

Energy Action Network (EAN) Presentation
Senate Energy & Natural Resources Committee
Vermont Legislature
March 19, 2019

- My name is Jared Duval and I serve as the Executive Director of the Energy Action Network. Before coming to EAN I served at the Agency of Commerce and Community Development as Vermont's Economic Development Director for our green economy and working lands sectors, focused on business support and workforce development across the state. Previously, my educational training was both in social science research, with a master's degree from the University of Cambridge, and also in public policy analysis, with a master's degree from Princeton's Woodrow Wilson School of Public Affairs.
- Energy Action Network (EAN) is a diverse network of over 200 non-profits, businesses, public agencies, and other organizations all working together to help meet Vermont's energy and emissions reduction commitments. For example, our members range from the Energy Co-op of Vermont, a fuel dealer to the Vermont Electric Co-op, an electric utility; Built by Newport, a furniture manufacturer, to the Building Performance Professionals Association; and from Vermont Technical College to the Vermont League of Cities and Towns.
- The Network is supported by a small backbone non-profit organization, EAN, which I direct, that commits to serve as a neutral convener of the Network and refrain from lobbying for specific bills. In collaboration with State agencies and departments such as the Public Service Department, Agency of Natural Resources, and the Agency of Transportation, among others, EAN tracks progress toward Vermont's energy and emissions reduction commitments with an annual progress report (just released earlier this month) and provides officially sourced data and analysis for local, regional, and state planners and policymakers, both via reports and on the Vermont Energy Dashboard.
- The Network's mission is to achieve Vermont's 90% renewable by 2050 total energy commitment (as outlined in the 2016 Comprehensive Energy Plan) and to significantly reduce Vermont's greenhouse gas emissions in ways that create a more just, thriving, and sustainable future for Vermonters.

- Today I want to share with you where Vermont stands relative to our total energy and climate commitments and, more specifically, about the scale and pace of action required to meet these commitments in a way that will make significantly positive improvements for our economy, with a particular focus on weatherization.
- Overall, Vermont has made some progress toward our renewable energy commitments, to around 19% as of 2018. This is largely because of progress in our electric sector and policies like net metering, standard offer, and the Renewable Energy Standard.
- But to continue making progress toward our Comprehensive Energy Plan (CEP) goals, it will require a concerted policy effort beyond just the electric sector and on *all* of our energy sectors. Specifically, we cannot hope to bend the curve to meet 90% renewable by 2050 unless we transition our **heating and transportation sectors** off of fossil fuels and towards renewable energy, via efficiency, electrification, and with sustainable solid and liquid renewable fuels.
- This is because heating and transportation sectors together make up 86% of our energy use and 71% of our greenhouse gas emissions.
- While we have made real progress in becoming more renewable as a State, we are falling far short of our emissions reduction commitments. As of 2015, our emissions had increased 16% above our 1990 levels and 10% above 2013 levels.
- Gov. Scott committed to the Paris Climate Agreement, which requires a 26-28% reduction below 2005 levels by 2025. The legislature has passed even more ambitious GHG reduction goals. We are not currently on track to come anywhere close to meeting either the Governor's commitment or the Legislature's goals.
- The increase in Vermont's emissions is primarily due to increased use of fossil fuels in our transportation and thermal sectors – how we get around and heat our homes & buildings. In fact, nearly 80% of VT's GHG emissions increase as of 2015 is because of these two sectors.

- To meet Vermont commitments or goals, our current pace of energy transformation is far too slow.
- To meet the Paris Climate Agreement by 2025, Vermont would need something on the order of the following in the thermal sector over the next six years:
 - 25,000 homes and buildings switching from fossil fueled heating systems to advanced wood heat (automated pellet or chip boilers or efficient stoves) (currently approx. 26,500 homes heating with automated wood systems or pellet stoves).
 - **90,000 additional homes and buildings receiving efficiency retrofits (currently approx. 25,400 buildings retrofitted).**
 - 90,000 additional homes and buildings moving from fossil fuel heating systems to heat pump heating systems (currently approx. 10,700 heat pump systems in VT)
 - 90,000 additional homes and building replacing fossil fueled water heaters with heat pump water heaters (currently approx. 10,100 heat pump water heaters in VT)
- All together, these four measures would get us just over one-third of the way to our Paris commitment. The remainder of climate pollution reduction would have to come from things like electrifying our vehicle fleet, increased fuel-efficiency standards, a doubling of transit, more renewable electricity generation, greater battery storage and smart grid development, and more.
- While these numbers may seem large, especially relative to where we are today, they are possible. For context, there are just over 335,000 housing units in Vermont (source: US Census). So, these goals would require just one third of Vermont housing units to be weatherized and/or converted to renewable heating (either cold climate heat pumps and/or advanced wood heat) over the next six years.
- Currently, we are weatherizing just over 2,000 homes per year, with an average fuel usage reduction of 23% with total investments (incentives plus participant share) just under \$10,000 per project.
- Because Vermont's emissions have been increasing, in order to meet the Paris target that the Governor committed to, we actually have to go beyond the 2025 goals that are in the State's Comprehensive Energy Plan.
- However, this "Path to Paris" is less ambitious than the standing statutory goal (10 V.S.A. 581, passed in 2007, which established as a goal "To improve substantially the energy fitness of at least 25 percent of the State's housing stock by 2020 (approximately 80,000 housing units).” As of 2018, we have only improved substantially the energy fitness of about 25,400 homes. If we were to

meet that statutory goal, it would require improving over 50,000 homes in the next two years vs. the Path to Paris analysis which models an additional 90,000 homes weatherized over the next six years.

- The status quo of Vermont's dependence on fossil fuels is harming the Vermont economy in multiple ways – and meeting our Paris targets can reduce energy costs for Vermonters and strengthen Vermont's economy.
- Over half of Vermonters energy spending is for transportation and heating. Our dependence on fossil fuels for these energy needs leaves Vermonters vulnerable to high fuel costs and volatile prices. However, both efficient electric options and sustainable wood heating are both lower cost and less volatile fuel sources.
- With 78 cents of every dollar spent on fossil fuel leaving the state, that's over \$1.5 billion a year draining out of the Vermont economy. That's money that goes overseas to places like Saudi Arabia and Russia rather than supporting jobs for our neighbors and improving our local economy. While the share of energy dollars that stay in state when spent on various forms of renewable energy (whether weatherization, wood heat, or electricity) varies, renewable options consistently keep far more money local than energy dollars spent on fossil fuels.
- Other states and provinces have experienced impressive economic growth while reducing their emissions below their 1990 levels, from California to British Columbia to our neighbors to the north in Quebec. (Show decoupling graphics).
- EAN members support different policies (some of which are complementary):
 - Some support expanding the RGGI model to cover transportation emissions through the Transportation and Climate Initiative (TCI)
 - Some support Vermont joining California and Quebec in the Western Climate Initiative
 - Some support a revenue neutral carbon fee that would reduce Vermont's most regressive tax, the sales tax
 - Some support changing the mandate of our statewide efficiency utility to focus on GHG reductions and energy cost savings vs. reducing kilowatt-hours.
 - Still others support the Essex Plan or another carbon pricing policy.
 - Given the variety of positions across our Network, I will not publicly support one over the other, especially because to preserve our independent and neutral role, we do not advocate for one policy over another. However, policies of these scale and more will be necessary to have a chance to meet our state commitments.

- It is important to point out, because it often goes overlooked and under-reported, that Vermont is *already* participating in a cap and invest program to reduce emissions and make our *electric* energy use more efficient and renewable. It's called the Regional Greenhouse Gas Initiative (RGGI), and has helped cut greenhouse gas pollution from the electric sector regionally by over 50%, while contributing \$1.4 billion in net economic value to participating states from 2013-2015. Vermont's participation in RGGI has specifically brought \$18.7M for residential weatherization services through Efficiency Vermont since 2008.
- However, since RGGI currently only covers the electric sector, which generated only 10% of Vermont's emissions in 2015, there is an upper-limit to the positive impact of this electric sector-specific cap and invest policy.
- Without further emissions caps beyond the electric sector, and the combined benefit of the market signals they will send and the revenues they can provide to help Vermonters move to more affordable and stably priced efficient and renewable alternatives, Vermont will almost certainly fall short of Gov. Scott's commitment to the Paris Climate Agreement and of our 90% renewable by 2050 Comprehensive Energy Plan commitment. And we'll continue sending Vermonters hard earned money out of state on 100% imported fossil fuels that drain our economy.
- Money invested in efficiency and renewables creates far more local benefit, with a larger share staying and recirculating in-state, creating jobs and growing the Vermont economy. We can meet our energy and emissions goals and -- if we do so with thoughtfully crafted policy -- we can also significantly strengthen Vermont's economy. Thank you.