

Conservation Finance Practitioners Roundtable

Portland, OR | May 16-17, 2016

Welcome and Introduction

To open the meeting, Leigh Whelpton of the Conservation Finance Network (CFN) and the Conservation Finance Practitioners' Roundtable (CFP Roundtable) coordinator, thanked all of the attendees for their continued engagement and promptly turned the mic over to the event sponsors' local representative, Shaun McKinney, of the United States Department of Agriculture (the "USDA"), Natural Resources Conservation Service (the "NRCS") branch in Portland, OR. Shaun welcomed the group to the Pacific Northwest and Portland, specifically, and reiterated the USDA's and the NRCS's excitement about conservation finance and emphasized that the most valuable aspects of the Conservation Innovation Grants (the "CIG") initiative are the relationships and the conversations that they generate.

Leigh thanked the NRCS for their continued role in bringing these meetings together as well as their efforts to put new conservation dollars to work. She reviewed the goal of the CFN Roundtable: to increase the flow of capital towards private investment in conservation and deploy more capital towards working lands conservation. This will be done through the power of collaboration and harnessing the power of collective problem solving. Leigh introduced the objective for the 2-day meeting, which was to build on the prior introductory meeting and "get to cruising altitude" as a working group.

At this point, individual introductions were made and the day's agenda was reviewed.

CFP Roundtable Update & Year One Output

Moderators: Kari Cohen, National Resource Conservation Service; Leigh Whelpton, The Conservation Finance Network

Kari made opening remarks regarding the conservation finance initiatives within the NRCS and the emphasis that the NRCS is putting on this work and these initiatives. From a broader perspective, the importance of the regulatory and policy intervention discussions had at the CFN Roundtable will only be heightened as we move toward the end of the current administration and toward its successor.

Regarding the CIG program, a new round of grantees was decided on May 10th and will be announced at the end of May 2016. Going forward, these grantees will be included in the CFN Roundtable meetings and the NRCS is extremely energized about further expanding the group and the discussions.

Leigh then provided a review of the key topics, themes and areas for follow-up that were raised in the prior CFP Roundtable (as follows):

- Discussion of deal risk mitigation techniques;
- Evaluation of the interplay between investment and policy;
- Further education on and assessment of the current status and future expected progression of markets;
- Deal aggregation strategies;
- Development of specific deal case studies; and
- Assessment of a publicly-funded deal incubator.

As a group, members were asked to define deliverables, facilitate making project implementation easier for the CIGs and avoid forming task-specific working groups. To that end, the year 1 deliverables were reviewed, which included:

1. **Market Roadmaps:** By building out relevant case studies, roadmaps would allow the group to objectively assess where the market currently stands in its progression and brainstorm ways to

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catalyze development. Additionally, these could be used as a tool to engage and educate policy makers.

2. **A Set of Non-Consensus Policy Recommendations:** Through the CFP Roundtable meetings and a series of follow-up conversations, the recommendations would lay out what the group feels are the most impactful actions regulators could take. These recommendations are intended for the next administration, the future Farm Bill, etc. These will be the working recommendations to be updated as needed throughout the duration of the CFP Roundtables.

Session 1 - How to Ready Markets: Strategy & Tactics

Moderator: Sean Penrith, the Climate Trust

Panelists: Emily McGlynn, White House Council on Environmental Quality; Sarah Mahlab, Canopy Invest; Margot Kane, The Calvert Foundation; Dan Winterson, The Gordon and Betty Moore Foundation; Bettina von Hagen, EcoTrust Forest Management, Inc.

To begin the session, each one of the panelists provided an overview of their organizations and highlighted the various indicators that determine market readiness for capital:

- Demand: Creating demand for a product, and attracting multiple types of investors.
- Return on Investment: Especially in nascent markets, you need investors who are willing to accept lower returns.
- Benchmarks: What are the standards and what are the demonstrable business models behind the investment?
- Intermediary Organizations: Credentialing organizations are significant factors. Managers are needed to understand what factors are most important for the institutional investors.
- Identify the Investor: There is more capital than projects ready for investment. It is important to link the investor with the right types of deals.

The Role of Foundations and Government in Market Readiness

Foundations enable the private sector to do market research and development. It is important for foundations and government to target capital markets, but there needs to be regulation behind it. For example, the World Bank's Pilot Auction Facility focuses on methane reduction projects with the goal of de-risking carbon credits. Through a competitive bidding process, The World Bank buys carbon credits to set a floor price on the credit.

On the role of foundations, philanthropic dollars need to be the "anchor funds" for first time managers. Foundations have the unique role of spreading out the costs of due diligence. Foundations are also situated to provide research and education opportunities among practitioners. Foundations invest in underlying technology that can exacerbate deal activity, rather than directly funding deals. These investments also allow for more accurate measures of benchmarking and deal tracking.

It is important to note that the ecosystem service markets and the internalization of external costs have not unfolded in the way that was hoped. There is a need for regulatory intervention because foundation money alone cannot support this market.

The role of a Community Development Fund Institution ("CDFI") vs microfinance ("MFI")

The CDFI market and MFI market also a significant role in private conservation. CDFIs are generally dependent on public or philanthropic capital as there is little to no market return available. CDFIs contrast to microfinance loans as they are purposefully developed to attract market returns.

The Potential for Retail Investment Products

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The Fundrise model of crowdsourcing for conservation projects illustrates that there is an appetite for investment in this manner. However, this mechanism may not be the most suitable for conservation projects. Loss aversion is generally much higher among the retail investing demographic due to a constraint on financial resources. To incorporate retail investors, there would need to be educational materials available to potential investors.

Government Risk Mitigation Strategies

In reference to the World Bank's Pilot Auction Facility, California has implemented a similar program. These programs provide both risk mitigation and loss limit guarantees to investors. There are various types of risk that exist in a deal, such as market risk around revenue streams and liquidity risk. With market risk it is important to match capital sources with the desired returns, which can be set using a floor price guarantee. On the issue of liquidity, government agencies and foundations can address concerns through standby letters of credit, guarantees, etc. in order to provide a facility to investors needing shorter-term liquidity in a way that does not put the overall deal viability at risk.

Conservation Finance-Relevant Business Models from Other Industries

To conclude, the moderator turned the panelists' attention toward leveraging effective models from other industries for the benefit of conservation finance.

New Market Tax Credits ("NMTCs")

There is a potential to use NMTCs or other relevant tax credit program applied to qualified conservation finance projects. The current NMTC program could be expanded to include these projects as qualified. Currently, there is a provision for the program to use NMTCs, even if these are not qualified as projects in primary "Low Income Communities." In such cases, the community must meet two secondary criteria to be considered "Low Income Communities." Ecological disaster sites could be added to this list of qualified secondary criteria, which already include brownfield sites among many other provisions, to facilitate additional conservation projects.

Donor Advised Funds ("DAF")

DAFs are an ideal market for conservation finance products. There is approximately \$70 billion in capital invested in DAFs, which are naturally aligned with communities. It was noted that the \$70 billion in capital primarily reside with Fidelity, Vanguard and Schwab, who don't generally invest in outside funds. Although this may be a hindrance, there are still ways to access money via institutional investors. The challenge is that you then have to launch a campaign with their national donor-advisors to educate people investing in their platform, which can require significant resources.

DARPA as a Model for Conservation

The panelists note that there seems to be a perception of mutually exclusive push and pull mechanisms in regulatory intervention for conservation finance. However, in thinking about the challenges of conservation finance, we can look at the defense sector and the Defense Advanced Research Projects Agency ("DARPA"). In the defense industry there are significant contractors (e.g., Lockheed Martin, General Dynamics, Boeing, etc.) acting as suppliers and the Department of Defense acting as the ultimate buyer, with DARPA providing a research and development role as a public entity that provides private benefit. This is a relevant and interesting model to follow for conservation finance. This is in-line with how the NRCS and USDA already approach the issue, albeit informally.

Summary of Q and A

What does it take to do a CDFI deal compared to a MFI?

The main difference between these two markets is that MFIs are focused on market based business models with an expected rate of return and CDFIs are not constructed in this way. Program Related Investment ("PRI") money is some of the most difficult money to attract which significantly limits the CDFI.

How many foundations are sophisticated enough to fund this type of activity?

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Many foundations do have a good grasp on these concepts. However, there is a tendency to fund the more “glamorous” deals, the types of deals that get the most press. Deals that are less dynamic in nature don’t always get the appropriate amount of funds.

Could foundations facilitate the retail investment market?

Foundations can undoubtedly play a role in this market. An example of this would be the Small Business Borrowers’ Bill of Rights, which was developed through foundation money to support responsible small business lending best practices. It is important to point out that millennials and women will control the majority of U.S. wealth in the future and they want to invest in things aligned with their values: (1) women’s equality, (2) the environment, and (3) social justice, so providing them the knowledgebase to do so is essential.

What can the Roundtable do to identify the policy changes that need to take place to support fluid retail investments?

Regulation around crowdfunding is in place but the enforcement of the regulations has yet to catch up. A retail investor is not going to study the regulations so the points need to be made quickly. It is important not to just focus on the financial products here but the distribution mechanism.

Could the USDA create a working lands auction facility? And is it transferrable?

In theory it is possible, but the idea behind the auction facility is to use public dollar in a more intelligent way to target specific sources of risk. Grants and loans are ideal for the riskiest projects, but for projects that could otherwise get to market, this could be the way to address the market risk.

Could federal agencies to create a pre-disaster or preventative risk fund?

NMTCs channel private capital to areas that are most important for public goals, which could provide flexibility for interpretation. Furthermore, the NMTC program is compelling because the public entity can set the priority and the private market can then respond to those publicly-determined objectives.

Session 2 - Near Term Administrative Changes vs Longer Term Legislative Changes

Panelists: Adam Chambers, Air Quality Scientist, Air Quality and Atmospheric Change Team, USDA Natural Resources Conservation Service; Paula Sweeden, Sweeden Consulting

The Coalition on Agriculture Greenhouse Gases (“C-AGG”) is a coalition that supports the development and adoption of science-based policies and decision making. C-AGG holds meetings intermittently and produces white papers. Through the use of tools, partnerships, and capacity building, the coalition is able to accelerate change.

As certain agencies can inhibit change, C-AGG is attempting to build a strong scientific case as to why the Energy department should consider the purchase of offsets. This was brought to the attention of the White House Council on Environmental Quality (the “CEQ”), and the EQ conducted an investigation into this possibility. Although the guidance has not yet been released, this is a good example in which C-AGG identified a problem and brought it to the attention of the influential policy-makers.

Paula is a consultant and has worked closely with the Washington Environmental Council (the “WEC”) on the Mashel River Watershed Protection. The WEC is focused on preserving and conserving private forestlands. Its main goal is to enhance carbon sinks to mitigate climate change, recover endangered species, and restore and maintain water quality. However, there are tremendous costs to improve and conserve the watershed systems. In this case, costs were associated with estimating permanent easement with ecological performance standards.

Participants of the roundtable were then divided into four smaller groups to discuss policy implications with a focus on the upcoming Farm Bill. The breakout groups were: The Farm Bill/agriculture, rural economic development, public finance for forests and water resources.

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After 30 minutes of small group discussion, each group was asked to provide three or four major takeaways or innovative ideas.

Water Resources

- Better understand the use of loan guarantee funds
- Increased use and education for state clean water drinking water green revolving funds
- More satellite imagery to prioritize private land owners
- Pay per performance expansion around resiliency, in which the insurance and reinsurance industry playing a role
- Smaller cities, increase in conditional lending that is impact focused.

Economic Development

- Examine the ways in which rural economic development compares with ecological distress
- Use federal tool and grant programs through a community health lens
- Identify the proper agencies and programs to have these discussions

Farm Bill/Agriculture

- Pay for performance mechanisms
- Clear priorities from USDA
- Diffuse market risks and delivery risk on ecosystem services
- Incorporate working land aggregation
- Set standards and identify the rules of the road

Public Finance for Forests

- Clean water revolving fund
- Increase capacity for the forest legacy program
- Establish a general market for ecosystems services
- Saleable/transferrable tax credit for conservation donations
- Allow agencies to buy offsets
- Improve issues of liquidity, smaller funds for secondary markets
- Retail investing rules, SBIC designation

Session 3 – Mapping the Evolution & Trajectory of a Market: Forest Carbon

Panelists: Ricardo Bayon, Encourage Capital; Amrita Vatsal, Ecotrust Forest Management, Inc.

Moderator: Dave Chen, Equilibrium Capital

The session began with a reflection on the slide that Dave Chen presented to the group in the prior session showing the evolution of markets over time. The objectives for this session would be to assess where various segments of the market currently are and discuss ways to accelerate the progression in getting various ecosystem services markets to the mainstream.

The group then applied Dave's market phased model to the forest carbon market. Before this effort was done in earnest, there were two important caveats: (1) just because we state that something is a market, does not make it so, and (2) sources of capital are not all equal. Using the market phase model as the reference, the far

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left side of the graphic represents the Research & Development phase, and its appropriate capital sources, and as you move right into the more developed phases, you incorporate more market-based capital. After a brief introduction of each panelist, Dave opened the floor for discussion.

Summary of Q&A

Can this type of market formation road map be applied to forest carbon?

The United States carbon market is still in the emerging market phase, possibly early market scaling. The first markets were the voluntary carbon markets (primarily forest carbon) done for Corporate Social Responsibility (CSR) deals in foreign countries (Bolivia, Brazil, etc) by the US markets. Through this mechanism, the US can't state that anyone has a "carbon credit" without additional regulation.

The European Union (EU) was able to get into the third phase of the market road map by establishing the European Union Trading Scheme (EUTS). The EUTS distinguishes markets for ecosystem services and other forms of conservation finance. The EU creates markets and then forces businesses to buy carbon, resulting in billions of dollars in demand for carbon. Lastly, it was noted that carbon markets were able to move from emerging to early markets due to carbon hedge funds, venture trading funds and the demand for carbon.

In building a market, the intent is not to build a financial market. It's to build a technology that can be sold to a variety of channels. How is carbon sequestration a traded product?

Carbon is internalizing an externality (financial product). The technology, commodities market and the financial market is traded based on the underlying technology of carbon sequestration. The technology is intended to internalize the externality.

All of these markets use a central repository to avoid double counting. Are there any examples in which commodities can be traded without a centralized structure?

The driving force is the creation of the carbon product. The demand exists through CSR and other avenues. There aren't any mechanisms that use a decentralized structure.

What about forest carbon?

As there was demand for CSR buyers, the compliance carbon market in California is hoping to reach early market scaling. As it exists now, it is in between emerging market and early market scaling. Secondary markets that enable long term compliance obligations to be fulfilled could help to push the markets into early market stages.

Why is project design so important in carbon markets?

Scalable and replicable cash flows are a necessity to the future of carbon markets. Secondary markets are also important. It is imperative to look at previous transactions and identify where money can be made, and what projects are investable.

Discuss the sage grouse market in this context.

The market is still in formation and definition phase. Most of the sage grouse reside in the state of Wyoming where it's not listed as endangered species. In this area, there are clear conservation and energy development interests. There are two ongoing projects: the first has received a license and is a land acquisition based investment, whereas the second model is a partnership with landowners. This is a difficult phase for the sage grouse market because there is no collateral and a very high risk. These projects are funded internally and create a big opportunity for a new market, but reduce the overall scale.

What lessons can be learned from the Chicago climate exchange to the California program? Do people want to be involved in a 100-year contract for something that may not be around in the future?

There needs to be governmental enforcement to require demand. In the Chicago climate exchange, companies united to show their interest in carbon. That interest soon declined. As an example, DC has instrumented storm water credits, but there are limited buyers and sellers. There is a primer financing

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facility to generate the first credits and bring them into the market to escalate the pace. In California, a floor price on carbon was set and ratcheted up at a critical pace.

Session 4 - Pay for Success

Panelists: Andrew Alexandrovich, Environmental Incentives; Nick Wobbrock, Blue Forest Conservation

Moderator: Dave Groves, White House Council on Environmental Quality

This session began with a brief introduction of the panelists, moderator and each of their respective organizations.

The discussion was aimed at examining pay for success models in the context of advanced mitigation. A pay for success model begins with the government identify a specific environmental issue. Private founders provide the upfront capital to invest in the solution. After evaluation of the project, the government will repay the private funders but only if the investment was successful. Under a pay for success model, there is a notion of shifting risk. For example, if the project fails the first time, there is little incentive to go back and resolve the issue. With a third party (the government) the service providers have more motivation to go back and fix the problem.

Pay for success models have become more prevalent in the social space. There are currently 11 pay for success models in the United States. The goal is to differentiate pay for success models from the natural resource to the social space, where the metrics are less clear. There is enormous ability to scale projects in the natural resource space.

The panelists delved deeper into a real-life example of a successful pay for success model.

The Forest Resilience Impact Bond Fund was established in partnership with Blue Forest Conservation, Private Capital for Public Good, and Encourage Capital, to establish fuel reduction projects. The Bond is intended to raise capital from private investors to fund forest restoration designed to decrease the severity of wildfires. Further, it would increase water availability for local utilities. This Bond Fund was established to leverage large deals, establish compliance driven trading credits, and set the economic case for water utilities to be involved. The benefits of a bond are the yearly cash flows and an end payment after 10 years in which you can contact debt investors. Under this Bond Fund, investors are expected to receive market rates of return.

Summary of Q and A

Is this plan comparable to stewardship contracting and how does that work?

The extension of payments does not take place when the work is done, but over a decade with payments from the forest service.

What are the major procurement challenges?

The major challenges are working with state procurement staff. In Nevada, the state couldn't give loans. At the federal level, there has been analysis on ID IQ (indefinite delivery, indefinite quantity) contract. This could potentially apply to other agencies such as USDA, NOAA, EPA, and DOI. Another challenge is the lack of successful project examples. It's difficult to promote pay for success when there are very few champions for the method. Advocates are needed to negotiate with utilities and the corporate sector.

What reason would a government have to just purchase outcomes?

In some respects, it's the right thing to do if there is an innovative high risk approach with potential. If you're just purchasing outcomes, then there is less drive to find innovative solutions to issues. Additionally, grant funding can also be the right choice. If funding is minimal, then it would be unwise to do a pay for success program.

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How is the White House helping agencies to strategize? Is there a government wide approach that applies to people inquiring about individual deals?

This is dealt with on a case by case basis. Some agencies are more receptive to the idea of pay for success, just as some people are more prone to this idea within a single agency. There are groups which are strategically trying to help transaction get off the ground and provide support with procurement challenges.

Session 5 – CIG Spotlight: The Climate Trust

Transforming the Economy to Value our Climate: Launching the Working Lands Carbon Facility

Moderator: Adam Chambers, NRCS

Panelists: Sean Penrith & Peter Weisberg, The Climate Trust; Patrick Maloney, Occam Advisors

Adam Chambers opened this session by stating that the CIG Spotlight is a chance for the CIGs to present on the work that they are doing as well as an opportunity to harness the intellectual resources at the CFP Roundtable on a narrowly scoped issue. Sean Penrith, The Trust' Executive Director, took the floor and stated that The Trust feels they are moving into the Development Phase from the Emerging Market Phase (to reference Dave's earlier session) with the expectation of returns as a hope but not a guarantee. That being said, they are still looking toward that scalability as they plan and structure their project.

The 2016 Global Impact Investing Network ("GIIN") report shows the sectors of impact investment, with conservation only accounting for about 2%. Despite this, The Trust has committed \$43 million as a market maker through their NGO to offset projects to-date. This \$43 million came through the Oregon Special Purpose Fund for CO₂. However, in 2016, Climate Trust Capital, a subsidiary of The Climate Trust's and its principal investing arm, was launched to invest in proprietary carbon offset deals.

Peter Weisberg then discussed the CIG's more nuanced aspects. He stated that although the governor of California has released emissions goals through 2030, it is not confirmed that California's AB-32 will be extended past 2020. Another big assumption is supply. There is 30 million tCO_{2e} of annual demand in the state; however, only 15 million tCO_{2e} of annual supply exist. The California compliance market represents \$2.2 billion per year, with only five types of projects qualified for the compliance market. Meanwhile, the voluntary market represents only \$714 million but covers a much wider variety of projects, which align more closely with the USDA objectives.

Peter then outlined Climate Trust Capital's financing offering for different project types to show the value proposition to project developers. For example, a digester / biogas market, offsets will progress fairly linearly over the 10-year project period. The floor price for these credits will step-up over time so revenue will increase year-over-year. However, a large portion of that 10-year projection now extends beyond 2020, which begs the question will the CA market still be there? Also, developers do not have a handle on the 18 protocols for livestock that need to be monitored in order to ensure credits are valid. This is the value that Climate Trust Capital brings to the table. The goal here is to provide upfront capital in order to finance developers implementing this digester with the patience and confidence in post-2020 regulation to generate a commensurate return.

The point was raised that although the mechanics have not yet been worked out, energy efficiency projects are an interesting model because they have shifted the risk to service providers and the homeowners only see the savings on their bill but have no cash or financing needs. This could be applicable to the digester or forestry model for Climate Trust Capital. The goal would be to have The Climate Trust manage the risk, while developers only have the savings.

Peter then turned to how the goal would be accomplished structurally. In essence, the non-profit (i.e., The Climate Trust) will sell to Climate Trust Capital a put option that would allow Climate Trust Capital to sell credits at \$6 back to The Trust, if needed. The Climate Trust Capital has equity-like risk in the delivery of

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credits while The Trust itself takes the liability. After providing the financing, Climate Trust Capital enters into a 50 / 50 partnership with the developer over the 10 year horizon of the project.

Once the pilot fund has been proven, the follow-on fund will target \$100 million as this is the magnitude where the fund itself can actually be self-sustaining without having to leverage The Climate Trust. The difficulty here is that the pilot fund has not yet been proven out, so it is difficult to raise the full fund without having this track record. Circling back to the put option, the key is that it mitigates much of the binary market risk for the credits and provides some assurances. There is some delivery risk (to actually getting the credits issued) but this remains primarily under The Climate Trust's control.

The Climate Trust's goal is that this fund will help develop and pioneer new carbon projects just as The Climate Trust has done in the past. For example, The Climate Trust and Ducks Unlimited modeled the carbon sequestration for avoided grasslands conversion project. They followed all of the protocol and modeled much of this to come up with an estimate for the project, which they then presold to Chevrolet; however, there was disagreement by experts on the protocols and, therefore, they were back to the drawing board without a standardized means of measurement.

The value of the put option is not simply for its dollar-for-dollar benefit to investors. Climate Trust Capital can leverage the put option fund to raise additional dollars, so it, therefore, has a multiplier effect. Also, a Put Auction Facility would be a great way to leverage public dollars in a similar way, and rather than granting directly to individual projects, it could mitigate market risk for a variety of projects across the board. Essentially what this would look like would be a public entity running a reverse auction to bid out the put options in a competitive manner.

The Climate Trust, the Coalition on Agricultural Greenhouse Gases ("C-AGG") and others are trying to get The White House's Council on Environmental Quality's ("CEQ's") to revisit the 2008 guidelines for 40% GHG emission reductions by 2025 do not recognize any impact from offsets these guidelines to allow for the use of credits in hitting their targets.

RFPs were done in January for projects and \$15 million of deals initially came in with heavy waiting toward digesters. However, since then they have solicited interest from forestry projects and now have a cumulative \$28 million of projects split 50 / 50 between digesters and forestry.

A general comment was made that this effort represents a significant amount of "brain damage" being done on the market's behalf, which is genuinely pushing the market ahead. The idea of using the put option to get over the market risk is innovative and great but the real value is the money available to finance The Climate Trust at the parent level (which is what funds the put option). It is important to note that PRI money is still partial to community development and not as geared toward conservation finance.

In closing, Peter Weisberg stated that carbon prices are an indication of the ambition of a cap-and-trade system so the more pressure put on regulators to make these programs come to fruition.

Summary of Q and A

Q. The Climate Trust asked the audience, what models are available to Climate Trust Capital in pursuing a for-profit fund strategy while also preserving 501(c)(3) status.

A. Costal Enterprises, Inc. in Maine could provide a comparable model of this and has launched 3 or 4 funds now. The Pacific Community Ventures has both a for-profit structure and a non-profit arm. From the low-income housing tax credit program market, Enterprise Community Partners and Stewards of Affordable Housing are options. Finally, Grupo Nueva was introduced as a structured forestry firm.

Q. The Climate Trust asked which forestry projects are likely to find turning long-term carbon revenues into upfront capital attractive. Should Climate Trust Capital target land acquisition, avoided conversion projects or projects that are currently at common practice values?

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A. On the thought of land acquisition, the size of the carbon revenues here are not huge in the context of the overall acquisition price, but the estimate is that 10%–20% of the purchase price could be financed through carbon, so it actually could be somewhat meaningful. On the avoided conversion projects, there would be similar revenue streams to the digester model. Large landowners and TIMOs have started to develop the capacity to do carbon credits in-house. However, small landowners facing conversion risk are lacking this ability. This is difficult to scale, so it may be more viable to do reforestation instead with small landowners. Another interesting angle may be to follow wildfire destruction and provide a financing mechanism. However, federal lands cannot sell into the California compliance market.

Q. A member of the crowd asked, with credits being so cheap, is a put option of \$6/credit a useful floor?

A. It is because this floor allows projects to work in the worst case (it still allows the principal to be repaid) but they do feel that there is an arbitrage opportunity for the market price of carbon in the future and this will be a windfall for them. Capital stacking provides another opportunity that is not currently being priced in so that would also be additional potential revenue to the projects.

Q. How was this model received at the Board level?

A. This strategically allowed them to take their intellectual capital and put it to work for investors outside of just utilities: Although currently the only investors are foundation and PRI dollars, which makes the put option much more palatable because it is a “closed loop system.”

Q. How will The Climate Trust and Climate Trust Capital mitigate the risk aversion trends in the foundation market?

A. This is a difficult problem to solve. However, they are trying to use the pilot fund to show their track record such that future investors do not see this market as a significant risk or one above its return profile. Also, it is important to make sure that Packard, the pilot fund investor, gets a ton of credit for this because they did take a real risk. Their investment and involvement in this model will be used to familiarize the concept to other foundations and help establish a real market.

Q. The Climate Trust asked the Calvert Foundation what it would take for Calvert to invest in the fund.

A. Margot Kane answered by saying that the pilot fund was a great step toward making this happen as it reduces a high degree of the regulatory risk that Calvert would be concerned about. However, in her opinion \$100 million seems like an unreasonably large second fund as a next step going from \$5.5 million.

Q. How does Calvert risk-adjust the investment given the lack of other comparable transactions?

A. Margot noted that Calvert was actually willing to underwrite this transaction but it was not going to be an investment in the fund’s returns not in the fund managers’ potential (e.g., it would have been held in their innovation fund and they were not anticipating this to make money). This would have progressed to more market-based funds as the returns were proven out.

Session 6 - Trends and Opportunities for Aggregating Working Land Investments

Panelists: Ben Hayes, Pinchot Institute for Conservation; Brian Shillinglaw, New Forests; Joe Whitworth, The Freshwater Trust

Moderator: Peter Stein, The Lyme Timber Company

Peter Stein opened the panel by sharing his personal experience working for a Timberland Investment Management Organization (“TIMO”) and his perception of land aggregation. Due to restrictions that limited the size of a property that could be acquired, Lyme Timber spent 1.5 years acquiring 9 properties to get to the desired 1500 acres. The time and effort that was spent negotiating the 9 properties was an OK investment, but on a personnel basis it was a total loss.

Each panelist began by introducing themselves and providing a brief overview on the trends and opportunities in working land aggregation as it relates to their work.

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Ben noted that an opportunity in this field is to open source carbon development. Land owners would need to be able to accept a lower rate of return than timber harvest, but the environmental impacts would be significant if landowners could agree to do long-term carbon development projects. How do you leverage investment funds down the road? And who controls the management and intergenerational transfer? The Pinchot institute is working to understand the needs of the next generation and identify solutions to these questions.

Brian stated that the complications and transaction costs are immense in aggregating working lands. Capital venture funds, insurance companies among others, work in the intersection of forests ecosystems services. These groups don't do aggregation, but work with small landowners. The distribution of offset credits across the US is not linear with size. The costs of aggregating should be taken on by someone with deep regional relationships, especially in the nonprofit sector. The acquisition of the property should not be a joint venture. If the carbon market gets large enough and the transaction costs work, it would be from a deal that is a purchase and sale agreement and aggregated into something that's investable at scale.

Joe began by presenting a short video of President Obama which highlighted the invaluable work of The Freshwater Trust. To improve water quality in Medford, Oregon the government established a voluntary easement program in which farmers along the Rogue River could plant natural vegetation near the stream banks to lower water temperatures. Under the voluntary easement program, only \$6.5M was spent compared to a projected \$16M. Not only was this method more cost-efficient, but energy usage was significantly reduced. Most of this analysis was done without stepping into the basin, but it's important to note that not all restoration is created equal.

Summary of Q&A

How do you know how much product is coming from a given field?

Years of crop, slope, and irrigation practices. There are publicly available tools that are linked to USDA practices. Although it may not always be precise, there is a way to find an ecological value of the parcel.

What is the transaction level and how many people are needed to aggregate? Is this technology being licensed?

A transaction begins with a meeting between thought leaders of the project. Once a few sign on, more people will join. The "Walmart approach" to conservation won't work in the 21st century. There are groups locally that can do this type of work (ie land trusts). We are actively engaged in getting the current tools more readily available to others in this space, but there's still room to figure out what that would look like exactly.

Is there public, state and federal money available for easements? It's easier to get money for acquisitions, but what about easements?

Conservation easements are scary for landowners, but it's just a lease. With carbon project development, you run a risk that separates their rights to no longer have the right to harvest the land's net present value. If the landowners can't harvest, then there's no additionality left. The landowners will give away the easement and gives away future cash flows. Working forest conservation easements will state that the landowners have to manage their land in a specific manner. A lease is the simplest transaction.

What is the upside for landowners and where is the capital?

Landowners don't see easements as an asset yet. Currently, practitioners are looking at costs, but as variable largely fixed costs. As it relates to The Freshwater Trust example, the first deals came from its own credit line. Eventually, the Packard Foundation and other groups joined in with a \$5M PRI.

In rural areas, you can promote a rural livelihoods campaign. It's a campaign ready concept, but it would be difficult to execute. Would you use this as a basis for a public campaign in rural communities?

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Yes and some groups are doing it already. There is modelling on water quality in the Western Lake Erie Basin, but the landowners are needed to make a difference. There are tools at the USDAs disposal to do this, but there are tensions at the NRCS between the congressional benefactors. There is more funding targeted to solving natural resource problems, but there may not be the political footing in some areas to deliver this type of campaign. Education campaigns are great to an extent, but may be too sophisticated to other communities. In many situations, an intermediary needs to be involved.

In regards to nonpoint source and point source pollution; rather than aggregating, you're selectively trying to differentiate between properties and selectively conserve ecosystem services. Is that correct?

It is important to note that not all restoration is created equal. Ecosystem services don't matter unless there is a market. Non-point source pollution negatively affects water quality and avoids any sort of regulation. Point source pollution is the only type of water pollution that can be quantified and held accountable for its' detrimental effects. It's important to remember that the goal is to fix the water quality problem, not to worry about hitting the "next quarter's numbers". There is a need to connect point source and nonpoint source pollution.

Does technology exist to quantify the price point for ecosystem services for landowners? How would you determine large scale models vs aggregated models?

There is technology to help quantify ecosystem services. For example, a forest planner has access to an online GIS tool that allows the planner to enter ecosystem service inputs and provide a description of the property. The software will then provide a set of metrics on different management scenarios. From there, you can determine if the property is investable. To do a large scale model, or an aggregated model, you treat each component as its own project when you enter the property description into the software.

A number of land trusts have conservation buyer programs. If there is a fairly competent land trust, would that reduce the risk?

Absolutely, the price point is relatively high right now given the supply of capital in the TIMO market. The land trust with the highest capacity is better served being treated strategically and putting money elsewhere.