

Conservation Finance Practitioners Roundtable

Washington, DC | October 13-14, 2016

Day 1- Welcome and Introduction

To open the Conservation Finance Practitioners (“CFP”) Roundtable, Leigh Whelpton of the Conservation Finance Network (“CFN”) thanked all of the 70 attendees for their presence in Washington DC, October 13-14, 2016.

The mic was then passed to Tim Male, Associate Director for Wildlife and Conservation at the White House Council of Environmental Quality (“CEQ”), for opening remarks. Tim welcomed the group to the Eisenhower Executive Office Building (“EEOB”) and began by briefly regarding the history of the building. Tim thanked the meeting’s organizers and reiterated the importance of the meeting regarding the administration’s efforts of incentivizing project capital to come off of the sidelines and assist the government as a partner in conservation efforts. He noted that the administration had a three part vision in establishing public-private conservation working lands.

1. Create policy that fosters markets suitable for appropriate environmental services;
2. Modify technology and innovation to better measure outcomes and values from restoration efforts; and
3. Create innovative financial instruments to help farmers and landowners create added value from conservation.

Tim then handed the mic back to Leigh for further welcoming comments.

Leigh thanked the CEQ for partnering and cohosting the event, and the Natural Resources Conservation Service (“NRCS”) and Jason Weller for the funding and leadership. Leigh noted the underlying meeting objective of increasing resources available for working lands conservation outcomes and asked everyone to share openly and honestly.

A brief round of introductions took place. Tim then introduced Robert Bonnie, the undersecretary for the United States Department of Agriculture (“USDA”) for opening remarks.

Opening Remarks

Robert Bonnie began by sharing his experience as a landowner, a conservationist, and an undersecretary. Growing up on a family farm in Kentucky, Robert has personal experience watching urban development encroach closer towards his family’s land. In order to keep his family’s land in agriculture, new revenue sources had to be identified in the form of timber harvest, establishment of hunting grounds and through the sale of woodpeckers.

Further, Robert noted the importance of convening pioneers, thinkers and innovators and applauded the efforts of the CFP Roundtable. He then brought forth several areas of concerns that the group ought to think about during the roundtable:

- Incentivize good private land management practices that promote value and conservation;
- Scale up public-private conservation projects;
- Measure environmental outcomes;
- Think about the Farm Bill to encourage new, innovative approaches;
- Identify ways in which the government can incubate innovative financial mechanisms; and
- Transition to a new administration and keep conservation finance a priority.

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Session 1- Envisioning the Future of Public and Private Collaboration

Moderator: Peter Stein, the Lyme Timber Company

Panelists: Jim Lyons, US Department of the Interior; Tim Male, White House CEQ; Chief Jason Weller, Natural Resources Conservation Service

To begin the session, Peter Stein opened by noting the speed at which conservation finance has moved forward. During his Lake Tahoe address in August, President Barack Obama challenged the NGO and private sector community to accelerate the pace and scale of conservation finance. Peter then asked each of the panelists to give their thoughts on the importance of conservation finance and how the administration could continue with the momentum that had been built in the last few months.

Jim Lyons launched the panel discussion by providing a brief background of his role in the field. With a strong political career, having worked as the undersecretary at the USDA and on Capitol Hill for several years, Jim has witnessed the increasing need for conservation finance mechanisms. Jim noted the example of the Greater Sage Grouse Initiative. The listing of the species under the Endangered Species Act would impact public and private land management. Through unique collaboration across state boundaries and with the Fish and Wildlife Service, the USDA was able to maintain the ecological integrity of the land, while increasing climate resilience and human health. The Sage Grouse Initiative is just one of several that showcase the increasing importance of conservation finance.

Tim Male was next on the panel discussion and he emphasized the value of predictability and certainty. He exemplified the 2006 president of the national mitigation bankers who stated that if the rules are made right, then the role of mitigation banks would double or triple.

Jason Weller was the last panelist to speak on the importance of conservation finance. He noted that the farm bill is the largest green infrastructure investment in the United States, and also has the most funding available within it. In addition to the importance of the farm bill, the NRCS has been working on the development of a tool that is specifically meant to aide landowners. By providing complete conservation data, landowners can make informed decision on how to sustainability use their property.

Summary of Q&A

Are ranchers disqualified from moving forward with future government programs if they have Sage Grouse conservation easements?

Co-investments with landowners are aimed to provide benefits for those willing to sign up and provide habitat value. It will likely not have an impact on the ability of ranchers to make future investments. However, the law prevents everyone from 'double-dipping' so it's imperative that we don't enhance someone's pocketbook past the value of the conservation benefit.

How do we tell the story of speed, profit, and certainty to municipalities and governments and properly sell it?

It should be approached at the most basic level of certainty. The conversation should be focused on the returns as well as the risk mitigation using private sector money. Governments like flexibility

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and don't like to be rushed to a definitive answer. There is a cultural shift that is beginning to occur, but when the beneficiaries of these conservation programs are outspoken, it creates certainty and additional possibilities of positive outcomes.

How can natural assets become an important part of the agenda to develop global infrastructure?

Natural capital is essential for several reasons, including national security which is primarily focused on resilience. As conservation practitioners, we all need to make a compelling case for the importance of natural capital and the progression towards a long-lasting resilient environment and economy.

Session 2—The Experience of Policy and Incentives in Deal-Making

Presenter: Matt Rudolf, Forest Trends

Moderator: Ricardo Bayon, Encourage Capital

Panelists: Margaret Bowman, consultant; Catherine Godschalk, Calvert Foundation; Mark Kim, DC Water; Brian Van Wye, DC Department of Energy and Environment

Matt Rudolf opened by briefly discussing the various policy options that would enhance markets around environmental services and allow for the free flow of capital throughout these markets. There is a need for offset protocol and a regulatory environment that fosters private investment in offsets. In particular, he noted the challenges of assigning value to carbon credits due to extreme uncertainty and the need to de-risk these investments. As a result, uncertainty forces investors to take a conservative approach. He posed the questions to the room: What is the appropriate level of regulation? What are other ways to leverage private capital? Where the role of the government in carbon is offset markets?

After the introduction, Ricardo Byron briefly outlined Encourage Capital's work in this area. He turned to the panelist and posed the seemingly simple question: How do deals get done? Further, he noted the need to work cohesively in a resource-constrained world.

Margaret Bowman discussed the role of private capital in saving the Colorado River. She sees the need for broad-scale investment in the water quantity space, and outlined the relationship between water sustainability and ROI. Margaret also highlighted the importance of public-private partnerships (PPPs) and the need for PPPs to involve private capital to be more impactful. A major obstacle is that water quality/quantity is hard to monetize, making municipal and other investment difficult to finance. Further, Margaret mentioned that NRCS as an agency has huge opportunity for greater involvement on water issues.

Margaret made note of several limiting factors that were also echoed throughout the session. These factors include: normalization of the deal-making process, de-risking investment, scaling project to make measureable impacts, aligning various stakeholder interests, and placing a monetary value on saved water.

Brian Van Wye discussed green infrastructure investment in Washington, DC. At the project's inception in 2010, green infrastructure was considered controversial and the need to provide flexibility to developers became apparent. Due to the high percentage of impervious surfaces (43%)

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in Washington DC and the stress placed on storm water/sewage treatment facilities, there was a clear need for green infrastructure as part of the solution. Brian outlined DC's Storm water Credit Trading Program which allows developers who voluntarily install green infrastructure to generate storm water retention credits. This program created a storm water mitigation market. Brian noted that there is no one-size-fits-all approach for this model and that sometimes the right approach is to "think small" when addressing the regulatory, legal, and risk challenges associated with this type of investment. A major challenge to the program is the chicken-or-egg scenario where buyers and sellers do not, at first, have an incentive to independently enter the market. Another challenge with this market mechanism was the establishment of additional regulations on urban economic development in the district. Brian would argue that there is a need for less regulation and lower transaction costs to make this market sustainable. The development community has been highly receptive to the storm water retention credit trading program.

Mark Kim of DC Water spoke on the development and success of DC Water Bonds. These bonds tie financial return to actual environmental outcomes, a first for debt instruments. \$25 million in premium bonds was issued with a 3.43% interest rate. Based on the performance of green infrastructure, the rate of return fluctuates between 0.5 and 6.36%. The goal of this innovative financing model is to create a transparent market that is easily replicated for other municipalities. With the help of third-party hydrologists to certify the feasibility claims, there was satisfaction from both DC water and financial investors.

Catherine Godschalk represented the philanthropic world and spoke to her experience in purchasing DC water bonds. The DC water bonds was the Calvert Foundation's first environmental impact bond purchase. She noted that it was an easy choice to purchase bonds from DC Water due to the scientific backing, quantifiability, and transparent issuance process. All of these factors led to a high-level of confidence from an investor's perspective. Catherine's primary concerns throughout this process were learning how to better understand and quantify risk in order to promote tangible, predictable outcomes. Solutions to these problems lie in the complex relationship between policymakers, regulators, NGOs, and private investors.

Session 3 – NRCS Spotlight: Working Lands Facility

Presenter: Kari Cohen, Natural Resources Conservation Service

Commentary: Dave White, Ecosystem Services Exchange and Former Chief of NRCS; Stephanie Rogers, the World Bank

The session began with a brief introduction by Chief Jason Weller regarding the direction that NRCS is taking and the way that the program is looking 'outside of the box' to identify new opportunities. The mic was then handed to Kari Cohen, National Leader of the NRCS, to present the possibility of creating a proposed Working Lands Facility.

Kari began the session with a broad overview of the Working Lands Facility. The facility is a way to establish a team of people that could better incubate innovative conservation finance ideas similar to that of the Conservation Innovation Grants ("CIG") program.

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The purpose of the facility would be to better respond to interested partners and customers, as well as better socializing innovative financial concepts between agricultural committees in a forward thinking manner.

Kari noted that common foreseeable concerns include: an increase in moral hazard, perception of supporting the “1%” and socializing concept with congressional committees, particularly agriculture. Proposed methods of funding such a program include:

- Revolving fund concept that could invest in projects that show a return on investments;
- Direct loan approach versus a loan guarantor approach; and
 - Should we invest directly into a profitable project or serve as a loan guarantor to mitigate risk?
- Possible creation of price floors in volatile markets with riskier cash flows.

Further, proposed areas of funding include:

- Anaerobic digesters;
- Sustainable agricultural investments;
 - Allowing private landowners to do relevant conservation farming
- Soil Health Bonds; and
- Timberland Management Investment Organizations.

At the conclusion of his presentation, Kari introduced Stephanie Rogers from the World Bank to discuss the pilot auction facility that provides price guarantees for climate change mitigation.

Stephanie began by noting two key questions that ought to be thought about and prioritized:

1. How do we get private sector to buy into climate change mitigation and conservation practices?
2. How do we work to attract private capital to this cause and how do we use price guarantees to do that?

The auction facility is an innovative model backed by numerous countries that have offered the instrument of price guarantees via an auction. This facility was created to serve as a means to address the 2010 carbon credit price collapse, by establishing a mechanism that would create a price floor for independently verified carbon credits. The facility created has already conducted two separate auctions with 40 million dollars in private finance, with the third auction set to open in early 2017.

If the market price for carbon credits exceeds the price floor in the future, then groups have the option not to sell these credits to the facility so that they can get the higher carbon price. There were multiple proposed models of auctioning that were discussed, but it was decided that there would be a price guarantee at a higher level and then bidders would bid on that price level. It was then indicated how many credits they would be willing to part with as a high strike price until the supply met the demand.

The requirements for the facility include:

- Only paying for independently verified results on the carbon credits;
- Sustain existing projects;

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- Must define the eligibility criteria so that the results are relatively homogenous on the background;
- Ensure the least cost climate mitigation achieved for final bidders;
- Mitigate risk by addressing the market failure on incentives for carbon credits.

After Stephanie's presentation on the auction facility, the mic was passed to Dave White from Ecosystem Services Exchange, who delivered several key messages regarding the need for stronger advocacy for increased conservation dollars. He noted that the fate of the environment is held in the hands of private landowners, due to the fact that 70% of land is held in private ownership. By creating voluntary incentive based private land conservation, we can better sustain conservation efforts concurrently with increases in food production to meet population growth.

Lastly, Dave summed up the urgency for conservation and sustainability by providing a few, high-level comments:

- 10 billion people by 2060 requires a 70% to 100% increase in food production capabilities;
- Extreme weather events have been occurring in erratic time periods;
- Agriculture productivity is not expected to increase yield wise to match food necessity;
- Water quality issues with water source protections; and
- Importance of advocacy in preparation for the 2018 Farm Bill.

Kari concluded the session by addressing a few questions/thoughts from the rest of the room. He noted that the issue is that by the time that there are cash flows, there is money. We're trying to create these innovative markets, but need the buyers first before the market can exist. It is apparent that timing truly is everything and there are nascent markets right now for many commodities. Some people are willing to pay, but not enough to pay the returns on the credits. We should think about the Working Lands Facility as a Market Failure Fund, to use money to do what others can't.

He ended by encouraging all in the room whose work is at stake, to go out and advocate on behalf of conservation groups – to stem the budget cuts of conservation dollars.

Session 4 – FY16 CIG Project Introductions I

Moderator: Kari Cohen, NRCS

Presenters: Alliance for the Chesapeake Bay, Fresh Coast Capital, I2 Capital, KCoe Isom, Iroquois Valley Farms, The Nature Conservancy

Kari opened this discussion by noting the history within NRCS that allowed the FY16 CIG projects to move forward; they received 25 strong proposals for projects in 2016, addressing sage grouse, urban storm water, sustainable agriculture, and the restore council. Then Kari passed the mic to folks from the different CIG projects so that they could inform people on the significance of their projects.

Alliance for the Chesapeake Bay (“ACB”)

This project will develop, pilot and promote new approaches to landowner's access and participation in environmental markets in Maryland and Virginia. The goal is to establish conservation investment mechanisms that help offset barriers associate with participating in three

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current mitigation banking and trading programs in MD and VA. This project is focused on engaging and educating landowners to understand conservation finance techniques. This will be done through building partnerships with the land trust, investment and banking communities, local governments and others for the delivery of market based conservation to agricultural landowners.

The proposed model will create a model Conservation Investment Prospectus and framework for revolving investments fund that will support agricultural land conservation efforts and enhance income generating opportunities.

Fresh Coast Capital

This project will create working landscapes with former urban lands in legacy cities with an emphasis on scale and revenue generating storm water infrastructure. The project will take place in the city of Peoria, Illinois which has a combined sewer system that creates water quality issues in the Illinois River. Fresh Coast Capital will work with partners to establish a 100% green storm water infrastructure compliance plan at a total cost of \$250M. This project will plant revenue-generating green storm water infrastructure on vacant land. The demonstration of these plantings will support the growth of Fresh Coast Capital's model of leveraging privately funded impact investment capital while serving as an example for other cities facing land vacancy and storm water issues.

I2 Capital

I2 capital has formed the Upper Green River Conservancy which is an innovative partnership between ranchers, energy companies, impact investors and conservation stakeholders in Wyoming. This project supports the development of a landscape scale conservation banking across the American West, incorporating more than 100,000 deeded acres of ecologically sensitive habitat. This project intends to support the development of a conservation adoption incentive system that provides economic benefits to ranchers, demonstrate best practices and incentive systems to improve performance of landscape scale conservation banks, and to demonstrate a return on investment that achieves economic and environmental gains.

KCoe Isom LLP

As an organization, K*Coe Isom has two main foci: sustainable supply chain management, and environmental markets. This project seeks to create a pilot scale catalyst fund to ensure landowners cost recovery for early stage credit development activities. This type of activity would increase private investment in habitat mitigation markets in seven western states. By providing a cost-recovery mechanism, landowners are incentivized to participate in habitat mitigation markets. Through this type of financing, the pilot-scale catalyst fund will encourage additional investors and credit buyers to finance full implementation of conservation projects.

Iroquois Valley Farms

This project will expand the number of acres under certified organic management, through the issuance of Soil Restoration Notes allowing companies to reduce rental rates for farmers during the organic transition period. Due to reduced rental rates and additional technical assistance, farmers will report increased profitability and environmental benefits. Iroquois Valley Farm will purchase the land and rent it back to the farmer at a reduced rate. This project is a response to significant trends in farm land, ie generational succession of land, and the trend of aging landowners.

The Nature Conservancy (Agriculture Viability Loan Program)

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This project is aimed at developing the business case for a low interest loan program for producers who implement conservation practices. In this pilot project, TNC will work with impact investors to provide low interest loans to producers at a reduced rate of return. Farmers in Idaho and ranchers in California will apply for loans from TNC, with the stipulation that the producers will implement conservation practices using the money saved from the lower interest rates. Note: A representative from this CIG project was unable to attend the CFP Roundtable.

The Nature Conservancy/NatureVest (Restoring the Gulf)

In partnership with the RESTORE Council, this project will develop impact investment blueprints for Gulf of Mexico restoration. This project will exemplify the use of public funding to leverage private investment funds to conservation. The blueprints will address conservation needs to four key areas: sustainable agriculture, large landscape forest conservation, water quality/water management and coastal restoration. The transaction blueprints will support the development of a standard set of cash flows, return and conservation outcomes that are scalable and replicable, thus lending it to increased private capital investments.

Session 5 – FY 16 CIG Project Introductions II

American Rivers

The California Central Valley Habitat Exchange program is intended to create a market based program that provides financial incentives for farmers, ranchers and other landowners to produce habitat benefits for fish and wildlife. There are 18 cost sharing partners on this project. This project will enable public and private conservation buyers to implement pay for success at scale. This project will also build a supply chain of participants capable of financing and developing investable conservation outcomes. The ultimate goal is to establish the Central Valley Habitat Exchange as a pay for success model capable of facilitating transactions at scale. The anticipated buyers are flood management agencies and the California Department of Water. This project will boast five credit-worthy transactions by the end of the CIG funding.

The National Corn Growers Association

In partnership with several organizations, The Soil Health Partnership is working to develop a framework that draws on existing offset standards, emerging low-cost verification technologies and precision business planning methods to drive conservation. This project will integrate recent advancements in agriculture data platforms to reduce GHG emissions, improve water quality and enhance farmer profitability. This method, known as “insetting” would allow for NCGA to work within a company’s supply chain to create a framework of emissions reductions. By providing businesses with a quantifiable method to reduce their carbon footprint, the outcomes will create a comprehension of how to incentivize and achieve large-scale GHG mitigation outcomes in North America cropping systems.

American Forest Foundation

The AFF and partners will work with the US Fish and Wildlife Service to accelerate the pace and scale of forest restoration on EQIP eligible producer lands through the development of the Forest Resilience Bond (“FRB”). The FRB is an innovative investment platform that would leverage private investment capital to fund forest restoration treatments while working with federal landowners, utilities and water-dependent companies in cities to repay investors over time. The FRB brings together multiple payers to share the cost of restoration, thus creating compelling economics for

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landowners and investors. This pay for success model is designed to share cost savings among beneficiaries and providing competitive returns to investors.

Xerces Society

Bee Better is a pollinator-focused third party verification program that is supported by major food companies, agricultural investors and conservation-minded farmers. A certification seal will empower consumer to identify products containing ingredients grown in a way that supports pollinators. This third-party verification seal will also provide a new benchmark for food manufacturers. Note: A representative of the Xerces Society was not present at the CFP Round table.

Session 6 – CIG Spotlight: EDF and Encourage Capital

Presenters: Robert Parkhurst, EDF; Ricardo Bayon; Encourage Capital

Robert Parkhurst, of EDF, spoke on jumpstarting working lands carbon markets. Greenhouse gas emissions from the agricultural sector are substantial and innovative financing models are available to reduce ag GHG emissions. EDF provided an engaging flow chart that depicts the financing model (see Rebecca Haynes). For more on EDF's role in this space, click [here](#).

Summary of Q&A

- Do certain Sodsaver provisions allow a double-dipping non-conversion benefit?
 - This prompted a need to be careful throughout the easement process
- How many acres are “enough” to make investment worth everyone's time?
- How does this model compare to Canadian and Australian credit market?
- What are similarities/differences between agricultural and forest CO₂ measurability?
 - Ag is disadvantaged in this sense
 - Discussion of biogeochemical models and their complexity
 - The need to streamline and increase measurement accuracy
- Importance of lower transaction costs
- What is the role of food industry co-ops?
- Discussion of California CO₂ market example
 - Lawsuits
 - Controversy similar to cap and trade (Chicago Climate Exchange)

Session 7- Scaling Markets: the Phases, Deliverables and Roles

Presenter: Dave Chen

Panelists: Amrita Vatsal, Ecotrust Forest Management; Billy Gascoigne, Ducks Unlimited; Nicole Chavas, Fresh Coast Capital

Dave Chen, Equilibrium Capital, introduced the session by describing the world of conservation finance as a field that tends to cluster in the early market stages and then evolves to the point in which roles of each stakeholder are clearly defined.

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He continued to describe the four models for conservation finance:

1. Outcomes based
2. Avoided costs
3. Credits & markets – market pricing and attributes, scale, repeatability
4. Layered working landscapes
 - a. No longer single use forestlands, agriculture, etc.
 - b. Mixed land use has a different value- generation of water, energy, credits, etc.

Dave then proceeded to walk the room through the various stages of his market making road map. In this road map, there are four distinct stages of how an ecosystem service is led to mainstream investments.

1. Market Formation and Definition: The science around the ecosystem service and market is typically not fully developed and there is little clarity if there is a potential for a return on investment. Typically funded by grants and other forms of philanthropy because the pathway to mainstream success is not clear.
2. Piloting Phase: A return of capital has been identified and a unit of measure is being tested. In this stage, a developer will build market rules including: risk assessment tools, underwriting tools, and necessary legal and financial structures. Funding for this stage typically consists of grants, program related investments and impact driven investors.
3. Early Market Scaling: In this stage, there are scalable and repeatable transactions with stable regulations. This stage is characterized by decreased deal friction and transaction costs, multiple entrants along the full value chain, and an established market rate based on risk and asset class.
4. Mainstream: The project is able to go to scale. There are multiple investors, a stable return on investment, and transactions are scalable and repeatable. The structure of the deal is the most important aspect in getting to mainstream.

The objective of this road map is for conservation practitioners to work together in their respective roles, with unique forms of capital and authority to speed the process of mainstream investing, or to decide that this phasing process does not work. When problems can be solved using market mechanisms, then practitioners should work together to speed across these phases.

There are three main types of stakeholders that play a role in the market phasing process: investors, NGO/regulators, and project originators. It's important to understand where an investor fits into this process. There is generally little risk in the first three phases, as they serve as institutional investors. NGO and regulators need to understand where their money, whether grants, PRIs or investments can have the greatest impact and catalyze through the first three phases. As the project originator, it's important to identify the investment audience and the tools needed to develop repeatable transactions.

Next, Dave introduced each of the panelists to provide an overview of their work as it relates to market phasing. A brief discussion period followed each participant's overview.

Nicole Chavas began by discussing Fresh Coast Capital's role in urban land development. She stated that infrastructure, public-private partnerships and tree farming are not new concepts. However, bringing this to capacity constrained, budget strapped municipalities is relatively new. It's

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imperative to understand the risks, the market structures, and the partnerships that are needed to make a project successful.

Nicole's lessons learned from her work on storm water issues is that the viability of a project depends on the size of the utility and the credit market. Fresh Coast Capital has analyzed storm water markets, but there's not enough development to drive that momentum forward. Nicole has found it more practical to educate the community using tools that are known and understood. A Public-Private Partnership ("PPP") in the context of storm water helps the development of a credit system because the partnership will establish long-term maintenance. In the example of DC Water, green infrastructure has been studied enough to feel confident about switching from grey to green infrastructure. Contracted cash flows are pertinent to the success of the project. If the product is not delivered (ie increased storage capacity) then the city does not have to pay.

Billy Gascoigne of Ducks Unlimited ("DU") began by providing a brief history of the state of the carbon market. He then proceeded to discuss how DU was able to move past the piloting phase of their carbon credit project, using The Climate Trust as the 'broker'. In his perspective, DU created a business model that is enticing for the producer.

Dave then asked Billy what aspects he has considered to move into the next phase of the market making roadmap. Is there a coalition to bring together, or does DU need to wait it out? Billy responded by identifying his biggest concern- price uncertainty. He has had to engage with landowners early on and pay outright for greenhouse gas outlets. This has resulted in a price discount. DU used to give producers a down payment, but now they need a buyer before they can even pay a dollar to the producer. Protocols differ between voluntary and compliance market and it's not a simple process to tap the regulatory market. In the future, it may be possible to establish some sort of price floor to alleviate the fear of ending up in the red.

Amrita Vatsal of EcoTrust Forest Management described her work as operational in a mature market phase. Forestland investing has existed since the 1980's, thus EcoTrust is not attempting to show that the cash schemes are 'real', but that they are innovating within a mature market. In this case, the market failure is that there isn't an incentivizing price on carbon that encourages extended forest rotation management practices. In her work, Amrita is trying to create a 'bridging strategy' that blends PRI and private equity capital and utilizes other incentives such as the New Market Tax Credit ("NMTC") and the Small Business Investment Company ("SBIC") programs. The goal of the CIG grant is to leverage philanthropic funding and public financing to scale.

Dave proceeded to ask Amrita if she sees an iteration of her model that gets it one step closer to mainstream. She responded by discussing that the physical location of her work makes it difficult to progress forward. Temperate rainforests in the Pacific Northwest have the highest commercial value, so these markets have to compensate landowners for the avoided costs of conversion. The price point is really high. As a result, EcoTrust has started to look at east facing forests and the potential value in those forests.

Dave then commented that this might be an example of market segmentation. EcoTrust is willing to catalyze new models using distinct R&D aspects, but in some ways the investor who strives for 'mainstream', may not want R&D. At this point, a new concept was introduced to the group. Although forest carbon is not a new market, Ecotrust is working in a challenging geography, therefore they're project may be considered 'niche' or 'artisanal'. Dave stressed the importance that

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there may be a new working roadmap and a case such as Ecotrust may be indicative of that. To note, an 'artisanal' project can still go to scale, even though it doesn't reach 'nirvana'.

The panelists briefly discussed The Freshwater Trust and how they were able to migrate across the phases. Their work consists primarily of temperature and phosphorus in freshwater issues. One of their largest barriers was due to the fact that there is inconsistency across industry and agencies as it relates to protocols. There is a need for consistency in terms of what is being regulated, what USDA is buying as outcomes, and what EPA is buying as outcomes. The Freshwater Trust was able to develop pilot projects and protocols, but there is a gap in what the USDA and EPA considers an environmental outcome.

A comment from Ricardo Bayon, Encourage Capital, stressed the importance of policy. He alluded that as practitioners, we do ourselves a huge disservice to think about these projects only in terms of markets and credits. Policy can play a huge role in the development of markets and frameworks.

Summary of Q&A

How do we know when a project isn't going to work? How do we know to keep pushing or to give up?

Simply put, when the economics of a project doesn't work, then the project is not worth pursuing. This can be a difficult barrier to overcome because no one wants to accept that reasoning. Additionally, if the market is too small, then a project has an increase in likelihood to fail. Lastly, geographic targeting is a big challenge as money is only being spent on a specific aspect of the market.

It's important to note that not all projects will reach mainstream and this should not be considered the "end game". Institutional investors exist in the mainstream phase, but there may be philanthropic funds driving more efficient outcomes, not necessarily a market rate of return. Some investors are OK with the fact that projects will do interesting and innovative work, but may never reach the mainstream investment phase.

What does success look like? Is it farmers markets across the country, or is it Walmart going organic?

It's important to note that you can't make money as a generalist. Practitioners need to specialize in areas that require a unique skills and ability, because you can't beat the market as a generalist. If you look at TIMOs, they are all trying to differentiate themselves. We should be thinking about the next step beyond 'mainstream'.

What are the important takeaways?

- Establish a common vocabulary
- Experience (in the room) that hasn't been taken full advantage of
- Need to build toolkits (ie contracted cash flows, real estate, etc)
- Development of niching strategies- clarity about the investors who are interested in the market

Session 8- The Current State of Soil Carbon Markets

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Presenter: Adam Chambers, Natural Resources Conservation Service (NRCS)

Panelists: Peter Byck, Arizona State University; Emily McGlynn, White House CEQ; Peter Stein, The Lyme Timber Company; Peter Weisberg, The Climate Trust; Craig Wichner, Farmland LP

Adam began the session by providing a brief summary about the science behind soil carbon. He discussed the way in which carbon is stored in soil and the innovative opportunity to mitigate climate change using soil carbon sequestration. He introduced the audience to “4 per mil” a strategic initiative introduced in COP 21, that aims to increase soil organic carbon stocks by 4% per year to stop increases in atmospheric CO₂. Before introducing the panel, he restated how despite how important are soils to sequester carbon, there’s not a lot going yet on soil carbon in the markets.

Peter Byck began by introducing Soil Carbon Cowboys, a short film he made to show what cowboys were adopting the Adaptive Multi-paddock grazing in their ranches. With a team, comprised of scientists, he developed a research proposal to identify if it is possible to create a true GHG emission sink with grazing, and at the same time improve the farmer’s well-being and economic viability. The research project has been supported by Shell, as part of the company’s interest to invest in carbon capture and storage. He then shared his insights and results from this experience.

- Currency: Carbon in the ground is a currency.
- Permanency vs. Durability: The term permanent has to be replaced by durability when talking about the different time periods (days, decades, centuries) that carbon pools remain in the soil – “Nothing is permanent in nature”.
- Carbon flux and importance of soil carbon to mitigate climate change: The global current carbon flux amounts to 8.9 Gigatonnes (Gt) of carbon into the atmosphere. Of this, 2.3 goes to the oceans, 2.6 are absorbed by land-based systems such as trees and soils, and the remaining 4 goes to the atmosphere. Within the soils, the pastures have 343 tons of carbon.
- AMP grazers versus the conventional grazers under equal circumstances: AMP grazers can build up to 3 tons of carbon more per hectare per year. In Alberta, Peter’s team found numbers of 1.2 to 2.2 tons more of carbon per hectare per year. They also found ancillary benefits related to water infiltration, where this was between 10 and 100 times better in AMP grazing farm than in conventional.
- Market: Could this be a low cost carbon storage strategy?
- Measurement: It is crucial to measure the outcomes not only of the carbon fluxes but also of the ancillary environmental benefits that these activities are promoting (water, wildlife).
- Ranchers: Without ranchers you don’t get to scale, and they are the responsible to execute this strategies.
- Goal: The goal of the team is to make a business case for soil health and tell corporations that this is something that is in their best business interest.
- There are gaps in data collection

Craig Wichner of Farmland LP provided a brief history of the organization and their role in organic sustainable farmland. They manage about 13,000 acres that is worth \$120 M, in which they implement sustainable agricultural practices in order to get the best economic return. Craig mentioned that 53% of US farmlands are monocrops used to produce basically two commodities: Corn and Soy. Monocrops are easier and more efficient to operate year after year and allows the

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farmers economies of scale. However, these crops do not yield the maximum profit and are associated to the vast majority to environmental problems attributed to agriculture.

Farmland LP does not receive crop subsidies and is sequestering a great amount of carbon in the soil by the implementation of sustainable agricultural practices from a science-based perspective. However, he argues that the most important barriers are related to communicating the science, and the lack of knowledge in the field. As a consequence of this, Farmland's main goal is to have a more practical approach and demonstrate that sustainable agriculture is more profitable. Since its inception, Farmland LP hasn't developed any programs associated to carbon sequestration. Craig argues that the true objective is not to develop carbon markets, but to sequester more carbon to mitigate climate change.

On a very short intervention, Peter Stein agreed with the previous two panelists and restated the importance of demonstrating the economic benefits of sustainable agriculture to further the interventions within this field to tackle climate change.

Peter Weisberg of the Climate Trust, discussed the Carbon Finance for Grassland Conservation project which aims to protect grasslands and avoid conversion for agricultural or development use. The model was inspired by Ducks Unlimited, a company that started in 2008 to buy conservation easements for a fixed amount of money in order to quantify the reductions of CO₂ emissions and sell them as carbon credits. At that time, the model was considered to be very risky given the fact that there were no protocols and market for carbon.

That same year the USDA granted a Conservation Innovation Grant to a team comprised of DU, The Climate Trust and other stakeholders to create an accounting methodology to quantify the carbon remains in the soil as carbon offset credits. On that note, Peter stated that even though the methodology was not good enough – the team got only one third of the anticipated credits. The market has since evolved to the point where there is more certainty with regards to the volume of credits that enter the market. A put option has also allowed the fund to have more certainty about cash flows.

Adam recapitulates by saying the carbon market is still not completely fluid, and that there is a need to create more demand through the establishment of a business model based on price.

Emily McGlynn was the final panelist to discuss the current state of soil carbon markets. The United States and Canada committed to deliver by the end of 2016 the mid-century strategy for deep decarbonization. Although the United States committed to reduce its emissions by 26-28% by 2025, the purpose is to start working consistently through time in order to achieve long-term goals. In this sense, Emily states that the land sector is a very important area in which the country has to start working on in order to achieve the goals of 2050.

In 2014, the carbon sink offset about 11% of the total economy wide emissions and is expected to have an expanded role to meet the climate targets. To build more carbon into the soils, she mentions that it is important to tackle challenges related to market and price certainty. Moreover, she mentions other factors that are currently limiting the field and opens up the conversation with the audience to identify how the federal government could help to strengthen and scale up the carbon market through a policy perspective.

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Summary of Q&A

Q1: What is the science that you are engaged with to analyze water and carbon in AMP grazing?

Water infiltration analysis and the soil aggregation also allow you to see how well it holds water. Ranchers that the team has visited have been able to tackle completely different problems related to water (droughts and floods) by using the same grazing techniques. Example: North Central Kansas where the rancher didn't have to sell one animal because of the drought in the region. "Water is key".

Q2: Craig, have you found that you have to irrigate less with the rotational approach? Are there water savings?

There are definitely water savings but its anecdotal rather than quantitative at this point. We are working on the science of the quantification side as well. Next year the organization will release a study where all the environmental benefits are going to be published and available to the public.

Comment from Ricardo Bayon

I would set a few criteria and run a contest to identify who can deliver the most impact? What are the best ideas to deliver well-established goals? However, the problem is what are those goals?

Final Wrap Up

To close the two-day conference, Leigh Whelpton invited the audience to capture the most important takeaways and identify the most relevant next steps.

Framing the "ask": Patrick Holmes expressed the immense amount of opportunities he perceived to bring stakeholders together to promote conservation and work around a political agenda. He mentioned the importance of framing the "ask", referring to identify a coherent story amongst stakeholders to tackle the same problems and understand how different policy options can inform the different stages of the development of these markets.

Standards, Metrics and Reporting: The field needs metrics to measure its impact – anecdotal stories are not sufficient. Common standards and metrics are key to not only to set a comparison basis between the performances of projects, but also to have efficiency gains and attract more public and private spending. Further, a new report about conservation finance will be launched on December 14th in NYC, and it's going to be more global. This report will be more focused on conservation rather than in financial metrics to showcase the overall impacts within the field.

Soil health: There is no definition yet. If this concept were defined in a unique way, it would be easier to start moving it forward. The regulatory environment is driven by the metrics that have a long history of mitigation behind them, so introducing new common standards is complicated and represents a huge challenge.

Conservation Easement: Given the importance of the land-based sector to mitigate climate change, it makes sense to spend more money in agricultural conservation easement programs, and include carbon performance standards. Conservation easements shouldn't be used only to secure the land and avoid conversion.

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Market: It is important to understand it completely (players, perspectives, roles) to be able to understand the different dynamics that it comprises. The market is definitely not homogeneous.

National strategy: There is not a cohesive strategy across the country and all conservation solutions are dissipated. There must be a national strategy with a clear umbrella to start moving forward in the same direction. The Farm Bill should include this national conservation strategy.

Legislation: The landscape has to be better understood in order to move the legislation forward in a strategic way.