



AMERICAN SOCIETY OF
ADAPTATION PROFESSIONALS

PROCEEDINGS

New England Climate Network Workshop:
Funding, Finance, and Investment Solutions for Climate Adaptation

December 5, 2017

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Proceedings: New England Climate Network Workshop

Executive Summary

On December 5, 2017, the American Society of Adaptation Professionals (ASAP) and the Institute for Sustainable Communities convened approximately 35 individuals from the public, private, and non-profit sectors to learn about and discuss climate change adaptation funding, finance, and investment. The workshop featured presentations from representatives of ASAP, Meister Consultants Group (A Cadmus Company), Quantified Ventures, New England Environmental Finance Center, City of South Burlington VT, University of Vermont, Bio-Logical Capital, and The Conservation Fund. Presentations covered a range of topics, including: pay-for-success financing, stormwater fee programs, leveraging co-benefits to access multiple funding sources, private partnerships for conservation, and conservation gap finance.

A. Key Points

The presentations and ensuing discussion surfaced the following key points regarding adaptation finance and implementation in the northern New England region:

- Many practitioners were not familiar with funding mechanisms beyond traditional grants and that many public sector practitioners do not know how to engage with private sector. It is critical to engage a diversity of stakeholders and sectors on adaptation finance and implementation. To do so, climate change adaptation professionals and the communities they serve will need to push beyond the status quo and cultural barriers.
- Communities throughout the region need culturally relevant and contextually applicable models for climate change adaptation finance and implementation. The climate change adaptation field needs to identify more accessible and transferable lessons from innovative projects. The field also needs to do a better job of specifying which adaptation actions to take and at what scales.
- Funding is often the first barrier that communities cite when explaining a lack of adaptation action. However, increased funding and finance opportunities will not lead to action on their own. Jurisdictions also need strong leadership and changes in policy, law, and behavior.

B. Recommendations

Based on the workshop outcomes, ASAP recommends the following next steps in the region:

- New mechanisms for cultivating relationships between funders/investors and practitioners/communities.
- A suite of regularly refreshed, self-guided trainings on adaptation finance.
- A database of regional case studies focusing on finance and implementation, targeted to small and rural communities.
- Capacity building efforts aimed at state-level policy change and support for sharing lessons learned across state lines.
- Continued support for ASAP's New England Regional Adaptation Leadership Award (RALA) and enhanced engagement of RALA nominees, which will encourage more climate leadership and connections between current leaders.

Workshop Proceedings

INTRODUCTORY PRESENTATIONS

Beth Gibbons, American Society of Adaptation Professionals

At the beginning of the workshop, ASAP Executive Director Beth Gibbons provided an overview of the American Society of Adaptation Professionals (ASAP), the Institute for Sustainable Communities, the ASAP New England Climate Network, and the ASAP Fundamentals of Climate Adaptation.

American Society of Adaptation Professionals

As the nation's leading professional society for adaptation and resilience practitioners, ASAP is ensuring that climate adaptation and resilience work is equitable, ethical, and effective. ASAP connects and supports climate adaptation professionals, while advancing innovation and excellence in the field of climate change adaptation. Through ASAP's website, member-led activities, webinars, and meetings climate adaptation professionals interact, share what is working, collaborate with their colleagues, and build essential climate resilience for communities across the U.S. In addition to connecting and supporting members, ASAP runs programs in three areas:

- **enabling action and innovation** across all sectors and functions in the adaptation field of practice;
- **standardizing and advancing the adaptation field of practice** through professional training and higher education curricula; and
- **activating public policy** by serving as a liaison between policy makers and adaptation practitioners.

Institute for Sustainable Communities

The Institute for Sustainable Communities (ISC) is the former parent organization of ASAP and a founding partner of the ASAP New England Climate Network. Since 1991, ISC has worked in the United States and around the world to help communities, cities, industry, and NGOs accomplish their environmental, economic, and social goals. ISC uses training, technical assistance, peer-to-peer learning, and demonstration projects to help unleash the power of local people and institutions to address immediate challenges and opportunities – all while building those on-the-ground solutions into national and international best practices and policy. At the heart of the organization's approach is results-focused, authentic and pragmatic engagement with all stakeholders, which unearths locally-driven and equitable solutions to the biggest challenge we face – global climate change. Learn more at iscvt.org

ASAP New England Climate Network

To fulfill its mission to connect and support members, ASAP is beginning targeted efforts to attract, connect, and support a diverse membership of climate adaptation professionals in specific regions and localities. Recognizing that adaptation is inherently local, and that there really is no substitute for in-person interaction, the organization seeks to provide opportunities for members to connect in-person with other adaptation professionals in their region or locality through **ASAP Hubs**: strategic, place-based subnetworks that provide targeted support to current and potential new ASAP members.

Based on regional network mapping and consultation with members, the ASAP New England Climate Network undertook three strategic activities in Fall 2017:

- diversifying relationships across the region’s climate community through in-person networking events;
- increasing the long-term sustainability of the region’s climate programs by bringing together practitioners and funders to talk about adaptation finance solutions; and
- recognizing climate leadership through the ASAP New England Regional Adaptation Leadership Award.

ASAP Living Guide to the Principles of Climate Change Adaptation

The ASAP Living Guide to the Principles of Climate Adaptation articulates the values, norms, goals, and practices that have emerged through over a decade of experimentation, research, and on-the-ground work in the climate adaptation field. It is a collection of fundamental principles for engaging in professional activities in the field of climate adaptation. It is a living document, with ongoing opportunities for improvement by professionals and scholars in the adaptation field. The document expands on the following principles:

1. The desired outcomes of climate adaptation are:
 - Enhanced adaptive capacity
 - Reduced exposure, vulnerability, and sensitivity
2. The values, beliefs, strategies, and approaches championed by the field of climate adaptation are:
 - Think in systems
 - Recognize context
 - Safeguard people
 - Safeguard nature
 - Achieve equitable outcomes
 - Use best available science and knowledge
 - Use projections about future conditions
 - Avoid harm
 - Support mitigation
 - Mainstream
 - Network and learn together
3. Categories of adaptation action are:
 - Improve connection to improve resilience
 - Ensure flexibility, robustness, and redundancy
 - Align incentives and penalties to promote ideal outcomes
 - Use windows of opportunity
 - Use existing best practices
 - Program design and management
 - Communication and engagement
 - Collaborate
 - Observe and Research
 - Plan and Govern
 - Fund and Invest
 - Develop and Deploy Technology
 - Communicate
 - Build Physical Infrastructure
 - Shift Management Practices and Recurring Behavior
 - Change Policy and Law

Resources:

- [ASAP Living Guide to the Principles of Climate Change Adaptation](#)

ADAPTATION FINANCE OVERVIEW

Sasha Shyduroff, Meister Consultants Group:

Sasha Shyduroff of Meister Consultants Group (A Cadmus Company) provided an overview of adaptation finance solutions. She stressed the importance of a multi-sector approach to climate adaptation and described roles for key players in the space such as the following:

- **Public sector:** it is incumbent on the public sector to take a leadership role on climate change adaptation action, particularly with respect to infrastructure improvements.
- **Private sector:** investment from the private sector is increasing. Increased private sector investment stems from firms' evolving and growing social and environmental goals.
- **Non-profit and Philanthropy:** non-governmental organizations and philanthropies are also increasing their involvement in the climate adaptation space.

Shyduroff also highlighted some of the key needs and gaps in adaptation. For example, before even taking into account the impacts of a changing climate, the U.S. needs \$3.3 trillion by 2025 to repair and upgrade infrastructure. This includes a \$1.4 trillion public sector finance gap. Climate impacts will change and increase infrastructure needs. Additionally, local budgets are highly constrained and subject to barriers such as credit worthiness, political will, state policies, and the size of the tax base.

She also discussed a variety of tools that entities can use to fund and otherwise incentivize climate change adaptation action:

- **Debt financing:** Debt financing allows governments to spread the capital costs of the infrastructure over the lifetime of the asset, rather than have large upfront capital costs. It accounts for 90 percent of state and local spending in the U.S. Debt financing for adaptation can include green bonds, environmental impact bonds, and revolving loan funds. There has been a big increase in green bonds -- bonds released at the municipal and state levels specifically earmarked for green projects. These bonds can attract more or different types of investors. However, they still remain a small portion of total debt financing – 27% of U.S. and 8% of state/local.
- **Voluntary or regulated private sector actions:** Private sector incentives and resulting actions play an important role in climate adaptation. Incentives and actions include technology investments, adherence to voluntary climate resilience standards, insurance negotiations, and advocating for zoning or development regulations.
- **Public-Private Partnerships:** Public-Private Partnerships are formal contractual agreements between government and private entities that help spread the financial risk of adaptation projects between the public and private sectors. For example, Prince George's county in Maryland retrofitted 2,000 acres of impervious surfaces to green infrastructure using a state clean water loan fund paired with a stormwater fee to cover financing costs. They were also able to use the project to meet aligned goals, such as hiring local minority-owned contractors and conducting job training programs.
- **Grants:** Projects can also look to public or private grants, including grants from federal, state, and local government, private foundations, and non-profit organizations, to fund their adaptation work. It is essential to look beyond funds specifically earmarked for climate change adaptation to grants with aligned objectives such as hazard mitigation, sustainability, and economic development.

Resources:

- [International City/County Management Association local government finance resources](#)
- [C40 Cities Infrastructure Pipeline](#)

- [The Atlas Marketplace](#)
- [Financing City Climate Adaptation Report](#)

ADAPTATION ASPIRATIONS ACTIVITY

Next, individuals from around the room shared stories of success, challenge, and opportunity related to climate change adaptation. This was a meaningful opportunity to hear about adaptation work happening across northern New England. John Bolduc from the City of Cambridge and Barry Keppard from the Metropolitan Area Planning Council each shared a short story with the group; then others introduced themselves and their work to the people at their workshop table.

MUNICIPAL ADAPTATION FINANCE PANEL

The first of two workshop panels focused on municipal adaptation finance, primarily in urban areas. The panel featured Tom DiPietro from the City of South Burlington VT, Jack Kartez from the New England Environmental Finance Center, and Carolyn DuPont from Quantified Ventures.

A. Tom DiPietro, City of South Burlington VT

Tom DiPietro is the Deputy Director of Public Works for the City of South Burlington. He discussed the city's successful stormwater fee program. DiPietro shared that in the early 2000s South Burlington had the most impaired watersheds, most expired state stormwater permits, and the most "special case" stormwater management issues in the state of Vermont. In response to all the attention being paid to stormwater in the city, and in order to deal with all the stormwater issues, South Burlington formed Vermont's first stormwater utility. The stormwater utility provides a reliable funding mechanism to deal with increasing costs associated with stormwater management, the funds are collected in an equitable way, and it provides full-time staff to manage stormwater projects and maintain infrastructure.

DiPietro explained that setting up the utility involved enabling legislation passed by the Vermont Legislature in 2002, a feasibility study, public outreach, an update to include stormwater issues in the City's existing Sewer Ordinance, a fee assessment, and new staff hires. The City took a loan to pay for this work, and created a line item in the stormwater utility budget to pay back that loan. Tom also noted that in the approximately 12 years that the utility has been in existence, it has obtained equipment and other assets to accomplish its work, for which it took time to raise the necessary capital.

The Utility is funded on a user fee basis, similar to an electric, sewer, or water utility. The basis for the fee is impervious surface. All developed property in South Burlington pays a fee. Residential units pay a flat fee, which is \$6.54/month. Non-residential (commercial) properties pay based on the amount of impervious area located on the property. The more impervious surface on the parcel, the more stormwater it generates, and the larger the fee.

DiPietro shared key points regarding building community acceptance for a stormwater utility:

- **Step One: Demonstrate the need:** Talk about the problem first. Demonstrate the need for a solution, rather than focusing on the money desired from fee collection.
- **Step Two: Discuss options for raising the necessary capital,** stressing the equity of the impervious area-based fee solution that a stormwater utility provides. Discuss the pros and cons of paying for the needed work using property taxes versus an impervious area based stormwater fee.
- **Step Three: Involve residents & businesses** through an advisory board and one-on-one outreach to property owners. Make sure stakeholders, especially property owners who will have higher fees, understand why the community is proposing a stormwater utility.

He also shared the following lessons learned:

- Regardless of outreach, there will be a lot of inquiries and complaints initially. When speaking to the public, it is important to be clear about the programs needs and intentions.
- Errors in mapping and billing will happen during startup, and the city needs to be prepared to handle them efficiently.
- While the City did institute a credit system to incentivize impervious surface reduction, only about 2 percent of residential property owners utilize it (as opposed to projected 10 percent). May need to do additional outreach to increase use of the credit system.
- It is important to be clear with the public and other departments about what the stormwater utility does and does not do. Tom noted, “We’re not the puddle police, and we don’t fix wet basements!”

New England local governments have been slow to use stormwater finance as a tool. South Burlington’s successful effort is one of 16 in all six New England states, compared to as many as 1,800 nationwide.

Resources:

- [South Burlington Stormwater Services Website](#)

B. Jack Kartez, New England Environmental Finance Center

Jack Kartez is a Senior Advisor for the New England Environmental Finance Center. The Environmental Finance Centers, one in each U.S. EPA administrative region of the United States, focus on helping local governments including utility districts, municipalities and counties, to address the often overlooked question of how to pay for environmental improvements. The New England EFC was designated by EPA in 2000 at the Muskie School of Public Service for the region. Kartez shared research and lessons learned about a suite of alternative mechanisms for adaptation projects. He explained that local and state governments will bear the brunt of the cost of adaptation and are slowly awakening to the necessity and existence of fiscal mechanisms that they can apply to this work. However, he stressed that what we really need is a revolutionary movement in adaptation finance and shared his view on the requirements needed for this movement to unfold: a much lower (or even negative) discount rate, a significant increase in current spending, and increased transparency and participation in raising public funds. Kartez also stressed the importance of public entities considering and combining multiple financing tools beyond borrowing alone to get the job done, as illustrated by several other presentations in the workshop. He shared an outcome of his research which shows that benefits-based charges and assessment districts (e.g., stormwater fees) are the most acceptable type of cost to the public. General taxation and surcharges are the least acceptable and borrowing through bonds and loans lies somewhere in the middle.

Kartez honed in on a critical barrier to increasing public support for raising adaptation funds: risk communication. Current communication tactics, especially those that focus on articulating the risks associated with high consequence/low probability events, are not resonating with the public. Some emerging principles for planning and successfully funding adaptation projects to address future risk include the following:

- Organizing a holistic strategy that ties the future to the present
- Making risk accessible by clearly articulating what to do now, what to do soon, and what to do later. Warnings need to provide guidance for action
- Describing how fiscal instruments connect burdens to benefits
- Conducting strong community engagement and using messaging that will resonate with the individuals and communities in a particular locality

Resources:

- Kartez, Jack D. Ph.D. and Merrill, Samuel B. Ph.D. (2016) "Climate Adaptation Finance Mechanisms: New Frontiers For Familiar Tools," *Journal of Ocean and Coastal Economics*: Vol. 3: Iss. 2, Article 4. DOI: <http://dx.doi.org/10.15351/2373-8456.1066>
- Samuel Merrill, Jack Kartez, Karen Langbehn, Catherine Reynolds, Frank Muller-Karger, [‘Who should pay for climate adaptation? Public attitudes and financing of flood protection in Florida’](#) (in press)

C. Carolyn DuPont, Quantified Ventures

Carolyn DuPont, Director of Environmental Transactions at Quantified Ventures, spoke about the company’s work sourcing deals for impact investors using a pay-for-success financing model. DuPont described some of the barriers cities face in deploying innovative climate action projects, particularly green infrastructure projects. These barriers include perceived project risk, perceived complexity, and lack of standard financing. Pay-for-success financing, such as Environmental Impact Bonds (EIBs), help address these barriers by transferring performance risks to private investors to protect budget or taxpayer dollars, aligning incentives of varied stakeholders across sectors, and bringing in additional payers for a program.

Firms like Quantified Ventures structure the deals and align and coordinate stakeholders. Investors provide up-front capital to launch or scale a program. Then a service provider or project implementation partner implements the solution/services. An evaluator assesses the project outcomes to determine repayment level, then the payer repays investors based on achievement of outcomes.

DuPont shared a case study of Quantified Ventures’ work with D.C. Water and Sewer. The agency approved a green infrastructure project to address combined sewer overflows, but they wanted to better control performance risk. They financed a pilot using an EIB and put monitoring in place so that they could make smarter decisions about the larger scale project after analyzing the pilot’s successes. DuPont shared the following lessons learned from the D.C. water project:

- Pay-for-success financing deals and contracts can be very complicated and difficult to implement. It is best to keep them as simple as possible by financing around proxies for outcomes and focusing on replicability.
- These projects require a champion.
- It can be helpful to use foundation dollars to cover some of the municipality’s costs.

Lastly, DuPont provided a list of questions to consider when determining whether an EIB makes sense for a project:

- Is there a new environmental intervention perceived as risky that needs to be piloted or is there a proven intervention that needs to be scaled?
- Do stakeholders have aligned interests, but need incentive to work together?
- Is an EIB the easiest, cheapest way to finance this project?
- Is there a revenue stream or allocated budget for repayment?
- Is the transaction large enough to warrant an EIB (~\$2-3M+, \$5M with a bond issuance)?
- Are at least some stakeholders driven by regulatory requirements related to the environmental issue at hand?
- Is there a champion willing to help coordinate the process?

FUNDING CONSERVATION FOR ADAPTATION AND RESILIENCE PANEL

The workshop's second panel highlighted innovative funding, finance, and investment strategies for conservation-based adaptation projects. It featured Deb Markowitz from the University of Vermont, Meriwether Hardie from Bio-Logical Capital, and Reggie Hall from The Conservation Fund.

A. Deb Markowitz, University of Vermont

Deb Markowitz is a Visiting Professor of Environmental Policy and Leadership at the University of Vermont's Rubenstein School of the Environment. She was formerly Vermont's Secretary of State, and the state's Secretary of Natural Resources. Markowitz spoke about leveraging co-benefits to improve climate adaptation projects. She began with a story about Brandon Swamp, a tract of land that was used for hay farming and has recently been restored to a protected wetland. The stormwater/flood management benefits of the wetland are estimated to have resulted in \$2 million in avoided losses during Tropical Storm Irene.

Markowitz stressed the importance of bringing together diverse stakeholders to support large-scale conservation efforts. She also shared promising practices for developing stormwater management projects, including: the importance of conserving areas that will operate as flood sinks; the imperative to consider long-term maintenance of conservation areas and who will pay for that work; and the value of using new mapping tools to strategically prioritize where, what, and how to implement landscape or project-scale stormwater management.

Resources:

- [Climate Adaptation in the Agricultural Sector: Lessons from Vermont](#)

B. Meriwether Hardie, Bio-Logical Capital

Meriwether Hardie, Chief of Staff for Bio-Logical Capital, spoke about the company's work to transform how land is valued, developed, and protected. She shared examples of the company's stewardship development model, which works to increase land value and health through regenerative agriculture, water stewardship, ecological restoration, conservation, and renewable energy. This, in turn, increases the consistency of earnings and returns for owners and investors.

Hardie explained that Bio-Logical Capital targets individuals and organizations looking to purchase or finance smaller tracts of working land (e.g., farms, forests). These projects often lack access to affordable land, capital, business planning, and training. Lending infrastructure tends to be geared toward larger farms. Lenders lack agricultural industry knowledge and the infrastructure to distribute costly smaller loans and they are restricted by the tightening of credit in the financial industry. However, with adequate capital, owners of small-scale working lands are well positioned to leverage innovative production, planning, and marketing techniques. Bio-Logical Capital compliments the public and private agriculture funding landscape by tapping into or supporting private-side mechanisms, including: venture capital funds, impact investment funds, Real Estate Investment Trusts (REIT), loan funds, technical assistance, and incubators. In particular, the company has a New England-based project, Philo Ridge Farm, outside of Burlington, VT, which is working to demonstrate a replicable business model of diversified and regenerative agricultural enterprises.

So far, the company has succeeded in leveraging private capital from individuals and foundations interested in impact investments. Many investors are interested in their projects, but the young company is still in the process of figuring out how to demonstrate return on investment. Hardie also shared that there is much more work to be done on communication, education, and model investment and deal structures.

C. Reggie Hall, The Conservation Fund

Reggie Hall spoke about Bridge Financing for Adaptation and Resilience. He is director of the Conservation Loans Program for The Conservation Fund, a land and water non-profit based in Arlington, VA. Hall explained that Bridge Financing, or Interim Finance, is temporary or short-term financing to a borrower who is waiting

for more permanent funding and usually is reasonably assured of that funding in the next months or few years. Bridge financing allows the borrower to leverage limited resources, grow internal expertise, improve their reputation, and take advantage of fundraising opportunities.

Hall then gave insight into how to choose the right lender and how to present an organization as an attractive borrower. He explained that different types of lenders (e.g., banks, foundations, conservation lenders, and individuals) have different ways they make money from their relationship with borrowers. They also have different risk tolerances. The lender's business model and alignment to the borrower's mission are important factors in determining the cost of borrowing (i.e., interest rate.) However, interest rates are not the only factor to consider, since low cost of money can create more hoops to jump through to acquire the funds.

Hall shared the following questions to ask a lender:

1. For what purposes do you lend? (e.g., to cover restoration costs, acquire raw land, conservation easements, etc.)
2. How long does your underwriting/origination/ application process take?
3. What are your fees? Do you charge origination, prepayment, or extension fees?
4. Do you have a min/max loan term?
5. What is your preferred payment schedule?
6. What is your preferred loan to value ratio?
7. What are your collateral requirements?
8. What is your interest rate?

He also shared this list of question lenders will ask:

- How much do you need?
- When do you need it?
- For how long do you need it?
- What is your repayment plan?
- What do you have for collateral?
 - Hall stressed that there is a great diversity of items that could be used as collateral - it pays to get creative. Diversifying assets increases financial stability and financial net worth of one's organization.

FUNDING MECHANISMS BREAKOUT DISCUSSION

Following the two panels, workshop participants had the opportunity to ask in-depth questions of presenters and together brainstorm funding options for specific projects they were working on.

SCALING ADAPTATION IN SUB-REGIONS BREAKOUT DISCUSSION

During a second breakout discussion, participants divided into groups by state to discuss shared challenges and goals. Not all groups submitted notes from these discussions, but below are short summaries from two of the groups.

A. Massachusetts

Participants in the Massachusetts breakout discussed challenges Massachusetts entities are facing for project funding, implementation, and scaling, including:

- Many factors complicate and prohibit the development of a consistent, state-wide understanding of climate risk. For example, coastal flood and storm surge risks are sometimes overlooked in places like Cambridge and Somerville, which are not perceived as coastal.

- State waterfront designation zones prohibit some flood protection measures in places like Chelsea.
- The state will need to diversify the funding sources for its grants given the uncertainty of federal funds.
- Many entities struggle with revenue generation and cash flow.
- It is critical to be able to develop metrics in order to demonstrate project viability, secure project funding, and scale projects. However, many things remain difficult to characterize or quantify, such as cost savings, cost avoidance, and monetary value of co-benefits to nature and people.

The breakout group was a good opportunity for representatives of various levels of government, the nonprofit sector, and the private sector to clarify questions and misunderstandings. For example, participants surfaced questions about the relationship between municipal level planning and state level planning and how to consider climate change consistently across both. Representatives from the Massachusetts state government explained that as communities go through the Municipal Vulnerability Preparedness (MVP) process as a part of Massachusetts Executive Order 569, they will flag which partners and state agencies need to be engaged. The state agencies will also go through a vulnerability planning process similar to that which the municipalities are going through. The state will use communities' assessments to develop a list of priority actions that will help inform the state budget.

At the end of the discussion, the group brainstormed next steps and areas of opportunity for climate adaptation finance and implementation in Massachusetts:

- A NOAA coastal resilience grant in the region is starting now and may be a good opportunity to generate metrics.
- There seems to be more support for coastal communities to do climate adaptation work. One reason is that, historically, a lot of funding has come from NOAA, which has a coastal focus. One way to get inland communities more involved may be to pair upstream and downstream communities together.
- It is important to start thinking now about critical systems like transportation (e.g., Route 1), electrical grid and renewable energy purchasing, and food distribution hubs that are particularly vulnerable to climate change impacts.
- It is important to build relationships with private investors and funders. This should involve meeting them where they are (i.e., going to their stakeholder meetings).
- It is important to ensure the use of future precipitation rates in the models that inform planning and implementation.
- It would be valuable to have a state-wide mandate and state funding to consider climate change in projects that utilize state funds, especially new construction like public schools.
- There may be land conservation donors in Massachusetts that have yet to be approached about funding research, planning, and implementation projects and it would be worthwhile to continue thinking about how to engage them.

B. New Hampshire and Maine

Key points from this discussion include:

- Small communities need support from the New England region as a whole to identify and secure resources. Home rule and the lack of county-level support makes things more challenging.
- It could be valuable to harness existing sub-regional networks organized geographically or sectorally to implement adaptation work. For example, the New Hampshire Coastal Adaptation Workgroup and the Maine Climate Adaptation Providers Network have been learning from each other. This partnership could use additional support and could also serve as a model for others in the region.
- There is a need to expand beyond Federal (NOAA) funding.

FINAL DISCUSSION

The final workshop discussion focused on summarizing the breakout sessions, surfacing challenges and opportunities in the region, and brainstorming next steps. Participants discussed challenges, including political, cultural, and technical challenges.

- The New England region does not cover a very large geographic area, which should make collaboration easier. However, it is still not happening.
- Many in Vermont are still using Hurricane Irene as a reference point with respect to resilience. They would like to examine what they have accomplished and how far they still have to go.
- In Massachusetts, there is increasing frustration around the inability to objectively analyze projects because of the difficulty in calculating cost, avoided cost, benefits, and co-benefits.
- Regional jurisdictional (political) boundaries create unnecessary barriers to prioritizing getting funding to the places and projects that need it most.
- In New Hampshire, there is no appetite for stormwater utilities. It is also tough to get leadership from the legislature, and the private sector is difficult to engage.
- Home rule is a challenge in the region, writ large.
- Communities and states have very different baselines of knowledge and resilience, so it is hard to get on the same page with a regional, or even a state-wide, approach.

Participants also discussed opportunities and next steps, such as more intentionally engaging the private sector, leveraging existing regional collaborations, and transferring lessons learned from existing programs and projects. Ideas for opportunities and next steps included:

- creating regional and watershed-level applications for National Climate Assessment (NCA) data;
- leveraging and learning lessons from existing successful regional enterprises in New England, such as transit, food, and energy;
- capitalizing on existing work happening through established and emerging networks, such as the New Hampshire Coastal Adaptation Workgroup, the Maine Climate Adaptation Providers Network, Massachusetts Ecosystem Climate Adaptation Network, and Northeast States for Coordinated Air Use Management (NESCAUM) and using those networks to support small communities;
- encouraging public and private entities to work together to fund research efforts by engaging with regional industries that have a significant stake in climate solutions, such as finance, insurance, and forestry/timber;
- creating, or leveraging existing platforms for sharing success stories that highlight the potential to create a return on investment or leverage or secure additional funding (e.g., EPA's RAINE);
- encouraging scaling and replication of the MA MVP program, and encouraging the program to solidify guidance and funding for implementation (rather than just planning);
- galvanizing state leadership to change the policy landscape across the region;
- learning how to articulate co-benefits and leverage economic loss to gain support for environmental and resilience-focused work;
- forming a Regional Adaptation Commission (Northeast Governors Group); and
- convening a joint meeting between Eastern Canadian premiers and New England governors.

Emerging Themes and Next Steps

The presentations and ensuing discussion surfaced the following fundamental questions about adaptation finance and implementation in the northern New England region:

- Engaging New Finance and Implementation Partners: How can we overcome path dependencies and cultural barriers to engage a diversity of stakeholders and sectors on adaptation finance and implementation?
- Finding the Right Scales and Models: How do we determine the right scale on which to learn, design, and implement? How do we identify which lessons from a finance mechanism or implementation model are transferable from one context to another?
- Increasing Incentives to Act: What incentives will motivate action and how do we implement them?

Below is a summary of each challenge, and key next steps ASAP recommends in the region.

ENGAGING NEW FINANCE AND IMPLEMENTATION PARTNERS

During and after the workshop, participants reflected that the climate change adaptation community in northern New England is comfortable working with state officials and foundations to secure grants, but does not have a lot of literacy about how to work with the private sector on financing options. People are scared to go beyond their comfort zones and feel hesitant to move forward with creative financing for implementation projects, given the lack of available information about potential project success. Further, they do not have relationships with people in the private sector and perceive them as difficult to engage. However, individuals who straddle the public, private, and social profit sectors shared that they have many private sector companies and individuals interested in investing in climate adaptation projects. In fact, they said there are more funders than projects.

Next Steps:

There is a clear need to bridge the gap between funders and implementers. Bridging this gap will require building knowledge, gaining trust, breaking down cultural barriers, encouraging new relationships, and rewarding creativity. A few options for moving forward include:

- Build knowledge: Building on this workshop and the forthcoming Meister Consultants Group report on adaptation finance, ASAP and partners could create job aids (e.g., short pamphlets or web pages) describing adaptation finance mechanisms and when to use them. A next step could be a virtual webinar or workshop on accessing private money, covering topics like how to make the “ask,” what kind of paperwork is required, and what investors are looking for.
- Encourage new relationships: ASAP could work with partners across sectors, in particular with organizations like Bio-Logical Capital, Quantified Ventures, and The Conservation Fund, to create a database of investors. Such a database could compliment ASAP’s planned Climate Opportunities Exchange project, which will collect Requests for Proposals and other climate adaptation opportunities in a single location. Partners could also play a hands-on role in matching projects to potential investors or funders.

FINDING THE RIGHT SCALES AND MODELS

Workshop participants discussed that, given its relatively small size, New England seems to struggle with regional collaboration. Some of the causes they cited included home rule, diverse cultures among states, and differing needs of large cities and small towns. New England has a unique local government structure compared to the rest of the U.S., with many small municipalities and no county general governments. This has immense consequences for paying for the kinds of investments needed that cross political boundaries. Communities and states also have very different baselines of knowledge and resilience, so it is hard to coalesce around an approach that will work for an entire state, let alone an entire region. Given this, it may not always seem valuable to share best practices, learn from one another, or champion a regional approach.

The workshop surfaced similar discomfort around case studies which exemplified mainstreaming. Many of the case studies were from the water management, green infrastructure, and stormwater contexts. However, few of them articulated explicit climate considerations in their narrative or lessons learned and none of them cited climate change as a driving factor for the project. On the one hand, the climate change adaptation community touts mainstreaming as a best practice: it is important to integrate projects, and their finance/funding, into existing processes and ensure that they address current concerns. However, focusing on mainstreaming misses valuable opportunities for explicit education around climate impacts and opportunities to be vigilant about considering future conditions in project design. Integrating longer-term bets into current investments (whether annual, cyclical or one-time) is a crucial step, as is packaging investments to capture or create co-benefits whenever possible.

Next Steps:

It is clear that there is no one-size-fits-all finance or implementation mechanism that will work for “New England.” However, workshop participants did identify opportunities that may be right for the regional context and scale:

- Build capacity for efforts aimed at state-level policy change and increase support for sharing lessons learned across state lines. For example, most participants were supportive of the Massachusetts MVP program and encouraged efforts to scale and transfer that program to other municipalities in MA as well as other states in New England. They specified the importance of the program evolving to provide guidance and funding for climate adaptation implementation, rather than just planning.
- Learn from existing regional successes: Some participants pointed out that while regional collaboration/systems may be relatively scarce, there are a few successful examples including transit, food, and energy. People were interested in reaching out to those networks to identifying and transfer lessons learned from the collaborations that enabled those enterprises. Similarly, participants were interested in capitalizing on existing work happening through established and emerging networks, such as the New Hampshire Climate Adaptation Workgroup, the Maine Climate Adaptation Providers Network, Massachusetts Ecosystem Climate Adaptation Network, and Northeast States for Coordinated Air Use Management (NESCAUM) and using those networks to support small communities.
- Develop targeted regional case studies: Participants were interested in knowing the future of the EPA RAINE platform and stressed the value of having an online platform for sharing success stories that highlight the potential to create a return on investment or leverage or secure additional funding. Such a platform/database may have increased value if it is curated to meet the needs of small and rural communities.

INCREASING INCENTIVES TO ACT

Funding is often the first barrier that communities cite when explaining lack of adaptation action. However, increased funding and finance opportunities will not lead to action on their own. Jurisdictions also need strong leadership and changes in policy, law, and behavior. Stronger policies could enable increased public sector money for adaptation, as well as increase the space and political will for local governments to push projects forward amidst all they have on their plates. Sometimes positive incentives and guidance are enough, but in some cases, mandatory legal and regulatory requirements are the only way to get communities to implement costly projects. Additionally, it is critical to identify and remove regulations that serve as barriers to action, such as U.S. Army Corps of Engineers regulations that disincentive green infrastructure and Federal Emergency Management Agency regulations that make it difficult to use disaster recovery funds to rebuild smarter and stronger. Other incentives may come from outside the policy and legal framework, such as bond ratings agencies beginning to factor climate risk into their assessments. Finally, strong leadership can incite entire communities at any scale to action even in the face of external barriers.

Next steps:

- Build capacity for efforts aimed at state-level policy change, for example through a regional commission of governors addressing adaptation and building on MA and VT efforts to integrate adaptation in their State Hazard Mitigation plans.
- Inspire climate leadership through continued support for ASAP's New England Regional Adaptation Leadership Award (RALA) and enhanced engagement of Executive Summary