energy and efficiency projects with virtually no up-front costs. Residential and commercial customers in participating regions can pay back these costs over time as a voluntary property tax assessment through their existing bill. In addition to 100% financing and flexible payback periods, PACE also allows outstanding payments to transfer to a new property owner if the project site is sold. Despite opposition from the Federal Housing Finance Agency as well as mortgage giants, Fannie Mae and Freddie Mac, PACE continues to establish a foothold and grow.

COMMUNITY CHOICE AGGREGATION

Model for energy production in which local governments or special districts combine their electricity loads in order to purchase or develop new sources of energy, all while the existing utility continues to oversee power generation and service delivery. In California, local elected representatives vote to join an aggregation, and citizens can choose if they want to opt out of (or in) the program. This method forms a locally tailored and competitive low-rate alternative to municipally-owned and investor-owned utilities, as communities can control the power source without purchasing or maintaining infrastructure.

POWER PURCHASING AGREEMENT

A financing method by which a third-party taxable entity acquires, installs, and operates renewable power (typically solar photovoltaic panels) on public grounds. Local governments contractually purchase the electricity from the provider, which in turn receives tax incentive benefits. Benefits of using this method to finance and operate renewable energy projects include little initial cost, lower electricity prices due to federal tax incentives, and freedom from operational and maintenance upkeep. *Source*

INSURANCE

A form of financial assistance in which policy holders pay pre-disaster premiums with the expectation that in the event of a disaster, the insurance carrier will cover a share of the policy holder's loss. Since not all disaster circumstances qualify for federal and state grants, and affected businesses must ultimately repay disaster assistance loans, insurance often offers critical funds for initiating reconstruction and recovery."

California Governor's Office of Planning and Research
Integrated Climate Adaptation and Resiliency Program (ICARP)
Technical Advisory Council

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ATTACHMENT 2

June 16, 2017

Expanded Adaptation Financing Framework – proposed template

ADAPTATION FINANCING LANDSCAPE SUMMARY (The following is an illustrative example and is not intended to be a comprehensive summary.)

PROPOSED CASE STUDIES

CATEGORY/ MECHANISM		EXISTING FUNDING RESOURCES, MECHANISMS, TOOLS (illustrative examples)	GAP (illustrative examples)	ICARP TAC "CASE STUDIES, PLUS"	PRODUCT	AUDIENCE
Grants						
	Federal	Tuolumne County, National Disaster Resilience Competition (NDRC)		Engagement with the Tuolumne County, NDRC Replicability working group	TBD	TBD
	State	SB 1 – Adaptation planning grants	*Adaptation implementation grants*	Engagement and support through implementation	TBD	State and local grant programs
	Local					
	Private					
Loans						
	Loan guarantees					
	Revolving loan fund					
	Line of credit (LOC)	CDFI bridge loans – Crescent City Harbor, rebuild: $8M line of credit to bridge claim processing & contractor payment timelines				
Credit enhancement						
Bonds						
		SF Public Utilities Commission, 'Climate Certified' Water Bond				
Insurance						

Rebates and incentives					
Taxes					
	Property	Measure AA – First regional ballot measure ($12-per-parcel tax across all nine bay-area counties) to fund wetland restoration			
	Sales				
User Fees					
Transferable Development rights					
Value Capture					
Property-assessed clean energy (PACE)					
Community Choice Aggregation					
Power purchasing agreement					
Joint procurement/leasing					
Off-site retrofit program					
Technical Assistance programs					
Public-private partnership					
		Strong, Prosperous, And Resilient Communities Challenge (SPARCC) Targeted investments in low-income communities	Convening of private finance entities and intermediaries on financing within low-income communities	TBD	TBD