Catalysts of the Climate Economy Summit

September 6-8, 2017 | Burlington Vermont

Notes from Dialogue Sessions, Tours, and the Follow-Up Survey

Notes from Dialogue Sessions, Sept. 7

Summit participants attended pop-up dialogue sessions on climate economy topics facilitated by leaders in that arena. Scribes at each session captured the key ideas from the discussions.

Dialogue: Telling the National Climate Economy story

In this uncertain time, how to we present the Climate Economy as the practical answer to the ecological challenges ahead, and the greatest economic opportunity in history?

Facilitator: Deb Markowitz, UVM Rubenstein School of Environment and Natural Resources

- In west Texas, opinions are set in stone. It is Pro-Trump territory and is based on an oil economy. A large solar developer completed three projects there. He never mentioned climate change, but did talk about jobs and lower energy costs. Crews came to work every day with Make America Great Again hats. Only his investors asked about things like carbon offsets. It is critical to change the way we talk about renewable energy.
- In a storm flood prone area of New York City, some residents insist that, "the weather sure is different" but still couldn't be talked out of rebuilding his home after Sandy.
- The agricultural community is not as interested in climate change as weather and resilience. As a result, they are paying more attention to soil quality and increasing carbon storage to resist erosion.
- Do we need to talk about climate change at all? We should focus on solutions like "Solar Saves." "Electric cars are awesome and fun to drive." We need to shift towards positive messaging.
- Nationally, we don't say that California or Vermont do it this way and you should too. We say "farmers in Vermont are making more money and dealing with less waste than you are." This message connects better to the intended audience.
- We should talk about the changes happening locally and ask about the impact it's having. We should utilize and invite the hunters and anglers perspective.
- NRCS had over 100 economists 15 years ago, and now there are less than a dozen and not a single sociologist even though this is a people problem.
- It is critical to talk about what your audience cares about and to listen and observe how they interact with their surroundings. Find out their language and let that shape how you describe solutions. Recognize common love of land, not their politics and build relationship from there.
- We need to avoid phrases like "man-made" or "human caused." The goal shouldn't be to make people feel they are bad, stupid, or wrong.
- "Climate change" is not funny or sexy. It loses the audience fast. We need to bring joy, humility and humanity to the story. Come to an audience yearning to connect, not thinking that you are perfect and right.
- We need to avoid lecturing. It's a divisive approach. Politics is alienating and demonizing closes ears on both sides. It is critical to get out of the enviro bubble that "we're right and want to share what we know so you will change your mind."
- We've been on a mission to convince people about climate change. We can have more impact and positive results if we take a new approach. Iowa is conservative, but uses 1/3 wind power!
- People on the ground have language we need. To learn it, we need to get out of our ivory tower.
- It may be helpful to chop information into bite size pieces so people can relate and not get overwhelmed. Don't come into a community as a liberal or conservative - your business or nonprofit should be a resource to help the community.
- Canada is finding British Columbia's carbon tax is not reducing emissions, but Quebec's cap and trade is. We should tell that story.

Dialogue: Ensuring an Inclusive Climate Economy

How will we ensure that innovation and economic progress that answers climate change works for all Americans?

Facilitator: Paul Costello, Vermont Council on Rural Development

- There should be a real focus on the workforce elements of the climate economy. We should look at what is really needed for a city and local government to support a climate economy workforce and bring services to their residents. There is significant need in energy efficiency and the renewable industry. What are those jobs going to be? The jobs are very technical, but may not require a college degree. There is an opportunity to engage a new workforce and a good opportunity for higher paying jobs that allow us to transition our workforce.
- White liberal America is starting to learn that we have not dealt with or addressed racial issues.
- What kind of economy are we building? Should we continue to rely on consumer capitalism and a growth based model, or is there another model?
- In our culture, we have lost the value of giving back as the concentration of wealth has become more acute. Our economy does not require people who profit to give back, even while they are using public resources. We should use a "BackCasting" tool to identify what we want our communities to look like and what public resources lend value to that vision.
- We should focus on workforce development by concentrating on support for tech school programs and community college systems as significant contributors to the climate economy both currently and in the future.
- We need to revalue education in the trades and open access to the trades to be more inclusive and diverse. Part of climate justice is economic justice and part of economic justice is social justice and that needs to be addressed.
- Funding for urban agriculture and other resources should go directly to communities of color. We need to recognize that historical policies have created a divide in resources – both land and money. We need to funnel funds directly to communities where they are needed.
- What does it look like to be a rural forest-based economy when industrial paper is going away? There is a divide between urban populations that are more educated and wealthy and rural communities. There are also misplaced perceptions of rural communities and what people living in these communities need, want, and believe. They are perceived as voting against their own interests, but the challenges are much deeper than that. People in rural communities are committed to the land and often have similar values, but when we address them in dismissive terms we lose an opportunity to connect. We need to put aside that type of language and find practical strategies for rural development.
- We should advance regenerative agriculture.
- We need to do some "regenerative soul work" to address racial divides and sexism. Justice is elusive and we are always learning more.
- Some companies have had success specifically putting out a statement within hiring advertisements beyond an affirmative action statement that actively recruits applicants from all walks of life. The question is though, how do we get people trained to make selections based on the applicant as a whole knowing that diversity is a priority.
- We need to be aware of our own arrogance and this begins with listening. This can be challenging, but rewarding.
- In rural Maine, when we talk about climate change, we want to make it relevant to the 70 year-old Selectman in a small rural town. We need to appeal to their deep roots in and passion for their community – a message about polar bears isn't going to work. Talking about costs can also work. For example, we talk about property taxes that may change with climate change, or effects on roads and culverts over time. This has relevance to a small town and infrastructure.
- We should focus on improving and expanding weatherization. We need to come up with solution that will benefit lower income people that is affordable and accessible.
- We need to build different strategies to meet people where they are. In many cases, we may have shared values, but the way we express those values are not connecting in a meaningful way. We need to adjust our terminology and approach.
- Tiny Homes could be a sector to boost as, though they are not for everyone, they are an affordable and efficient option and they seem to be growing in popularity.
- How we talk about climate solutions is critical. It needs to be more of a rights-based conversation. If we can build agreement around a livable planet as a right in our society, then we can build strategy to work towards it. When we frame conversation in terms of rights and shared goals, we get away from conflict and find what we agree on.
- I liked the comment that the climate economy is the economy and in the economy you hear, "location, location, location. " We need to confront how where we live limits how green our economy can be. People who are the poorest drive farther and live in flood prone areas. We can look at the example of what happened in Houston and the Natinoal Flood Insurance Program. Are we digging hole deeper when someone builds a home in a flood prone area. If we let the market decide, people will, but if government has a role we may be able to guarantee that everyone has a high, dry, safe place to live.
- The Energy Burden to low income households is often 10% of their income. These homes are often less maintained and difficult to improve, but if we make the investment in weatherization and help walk people through the process, they will do it, and we stand to see significant carbon reductions. In Rutland County, Vermont alone, a local

weatherization program has led to a carbon reduction of about 375 tons across 1,000 households.

- In Providence, RI work is being done to create a climate action plan for the city that integrates community input. There has been complete community buy-in over the past year and a half. The organizing group is actually paying community members to attend meetings and lead the process and they are building solutions and buying into new climate solution programs.
- We need to start young and give people the tools they need to succeed. Science is now being taught in a much more hands-on manner and there is an interesting thing that happens when you put the technology into students' hands. A lot of kids from high academic background learn from listening, but if you do hands on work a different groups of students rises. We need to elevate that type of learning and get it into the hands of all schools.
- A message of energy security works for a lot of people. In Vermont, we want to make sure we have a couple of cords of wood to make sure we are ok for the winter, rather than fill a 500 gallon oil tank from people who want to kill us. We need to be careful that we are not harming low income communities. We have great policies in Vermont that push renewables, but what we've done is transfer wealth from people who can least afford to lost it to those that can most afford it. In the long term, lower income folks will be left paying for grid if everyone else disconnects. Going forward we cannot afford to forget low and moderate income customers.
- We need to invite people in with real-life experience and include them in this conversation. We can't solve problems for other people; they need to solve problems for themselves. We are doing a great job reaching people with higher incomes with "green" products, but those that need products can't afford them. We need to democratize products.
- Open Source solutions would be one way to ensure access to tools that are needed. We can build tools for communications and strategies that can be openly shared across jurisdictions and sectors.
- When we talk about bicycling infrastructure, a lot of people thinks it's about middle to upper class citizens, but there are many people who can't afford a car and a bike is their only means of transportation.
- There is a great opportunity in affordable housing to plan around the environmental and reduce net energy use and cost for residents.
- We need to address transportation and improve transportation efficiency. In Vermont, we are leading for electric efficiency but have not done anything about transportation efficiency and choices. We have an opportunity to move that needle.
- We should mandate that every car sold is electric. We should also weatherize every single property in the state. Why shouldn't we do this? We could convene a group a group of people and in nine months we could figure out what the problems are and the possible solutions.
- We should build an EnergyCorp program modeled after AmericCorp.
- We need to provide enough funds for a weatherization program.
- From an agricultural perspective, a lot of farmers are doing ok, but plenty are not doing well financially but are providing high quality food. Since agriculture is a great way to sequester carbon, we need to think of our farmers as low income and need to identify a way to pay farmers or build incentives for farming practices that sequester carbon.
- We should develop a VT Grass Fed Standard.
- We need to list and understand the multiplicity of people. Paul Hawkins was about love and understanding, and we need it!

Dialogue: National and State Policies to Drive Innovation and Advance the Climate Economy

What state and national policies are driving innovation in the Climate Economy today? What models should be extended-and what do we still need to invent?

Facilitator: Todd Baker, Meridian Institute

- Develop a carbon tax on the state and federal levels.
- Advance and support carbon sequestration through good forest management and agricultural practices.
- Minimize the impact of on fuel dealers and others that could be negatively impacted by a transition to clean energy, and realize potential economic opportunities they can take advantage of.
- Advance State Renewable Portfolio Standards to incentivize renewable energy development.
- Develop sustainable education curriculum standards.
- Set larger goals that appreciate interconnectivity of various issues and agencies.
- Effectively communicate the magnitude of the threat we're facing.
- Develop a carbon tax that is paired with other policies such as efficiency, transportation, or smart growth. Use funding to invest in efficiency; integrated transportation system; and efficiency improvements to the building stock.
- Drive dollars into mass transportation.
- Invest public and nonprofit resources into research and development.
- Fund local, grassroots organizations.
- Build tax incentives and subsidies to promote renewable energy development.
- Improve the education system.

- Pair adaptation and resiliency with mitigation efforts. Often that work is the low hanging fruit.
- Create toolkits to support businesses in climate work, and provide funding to connect and coordinate their efforts.
- Fund community conversations to identify solutions in communities.
- Advance regulations that boost the climate economy.
- Promote initiatives with effective language and communication.
- Fund projects that can inspire and lead by example.
- Develop innovative programs for weatherization.
- Create funding models where funders can directly support innovative ideas that can be sustained.
- Report and track progress and allow for visibility and transparency.
- Provide mentorship for renewable energy, efficiency, and financing programs that can be difficult to navigate.
- Utilize open sourced tools to share best practices and strategies.
- Identify barriers and figure out how to market effectively--language matters!
- Utilize a carbon tax to improve the transportation system.
- Create incentives for electric cars.
- Create incentives for net zero buildings and code enforcement.
- Deploy a charging rate for electric vehicles.
- Remove auto dealership franchise laws.
- Incentivize the development of new technology to get to our goals.
- Identify and cultivate hand-holders (like NeighborWorks) to make it easy.
- Incentivize investment in carbon sequestration on farms.
- Create coalitions of environmentalists, developers, and investors to build interest and create political buy-in.
- Explore models for shared mobility and develop pilot projects to test in Vermont.

Dialogue: Financing Our Climate Economy Future

What are the structures, policies and practices that will fund the economic transformation that answer climate change and provide new opportunities for businesses, entrepreneurs, and working Americans?

Facilitator: Dan Reicher, Steyer-Taylor Center for Energy Policy and Finance

- There are many ways to think about finance in the climate economy, but three buckets to help frame the discussion are venture capitalist investments (high-risk), commercialization investments (more reliable – taking something form the lab and taking to scale), and project finance investments (lower risk).
- Innovation leads to commercialization which leads to deployment. How do you go from tiny idea to start-up to big money, with private capital that's lower risk than VC? It's great to get VC money, but the real question is: what will it take to get a project DEPLOYED?
- Large-scale deployment often comes years after technology. Look at 1.25 MW wind turbines (introduced in 1940's), solar (introduced in 1950's), fracking (also introduced in 40's--took advanced technology and lots of government backing to make it large scale).
- Why is project finance so important?
  - $44 trillion global investment is required by 2050 to develop the low carbon economy.
  - Project finance is driving global clean energy investment.
  - Project finance is deployed across many other types of projects (LNG ships, toll roads, etc.).
  - Project finance is widely deployed to support innovative projects
- Project finance will need help particularly when scaling up technology. There are risks associated with long-term investments. For example, the price on carbon could fluctuate.
- There are four major investment risks standing in the way of getting the trillions we need:
  - Policy
    - Unstable carbon pricing, feed-in-tariff contract risks, net energy metering problems, fuel economy standards, etc.
  - Market
  - Project Development
  - Investment Regime
- The federal government can help mitigate risks, but many programs are on the line right now. For example:
  - The DOE Loan Program: Solyndra is famous one, but there are many successful projects with renewable energy, advanced fossil energy, etc.. Tesla was able to buy old factory b/c of loan guarantee, the rest is history.
  - Federal Renewable Energy Tax Credits Phase Out.
  - Private Activity Bonds: Exempt from federal tax, longer repayment tool than typical private bond.
- One of the great challenges related to risk is the fact that Venture Capitalists don't want to take big risks, so where will that capital come from? That is a key challenge and the big question. Some Billionaires, like Bill Gates, are starting to take some big risks. Oftentimes larger projects are financed by the US Government, but we see other countries more willing to take these risks. Bill Gates is investing in the first advanced nuclear reactor in China because it is easier to obtain permits and land and China wants to own the clean energy technology world.
- The role of Government should be to have strong programs based on science, and at least loan programs that can help with commercialization. The US government procures more energy than anyone else. The Department of Defense was

doing some pretty good work procuring early stage clean energy.
- Another tool that can be used is tax credits. If you haven't put a price on carbon, it still might be cheaper to burn coal than clean energy technology. Tax credits can work to balance that gap, but the best thing would be if federal government would put serious price on carbon.
- Commercial buildings in the US that could dramatically improve energy efficiency could benefit from credit enhancement mechanisms to improve access to financing.
- Is there a relationship between financial tools and carbon pricing? We already have RPS, tax credits, and other tools while some states have a state or regional carbon pricing. There is a complicated mish mash of approaches that are trying to clean up the energy system. Many would say get rid of it all and put a price on carbon. It's likely the most straightforward way to get it done.

Notes from Tours, Sept. 8, 2017

Summit participants signed up to attend a choice of Innovation Tours that showcased businesses, farms, utilities, policy, initiatives, and communities as models of energy production, efficiency, and community economy development towards a prosperous low carbon future. Traveling between sites, each tour facilitator led a discussion with their group on these two questions:

1. **What have you seen or experienced in Vermont that you think is an interesting or unique model of the climate economy for other rural areas nationally?**
2. **What advice would you give to Vermont's policy leaders on ways that Vermont could advance innovation, investment, and entrepreneurism in the climate economy?**

Tour: Climate Economy Business Leaders

Interesting or unique models of the climate economy for other rural areas nationally.

- The culture/brand of VT is aligned well with green economy/sustainability.
- Vermont is full of innovative and smart people.
- There is an established culture of social enterprise in the state with businesses like Ben and Jerry's and others.
- The government is accessible and is invested in success.
- There are many examples of successful businesses that have an environmental benefit such as Seventh Generation.
- Vermont is a small scale and has strong connectivity.
- The regulatory environment is favorable.
- There is a strong "keep it local" mentality.
- Vermont has mission-driven financial institutions.

Advice for Vermont's policy leaders.

- Promote enhanced involvement from UVM in Sandia Lab.
- Develop more opportunities for higher risk financing.
- Share VT's story more broadly – "Made in VT story that's not about cheese."
- Implement a Carbon tax or other pricing mechanism.
- Improve accessibility for low income Vermonters.
- Leverage our IP and entrepreneurial leadership.
- Maintain what we have that is working well such as net metering.
- Improve resources for local energy committees.
- Set aspirational goals.
- Engage farmers in solution.
- Implement universal composting laws.

Tour: Carbon and the Soil

Interesting or unique models of the climate economy for other rural areas nationally.

- The interdependence of farms and farm-related businesses in the local community is a model that could help to build resiliency and agricultural business in other areas.
- These farmers and entrepreneurs in the Northeast Kingdom were clearly thinking outside of the box.
- The Center for an Agricultural Economy was a great example that could be instituted in other communities, especially the 'incubator' model.
- All farms wanted to close the loop and take a holistic approach to their businesses.
- Investors don't know how or cannot easily connect with these very cool businesses and entrepreneurs.
- All businesses had a very high level of social consciousness.
- All business owners were intelligent and agile communicators.

- Businesses were willing to share ideas and resources in an effort to improve the overall community economy and help other businesses.
- Farmers were very 'professional', which is not in line with stereotype.
- Businesses recognized that they should work to fit the scale of their community, and make size their operations appropriately.

Advice for Vermont's policy leaders.

- Focus more on curbing food waste; there are business opportunities there like we saw at Black Dirt Farm.
- We should tax marijuana to help small farmers.
- Build regulatory structures that require institutions to reduce their food waste.
- Form a 'farmer council' that informs state legislation to ensure that laws do not place undue burden on these small businesses.
- Find a way to pay and incentivize farmers to sequester carbon on working lands.
- Develop a labeling program that will allow consumers to select products from farms that sequestering carbon (e.g., 'Farmed Carbon Smart').
- Devote more state funds toward education on composting, recycling, and food waste for children and consumers.
- Offer grants for innovative farm business ideas.
- Re-invigorate our Conservation Districts as bodies that work locally to assist farms and offer education.
- Ban stickers on produce to make food waste more compostable.
- Educate legislators (and farmers) on the importance of soil health and soil ecology and how it can help with resilience as well as water quality and climate change mitigation.

Tour: Net Zero Burlington

Interesting or unique models of the climate economy for other rural areas nationally.

- It's a VT conundrum that we value innovation but are also averse to change.
- Social enterprise is a model showcased in Vermont. For example, the Intervale leading on native plantings and riparian buffers benefiting the lake, climate change, and business.
- Biomass is unique. McNeill shows how we can have renewable base load power with a renewable resource w/in 60 miles. The economic impact of spending about $15-20M on wood chips to loggers is vital to their business viability.
- Supply and demand. How natural gas price matters in what can do versus the image of chips and turbines.
- Burlington has an improved bond rating after adding renewable generation and getting to 100% renewable via hydro. We need to stop politicizing. Everyone wants cheap energy.
- Burlington showcases the importance of very long term planning. We see the result in the success of the Burlington waterfront and the McNeil plant. Additionally with including heat technology that was incorporated from the beginning but is just being utilized now.
- Vermont supports entrepreneurial activity that is implementable.

Advice for Vermont's policy leaders.

- Fast track permitting for renewables. Businesses have been assaulting Act 250 permitting generally, but the vast majority approved or just appropriately conditioned.
- Municipal utilities should lead. Burlington Electric Department can play a critical role.
- Explore whether the state should regulate municipal utilities. Is VT unique in doing so?
- The Public Utility Commission is not caught up to what is happening in energy. Traditional rate paying regulation does not incentivize renewables sufficiently.
- There is value in lining up investments with projects.
- We need a carbon price with revenues used for climate. It can start small and grow over time.
- There is a false conflict between business and environment with a lot of whining and finger pointing. This should be a fight. We should bring people to the table who see business opportunity and make money off solving the challenge.
- Policy makers need to let initiatives be tried even though there will be failure rate. The government fears failure too much and fears bad publicity.
- Carbon should be priced and give people a dividend that they can either keep or have reinvested.
- Translate the message from the liberal agenda. It should be about saving money and making money.
- Montpelier Net Zero held a contest of architects with a cash prize. Submissions came in from all over world that allowed us to envision what it would look like to repurpose space in the City. Community were involved in voting which promoted buy-in.
- David Blittersdorf bought RR cars. We should build interest among developers to buy around stations.

Tour: Distributed Generation and the Rural Grid

Interesting or unique models of the climate economy for other rural areas nationally.

- The scale of Vermont makes rapid progress possible and the culture encourages innovation in green development; these are tremendous assets.
- The focus on distributed local energy and the innovation that Vermont is showing is crucial to the future of rural communities.
- The manure digester/electric generator is a model that could be replicated at scale to manage waste effectively, clean water, and generate significant energy.
- The storage model in Vermont is also a great story—balancing the distributed grid, lessening the need for expensive peak power purchases or major new investment in infrastructure.
- I'm leaving with the sense that we can reverse, not just slow climate change…and that is very encouraging!
- I'm impressed by the level of granularity in advancing solutions—that this comes into how one manages a sugaring operation by shifting from oil to electric…it's impressive.
- The challenge is less about technology—we have that—it's a challenge of taking things to scale with pro-active policies and investments.
- Technology, policy, finance all need to work together.
- Vermont is really personal. It has a wonderful ethic and an ability for groups to think together that is unique.
- Vermont is engaged in this in ways that no one is back home for me.
- As an outsider to VT, I also have a negative takeaway in terms of the fact that some people actively oppose wind…we need to find the right balance point.
- There's a spirit of collaboration and cooperation in Vermont around renewables that is unique. That is exportable. Vermont could model solutions and export them to other states, and profit doing so.
- Even California doesn't have the Vermont spirit.
- The finance transition is the biggest challenge—this is not a tech problem but a financing one.
- We are at a point where we face a transformational opportunity that is the biggest since industrialization.
- We live in a country that is full of anxiety about the future—the end of work, the coming of AI, global uncertainties. We should see the climate economy as an answer—a vision for progress in the future that we badly need.
- The tax structure here in Vermont is daunting: my husband's company is in New Hampshire because of taxes.
- The economic shift ahead around technologies, AI, is coming—but there is not a national conversation with regular folks about how all this will affect us.
- One of the cool things on today's tour was that people we met weren't in the energy sector previously…but were drawn to it in the last few years. It's clear that there are multitudes of skill sets that will need to be involved in the climate economy, and opportunities for almost any young person to contribute in this area.

Advice for Vermont's policy leaders.

- Vermont needs to build incentives and direct investments in business start ups around the Climate Economy.
- We need specific goals and infrastructure for electric vehicles.
- We need to connect the progress with the consumer by linking new products with human behavior, needs and desires.
- We need to advance structures like Packetized Energy that link smart grid, smart meters, with smart appliances, vehicles and storage to rationally manage the distribution system to make is as local and as efficient and reliable as humanly possible.
- The ownership of wind turbines by local people or by the community itself might help it become more acceptable. Cooperative wind projects in Alaska have worked well.
- Vermont must continue to educate consumers and reach out to entrepreneurs and investors. Vermont is creative and has a lot to share.
- The State of Vermont continues to own fossil fuels; it needs to set a market signal and divest from what will be stranded assets. That capital should be reinvested in renewables.
- We should highlight business economics and case studies to mutually educate on what works and what doesn't. The next Summit could have more problem solving sessions.
- Vermont needs much more of this conversation.
- Can Vermont be a laboratory of connections around the development of the climate economy?
- We need education—families, communities need to share the message that everyone has skills to add to the progress of the Climate economy.
- Vermont should advance a carbon tax—put a price on carbon. Vermont should show the way on the carbon tax.
- The state should develop an education standard about how youth can contribute to economic solutions or to the harm to the planet—get the idea of participating in the climate economy into the curriculum.
- We need to develop a mechanism, and the will, to put more public funding into low income weatherization at scale.
- Government must see the urgency…but it is "Optimistic Urgency"!

Tour: Vermont's Energy Plan and Public Policy

Interesting or unique models of the climate economy for other rural areas nationally.

- Based on the discussion yesterday with Proterra, electric bus technology is now, not five years from now. This can help to reduce the noise and health impacts of diesel. We are in the midst of this transition, and there has to be an opportunity to take advantage of the advancements.
- We need more shuttle bus conferences and tours because of the connections made today.
- The Paul Hawkins speech talked about reversing climate change rather than mitigating it, and specific numbers for how we can do it. That gave a sense of hope and possibility.
- Right now, many people think of the climate economy as energy, but it encompasses all strategies.
- In everything I heard going on, there was an economic and job benefit. This message needs to get out.
- It is important to use the right language and find common ground. We need everyone at the table. Language choice matters.
- We need to find the common values to change behavior. For example, the idea that you can produce more milk by cows eating algae rather than eat more algae to reduce green house gases is a better way to frame it.
- The National Life Facilities Manager talked about economics. The Alchemist has no economic outcome for its wastewater.
- So many different people are doing so many different things and all are good. The most important thing to do is "everything." We need to come together in a uniform way to make progress. We are doing a great job, but not at the scale it needs to be. How do we bring initiatives together to scale every job higher? Coming together is the next thing that needs to happen.
- Several years ago, the advocacy organizations came together around carbon. They have unified, but at the cost of other initiatives.
- We need to get new people on board, not just the ones already on board and work across lines.
- How much interstate conversation is happening? It is needed.

Advice for Vermont's policy leaders.

- We need to get together across state lines.
- It's all about messaging.
- We should build out the energy question into a broader climate impact question. For example, energy policy doesn't cover other emissions.
- Inclusion should be the baseline, not the outlier. We need to truly embrace inclusion.
- The B Corp movement needs to be sanctioned by the Governor or a state.
- We need to talk more about the climate economy being more than just a great way to make money. What's the first, last mile initiative? It's in service to, not just an, economic return. How does caring about every Vermonter become a baseline business, and how do you move that forward?
- We need a higher percentage of women in sustainability roles. For instance, there were a lot of tall white men at the conference. We need climate justice. We can't have opportunity if we don't include social justice. There are lots of opportunity for business. For instance, the Alchemist talked about programmatic opportunities, not how they make their beer. Most conference speakers were men. What's the opportunity for climate justice in the state? When you think about what climate economy means, we are very white in our thoughts. We need to engage more women and diverse populations in policy development. Are we creating jobs for boys and jobs for girls? You leverage jobs for all when you capitalize for businesses.
- Pitches started with a great idea, "I need money", and "I'll market to this big company". How do we help the little guy grow? The great things are in the hands of the few.
- The climate economy used to be small outsiders. This conference started with big hitters. The massive companies have the knowledge and systems in place to make the change we want to happen at the pace we need it. Which is best: a Walmart company tweak or multiple tweaks by many small companies?
- We need a cultural shift from the commodity market back to durable goods. Happy, healthy, whole people don't want as much.
- There is a lack of focus on small businesses, which become big businesses. Can we make VEGI funds accessible to small businesses? Can we scale VEGI to businesses with 1-5 employees?
- There is value and values. Values are who you are. Value is how you make things affordable for everyone.
- We should incentivize rapid charging stations. The Town of Norway Maine has a nonprofit who won a grant to buy charging stations. The town pays the cost of electric charging because it is good for businesses. How do we move this thinking outside of tourist communities? We need to plan for charging locations. What is the use case we are designing for?
- We should invent or provide technical assistance to transition fuel and car repair Mom and Pop stores to battery change out services. Can we create a pipeline of battery swapping stations for large trucks?
- Agriculture was missing from the public policy discussion. We need investment in agriculture.
- Education was missing from the public policy discussion.
- We should put low-income communities at the forefront of the climate economy. We have to make sure people who have lived the experience are included into the conversation. You need to do more than open the door. You must help them walk through it.
- Figure out how to invest in ideas where the idea generator doesn't have the funds to invest. Develop an angel investor concept.
- Redesign the funding system for public transit. It is currently pay-to-play. Highways don't work that way. A truly open transit system will shift our highway system use.

Tour: Green Building and Efficient Design

Interesting or unique models of the climate economy for other rural areas nationally.

- Forest products and wood heat – Vermont does "small community scale" well. Other small rural communities can learn to create profitable companies on small scale. Like VT wood pellet company.
- Emphasizes collaborative model. For example, the Cidery takes the waste and uses it for methane digester. There are many examples in VT like that. A non-Vermont mindset might see it as helping the competition. It's actually using that resource well and is an energy efficient way to do business.
- Many communities aren't an island, they are in interrelationship with others. With co-housing, planning for a community and building the capacity of many in Bristol to be energy efficient. The cidery wasn't by itself. It was distillery row. People visit them.
- Being able to have residential solar that can be sold back to the grid.
- The signs in the Middlebury Town Hall showing how energy is being used. There is more awareness in VT than in other parts of the country. The signs and public education aspect gets more people understanding that what they do makes a difference as well as emphasizing revenue savings.
- Noticing how companies planning ahead for flexibility needed. They didn't lock themselves into limited options. So they plan for flexibility. May be different in a big place that uses more mono use approaches. When small, you're used to doing many different jobs. That influences choices in capital investments as they go due to unexpected changes that might come up.
- Art at NRG, the integration of gentle thinking to raise issues through the art work that is all around the property; it gets people talking about the issues.
- The net- zero modular homes. In Kentucky with a lot of poverty, especially eastern KY, they are biased toward coal. Show this concept to people so they see another way, would alleviate some of the conditions, cost of electricity, etc.
- Lot more solar panels here, don't see as many in Connecticut.
- Tiny energy efficient home could be transferred to other places. A lot of people need affordable housing option.
- Efficiency VT – a funded state agency on energy efficiency – isn't a resource that every state has. It can be an effective a model for helping people, that meets them; a brain trust partner.
- We have flexible capital fund, offering more flexible investment.
- It's forward looking that the VT legislature fully funds EVT. Seconded!!

Advice for Vermont's policy leaders.

- We have a State energy plan, yet income tax credits are gone away. The plan could be supported more fully by state policy in all areas.
- Thermal renewable energy credit in VT would help spur thermal energy.
- A lot of folks don't know what EVT could do for them. EVT is at risk in legislature right now.
- Educate the community on exactly what the 3 cent tax for EVT on goes toward. What are they are getting for that 3 cents? LED lights, weatherization, cost savings for efficiencies, etc.
- Public education that shows the long term cost savings of making the upgrades. Rich set of educational opportunities at all levels about what you can do, why you would want to, what the resources are if you have purchasing power. At Vermod homes, $0 cost for heating and electricity. Help people understand that.
- EVT could look beyond borders of VT and provide training to other states and maybe charge for it or bring income to VT.
- CT has green banks but investment criteria has been more conventional investments which minimizes new product innovation. Harder to get started because of lack of funding. Would like to see longer ROI. Promote accelerator idea with green bank.
- Expand flexible investment capital fund to make sure giving room for innovation. Might be like Accel-VT.
- Protected bike lanes as suggested policy in VT. An economic drive, and an accessibility issue for some that can't afford a car but can a bike.
- Public transportation needs improvement in VT. Challenging because of lay of land and people spread apart. Some way to collaborate between public transportation and school buses. Having adults on buses would make a difference.
- Electrify buses – school and public.
- Community-based solar array in your property, incentivizing it could get more people pulled in at the micro-community levels.
- The distributed energy, push toward local. Be neighborhood based. And community of like entities.
- Shared bike program or electric golf carts. Rented at the library – you could check out a bike.
- Art of renewable energy, incorporate renewables into what is considered an iconic VT landscape. Solar trees. Shows people that renewable energy is close and personal. Making link to beautiful surroundings and personal interaction with it.
- Stronger building codes, all new buildings should have higher standards for energy efficiencies.
- Place charging stations at where people already go. Give gas stations incentives to put in charging stations where they can charge more for electricity so they don't get hurt in this transition.

- Get utilities onboard to allow people with rideshare using electric vehicles. Had all programs that provide cars by non-profit. A subtle public education. A tier 3 project (Maven idea) – it would qualify for that.
- Networking rideshares regionally, nationally. Reciprocity for their members. Open up to different economic groups.

Follow Up Survey Responses

After the Summit, a survey was emailed to participants to capture input for future public policies or investments that could drive the climate economy forward:

Interesting or unique models of the climate economy for other rural areas nationally.

- I think looking at the climate economy with a broad lens that is beyond just clean energy and includes agriculture, forest products, and some of the areas of the economy that are not always included is unique and needs to spread.
- The amount of collaboration that exists between government, private sector, non-profit sector, and education is inspiring. It seems as if a lot of potential can be leveraged that way. Packetized Energy, the business pitch winner, was a great example of that.
- Growing transportation opportunities such as EV, electric buses, and rail transit is an important focus.
- It was great to see small startup companies that have great ideas and technology to mitigate carbon emissions.
- Incubators for green innovation are finding ways to attract young people.
- Simply bringing high caliber speakers and relevant content and context to rural Vermont should be a model for other areas nationally. It sparks creative thinking and brings awareness to all of the innovation happening in rural areas to live more in balance with the earth.
- The focus on solutions and scalable options.
- It was clear in Paul Hawken's keynote that there are many ways that we can all participate in and expedite the climate economy.
- Green Mountain Power and Efficiency Vermont are models of utility leadership.
- The way that communities as such as Kodiak, Alaska and Greensburg, Kansas were able to integrate energy generation into their communities by communicating the economic benefit and building public ownership was a strong model.
- Energy Efficiency financing models like EEtiliy are using programs that are innovating off of PACE, a program invented in Vermont, to make it easy.
- We need to keep an eye toward the bigger picture.
- Vermont Utilities are serving as leaders in rural electricity provision. The models set in place for distributed electricity are a vital system that can help other areas adopt new service delivery models.
- The state government has started on an ambitious but doable energy path for 2050. Keeping it on track will be a challenge worth meeting for the long-term benefit of all the residents.
- We can learn from our neighbors in Quebec around how they benefited from a climate levy and dividend, raising revenues and their employment rate.
- A small diversified farm like Black Dirt is using food waste and producing compost products. This is a model for turning what could be a cost into a benefit.
- From the Drawdown speech, it was clear that we need more ideas on educating girls and need to focus heavily on food and waste.
- The pride and energy that Vermont has in this sector is a model and a way to showcase Vermont's leadership.
- Vermonters seem much more focused and driven on climate solutions than other states.
- Regenerative Farming is a critical model.
- The GreenTech incubator in Boston is a key model for climate economy business support and development.
- It is very compelling that investors might have interest in a rural state like Vermont if we can demonstrate the value of scaling up in a small place.
- There is significant need for a focus on transportation in this state.
- Agricultural sites with advanced energy infrastructure is impressive. It is exciting to see that energy solutions can be intimately tied to economic and environmental sustainability in a very encompassing and holistic way.

Advice for Vermont's policy leaders on ways to advance innovation, investment, and entrepreneurism in the climate economy.

- Vermont should invest more in building local social capital and real social networks among neighbors to build resiliency in the face of potential economic collapse, natural disasters, terrorism, and war.
- We have to use language that is accessible to people on all sides of politics and address the challenges and opportunities in a way that can be heard by people in rural communities. The messages of economic development and self sufficiency are critical as well as not framing it as a "fight" against climate change.
- If educating girls and family planning combined are the number one most significant contributors to carbon reduction outlined in Drawdown, I believe it would be a worthy exercise to discover the manner in which we in

Vermont could create and deliver a curriculum world-wide where it is most needed. Champlain College has the ability to produce and proliferate that content.
- Focus on supporting small business, not just convincing large corporations to move to Vermont.
- In order to attract young entrepreneurs we need affordable housing and and dynamic downtowns with access to high speed internet and transportation options.
- Continue to support the small businesses that are making a difference and care about reducing carbon.
- Focus on downtowns and discourage sprawl and depleting agricultural areas.
- Encourage farming and support regenerative agriculture, silvopasture and other alternate and effective low impact methods.
- Implement carbon pricing.
- Focus on the areas that have a demonstrated existing market base and expand them. Building energy improvements, renewable energy, and sustainable agriculture are three examples where markets, industry, labor, and technology are already in place and ready to expand with greater support.
- Invest more dollars in the climate economy.
- A carbon tax would level the playing field and provide dollars to help businesses and homeowners adopt new technologies that lessen their carbon footprint.
- Encourage existing businesses to get involved and support new ventures and the new economy.
- Avoid making the message about a right to a healthy climate. Liberals proclaiming rights (right to food, right to healthcare, etc.) is very divisive language and the activism mentality is one of the contributors to such a deep political divide. Use inclusive language that is not a turn off to a more comprehensive or conservative mindset.
- We need to improve availability of and access to resources for small startup businesses in Vermont. We are finding ourselves looking outside the state for support. By supporting these types of new businesses, Vermont could be doing more to attract a younger generation to our workforce, and keep our young people here.
- Emphasize that addressing climate change is an economic development opportunity and that on many levels, Vermont has the potential to be a leader.
- Involve women and people of color in the conversation.
- Provide additional significant solar and wind incentives
- Limit the 'us' vs. 'them' construct that arises between energy innovators and Vermont communities. Vermont should recruit local innovators and set priorities that supersede public input at times.
- Streamline the permit process for renewable development.
- Fully support the 2050 Energy Plan with tax incentives, grants, and pilot projects.
- Climate change is unavoidable. We are already in it, and need to take action. State energy policy, incentives, and business-related policies need to embrace this as an economic opportunity and give up on trying to shelter the status quo from the new realities of the world.
- Put a price on greenhouse gases to encourage clean, greenhouse gas reducing products and processes. Use a fee and dividend model.
- State electricity policy must continue to support and promote solar energy.
- Create the most supportive, business-friendly environment here in Vermont through tax incentives and other strategies to set it apart from our neighboring states. We continually lose healthy business opportunities to NY and NH, in the technology arena in particular. We should dominate this sector.
- Tax structure is an important factor for businesses. Build a tax structure favorable to businesses to spur more investment. If jobs are created, the income taxes would still benefit the state.
- Support Accel-VT into the future to create a climate of entrepreneurism.
- Continue to hold national conferences and conversations to bring folks together around this issue.
- Make more funds available for non-traditional projects, the ones most people think are impossible. All funding mechanisms seem to fund "more of the same" and the safe investment solution rather than real innovation. Real innovation is not safe, not guaranteed, and not easy but also has the potential to really change things. Make sure that these cutting-edge products and services make their way beyond Chittenden County.
- Support incubators for clean energy businesses.
- Improve site permitting for renewable energy development.
- Create incentives for consumers to buy clean energy and make it easy for them to do it. Expand the Efficiency Vermont model to promote other technologies.
- Leave a lot of room for experimentation in energy policy. Vermont is a great laboratory for change and overly prescriptive policy can lessen the value of that asset.

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