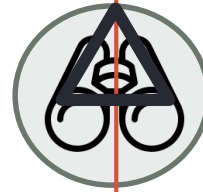


FUNDING + FINANCING OPTIONS FOR CLIMATE ADAPTATION IN CALIFORNIA

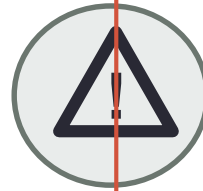
April 9, 2018



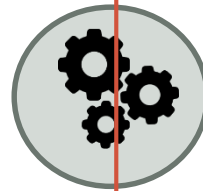
Table of Contents



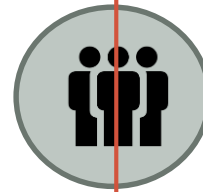
Orientation



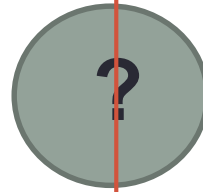
Challenges



Tools



Actors



Discussion

ORIENTATION



Orientation: Research Approach

Literature Review

Academic studies

Government reports

Industry publications

Expert Interviews

Existing tools

New tools

Capacity building

Who can lead?

Feedback + Follow-up /Outreach Analysis

TAC

Additional expert input/ research gaps

Case study development



Orientation: Activity Life Cycle

**Planning +
Regional
Coordination**

**Development +
Construction**

**Operations +
Maintenance**

Predevelopment

**Monitoring +
Evaluation**

Ongoing Community Engagement



Orientation: Terms

Funding

An income source that provides money on a one-time or limited time basis (e.g., a grant) or over time (e.g., taxes, fees).

Financing

A source of money that must eventually be paid back (e.g., a loan).

CHALLENGES



Climate change

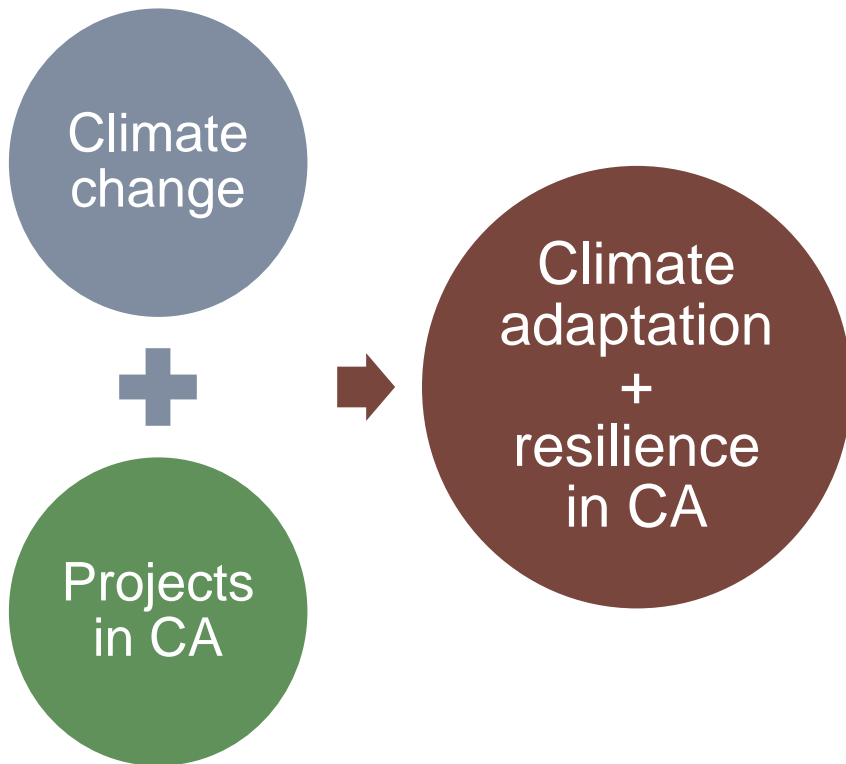
- Global phenomenon, local impacts
- Evolving understanding
- Varying risks & resources for response

Projects in CA

- Limited existing funds, barriers to new funds
- High level of existing critical infrastructure needs



Combined Challenges



- Information
 - Understanding of climate risk continually evolving
 - Unproven performance of climate risk management strategies
- Institutional
 - Risk isn't "baked in"
- Planning
 - Limited capacity
 - Competing priorities
 - Conflicting guidance
- Implementation
 - Inflexible use of funds
 - Access to federal funds in question
 - No panacea

TOOLS



Tools: Funding + Financing

Existing

New

Funding

- assessments
- fees + tolls
 - insurance surcharges
- taxes: parcel, Mello-Roos
- projected funds: tax increment financing
- private capital, e.g., up-front project design/build, retrofits
- grants

Funding

- N/A

Financing

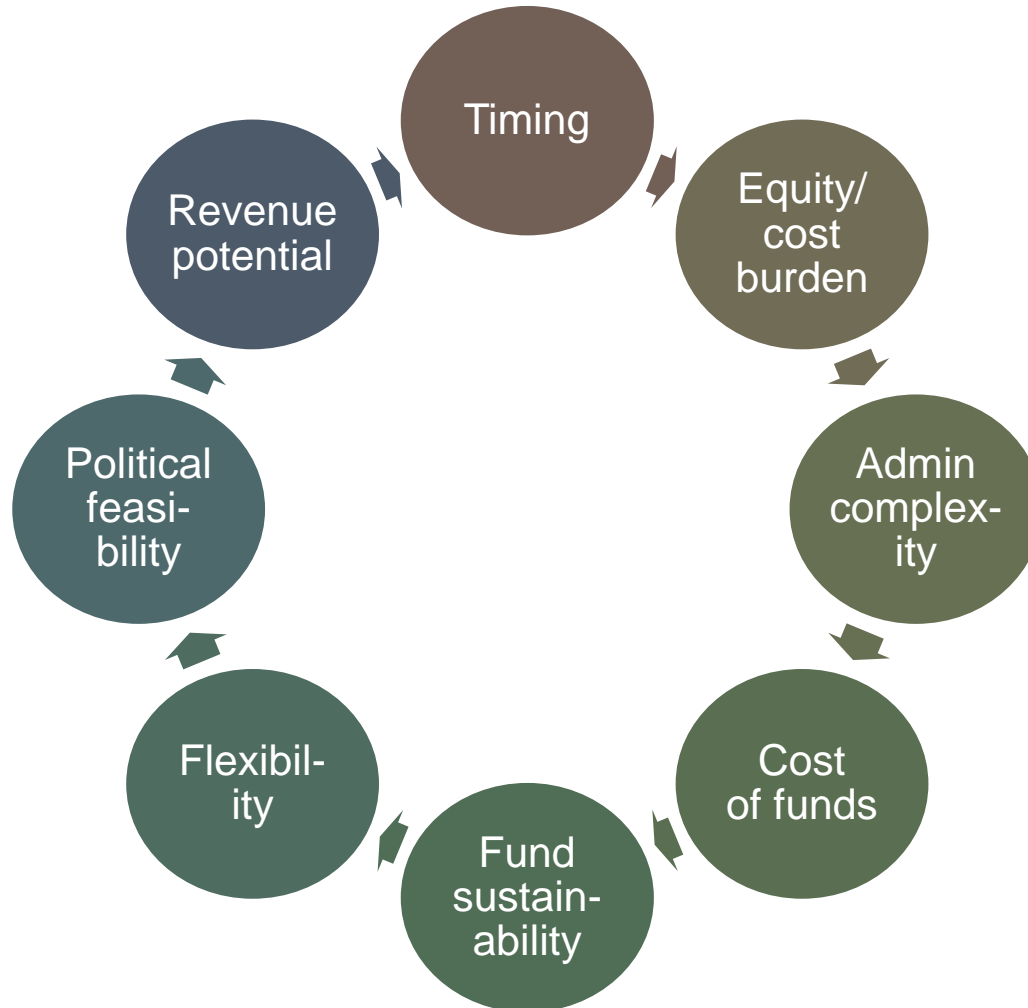
- bonds: municipal bonds, private bonds, “green” bonds
- loans: bridge and long-term

Financing

- social impact bonds: pay-for-success
- insurance-linked securities:
 - catastrophe bonds
 - resilience bonds



Tools: Feasibility Considerations



Adapted from City and County of San Francisco Seawall Finance Work Group



Tools: “Innovative” Funding + Financing

Funding

Many proposed “innovative” tools + approaches are **not new sources of funding** but instead are **redeployment of existing funding** sources based on evolving objectives + rules.

Financing

Novel financing tools that show **long term promise** have **clear value propositions**.

Most novel tools are **unproven, lack data** needed to implement, and are **not feasible in the near term**.



Tools: Strategies to Address Challenges

Challenge

- Limited funds
- Competing needs and priorities
- Restricted use of funds

Response

Optimize use of existing funds

- **Pool resources** in all stages of planning, development, ongoing implementation
 - Assists with capacity challenges
 - Aligns scale of solutions with scale of climate impacts
- **Consider new technology/approaches**, especially those that bring **cobenefits**
 - Green infrastructure





Tools: Strategies to Address Challenges

Challenge

- Limited funds
- Access to federal funds in question

Response

Demonstrate + communicate need for action

- **Articulate risks + benefits**, including via cost of inaction analyses

Identify **additional sources of funding** beyond those in common use now

Identify projects/programs that may provide **savings or returns**

- Can **contribute to their own funding** + create additional financing opportunities



Tools: Strategies to Address Challenges

Challenge

- Restricted use of funds
- No panacea
- Access to federal funds in question

Response

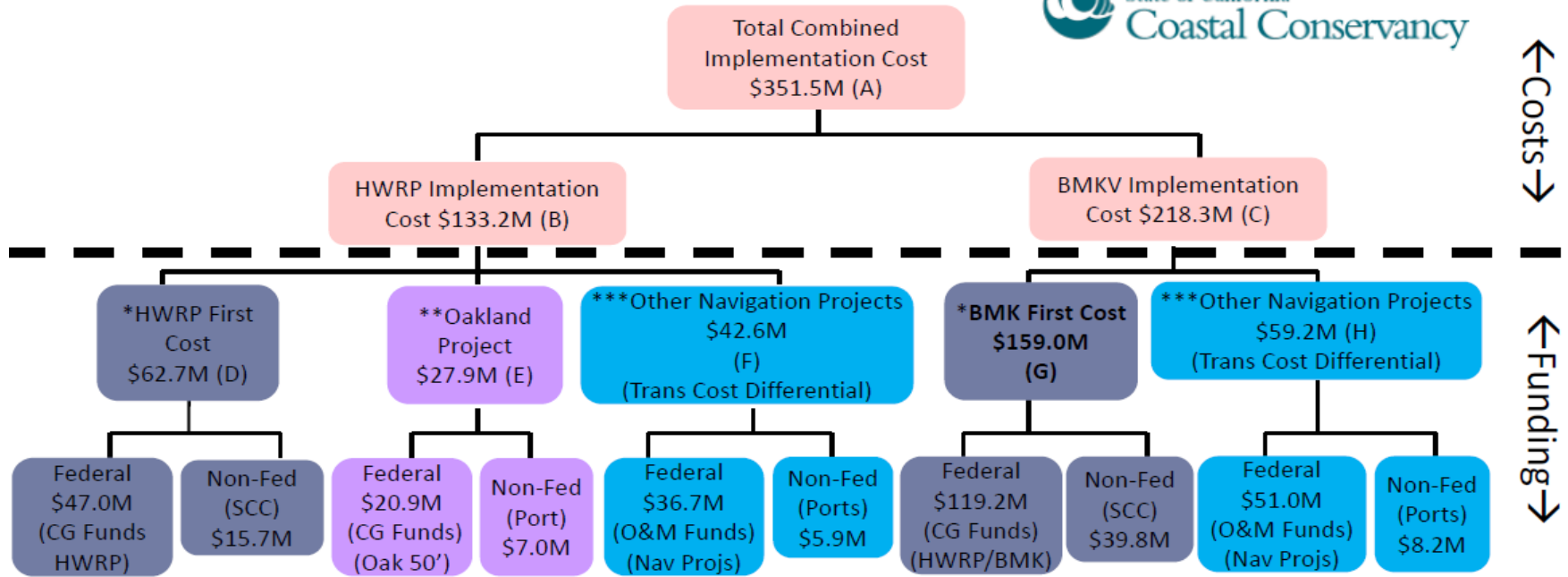
Consider **whether and how to reduce or change restrictions, and/or create new solutions** to fill gaps in funding + financing

- Solutions will vary by:
 - Scale of problem
 - Issue area
 - Political environment
 - Local capacity





Tools: No Panacea



KEY

- *Typical Funding Sources
- **Atypical Funding Sources
- ***Atypical Funding Sources

ACTORS



A Tale of Two Jurisdictions: Place A

Inputs

- Public overall believes climate change is a credible risk
- Significant financial resources in community
- Dedicated institution and staff to help coordinate resilience planning across agencies

Outputs

- Coordinated multi-year capital planning
- Budgets linked to policy priorities
- Projects maximize co-benefits
- Strong financial fundamentals – can leverage and service debt



A Tale of Two Jurisdictions: Place B

Inputs

- No overall consensus over whether climate change is a credible risk
- Limited financial resources
- No dedicated institution/ staff for resilience + adaptation actions

Outputs

- Capacity limits pursuit of grants, but community has greater reliance on grants for funding
- Tying community priorities into use of grant funds generates more support for projects/programs
- Regulation leads to investment



Actors: Who Should Lead?

Planning + Regional Coordination

Public agencies: Utilities, trans., special districts

Development + Construction

Public, public/private, private sector

Operations + Maintenance

Technical administrator

Predevelopment

NGOs (e.g. CDFIs), public agencies

Monitoring + Evaluation

Public oversight bodies; academic institutions and researchers

Ongoing Community Engagement

NGOs (e.g. CDCs), Community Advisory Boards



Actors: Considerations for Leading



- Social equity concerns if implemented privately
- No financial gain
- Lifespan is a challenge for private sector

- Private sector delivery has cost advantage
- Service provision can be evaluated

- Private sector will experience future losses if no action taken
- Public debt ceiling/ credit rating makes borrowing expensive



Actors: What Can Be Done



- Develop clear standards for risk + regulate it
- Go beyond plan + assess: plan to act w/ investment strategy
- Align + scale resources

- Build/maintain community trust
- Support existing capacity building programs
- Pursue pilots/ approaches
- Develop standardized success metrics

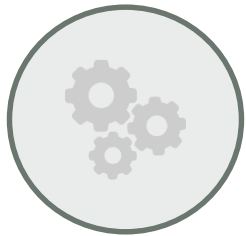
- Develop / share information on risk + risk management
- Integrate risk into behavior presently + predictably
- Continue to invest

DISCUSSION

Key Questions to Discuss: Challenges



- Is paying for resilience and adaptation projects fundamentally different than paying for other kinds of projects?



- Which types of resilience and adaptation projects are hardest to fund?



- Beyond legal constraints, what issues do people see as a challenge in funding resilience projects?

Key Questions to Discuss: Tools



- How can tools/resources be matched against needs in light of legal constraints in California?



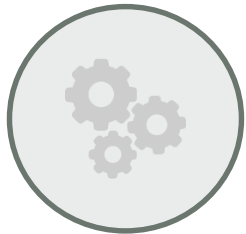
- How can resilience/adaptation measures be incorporated into projects that have already received funding or that receive ongoing funding sources?



Key Questions to Discuss: Actors



- Are the breadth of community concerns and needs reflected in funding priorities?



- How can the public sector anticipate an increasing private sector appetite for knowledge about climate risk and use of that knowledge?



- What structures can cross sector partnerships use to improve resilience and secure co-benefits?

THANK YOU

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