

**Decarbonization Study**  
**Testimony to Senate Natural Resources Committee from**  
**Linda McGinnis (04/04/18)**

Good morning, my name is Linda McGinnis. Thank you for inviting me here today to provide testimony on a very timely and important topic for Vermont, our economy and working Vermonters.

To give a bit of background on who I am, I am an economist by training with 30 years of experience on policy, analysis and public investments related to sustainable economic development and, over the past 10 years, specifically on climate change and energy. I had the great fortune to move to this beautiful state 8 years ago (after 20 years with the World Bank), where I've had the pleasure of working on issues related to climate change and renewable energy across, and with, two administrations.

For the past 3 ½ years, I have been the Program Director for the Energy Action Network (EAN), a diverse network of over 200 private, public, non-profit, utility and educational member organizations with a common shared goal of helping Vermont transition to a clean, affordable and secure energy future, as contained in the Comprehensive Energy Plan. In addition, I have served as:

- **Member, Governor Scott's Climate Action Commission**
- **Member, Climate Economy Action Team (VCRD)**
- **Co-Chair, Clean Energy Development Fund Board (through 2017)**
- **Trustee, Vermont Youth Conservation Corps (since 2010)**
- **Director, Governor Shumlin's Energy Siting Policy Commission**

I fully support the Governor's Climate Commission recommendation – as represented by this bill - to have an independent, non-partisan evaluation of a core set of market-based approaches to reducing GHG emissions.

Why? Because I believe firmly in *informed* policymaking

- This bill is not proposing that the legislature choose a specific policy
- Rather, the bill proposes that our leaders understand fully the costs and benefits, the pros and cons of *a RANGE of policy options* (carbon pricing, cap and trade, regulatory, etc.). Note that the intent of the Climate Commission recommendation was to ensure that both economic and social benefits/costs be included in the study.
- Perhaps the most important part of this study is the opportunity to understand what different carbon reduction strategies could do to help us *generate sufficient resources* to address simultaneously three of the biggest challenges we face in Vermont:
  1. Reducing our carbon and other pollution emissions
  2. Generating sustainable economic growth and jobs
  3. Ensuring affordability and protecting the most vulnerable
- This is not a left or right issue, blue or red. It is a matter of *being informed* before taking a decision to support or NOT support a given policy option.
- I would hope that this legislature would choose to leave preconceived notions of carbon policies at the door and to inform itself fully on this important topic.

Context

- **GHGs:** Vermont is far from meeting its statutory goals with regards to reducing our greenhouse gas emissions (GHGs). In fact, ANR reports that our emissions have actually risen by 4% above the baseline of 1990 rather than declined by >25%, as defined by the statute (10 V.S.A. 579 (a), 2005).
  - **ENERGY is the biggest source of climate pollution** in Vermont (80%), and transportation and heat are the two largest contributors (70%)
  - See Graphics handout – first and second GHG graphs
  
- **RENEWABLES:** Vermont’s Comprehensive Energy Plan sets of target of meeting 90% of our total energy needs through renewables and efficiency by 2050. Although Vermont is making progress on increasing the renewable share of our electricity, it is important to understand that **electricity represents only 27% of our overall energy use, and only 9% of our GHG emissions.** Heat represents around 38% and Transportation around 35% of our total energy use. Consequently, Vermont is **only 20% renewable across all energy sectors.**
  - Thanks to the Renewable Energy Standard that this Legislative body enacted (30 VSA 8002, 2015), electric utilities are legally required to meet 55% of their electric sales with renewable energy in 2017, **accounting for RECs.** Note however, that this translates to 43% renewable electricity if we account for losses incurred in converting fossil fuels to electricity and bringing it to Vermont from the region.
  - See Graphics handout – pie charts
  
- **CHALLENGE:** The big elephants in the room are therefore TRANSPORTATION and HEAT energy use based on fossil fuels, which account for 42% and 28% of our GHG emissions.
  - Vermont has among the highest per capita transportation emissions in the country. And our transportation sector is only 5% renewable. For every dollar we spend on gas, 78 cents leaves the state. We are 100% importers of fossil fuels. How do we get Vermonters to switch to electric vehicles to put money back in their own pockets, and keep Vermont dollars in Vermont?
  - The thermal sector isn’t far behind. We heat our homes with propane, fossil fuel and inefficient wood. Our thermal sector is only 20% renewable. How do we get Vermonters to switch to electric and efficient wood heat?
  - Because these are unregulated sectors, it is more difficult to develop policies similar to those in electricity which helped us meet our targets. How can we most efficiently reduce our GHG emissions in these sectors (i.e. shift from fossil fuels to renewables)?
  - **A decarbonization study is essential to outline economy-wide policy levers that CAN address these sectors, and to assess the costs and benefits of each against each other to inform our policymaking.**
  - See Graphics handout – second graph and pie charts
  
- **Energy Burden and protecting the most vulnerable:** Some of our most vulnerable and rural Vermonters pay an excessively high share of their incomes (up to 27% of median household incomes in some areas) on energy: transportation, heat, and electricity. Most of this energy is based on fossil fuels, which have the highest price volatility of all energy sources. Wood and renewably-sourced electricity are far more stable and predictable in terms of price. it is clear that we need to target resources to help them transition to a more affordable, efficient and secure energy future.
  - See Fuel Price comparison handout

- **ECONOMY AND JOBS:** The fastest growing job sector in the state is in renewable energy and efficiency. Over 19,000 Vermonters now work in these sectors, a 29% increase since 2013. By helping to reduce GHGs, Vermont is attracting entrepreneurs to the state, while also providing careers for those who already live here. For every job created here, more dollars are spent on other goods and services throughout the economy, creating a multiplier effect.
- **Societal Benefits:** Beyond the clear economic benefits of reducing our GHG emissions, it is important that we also measure the non-economic benefits, or societal benefits. These include, among others: improved public health (e.g. reduced respiratory diseases and asthma related to diesel particulate), reduced air pollution (e.g., tailpipe emissions, inefficient wood burning stoves) and water pollution (emitted by natural gas and coal mining that supply our imported electricity), improved comfort levels in homes (weatherization), less contribution to global warming, improved resilience through distributed generation sources. Similarly, we need to measure the costs of NOT reducing our GHG emissions, which have substantial impacts on all of the above, most notably air quality and other health related costs to Vermont. As an example, the Clean Air Task Force study estimated the cost of the health impacts of fine particle diesel in Vermont at \$29 million in 2005.

### Carbon Markets

- **WE ARE ALREADY PART OF A CARBON MARKET and it has been remarkably successful, but only covers electricity:** Vermont is part of the Regional Greenhouse Gas Initiative (RGGI) since 2009 along with 8 other Northeastern states. This is a carbon market which has generated considerable revenues for Vermont to generate electric savings and keep our electric rates lower than nearly every state in the region. One of the options this study should look at is working to expand RGGI to transportation and heat sectors.
- **OUR NEIGHBORS TO THE NORTH ARE INVITING US TO JOIN THEIR CARBON MARKET:** Quebec and California (and now Ontario) have already established a carbon market that puts a cap on emissions from electricity, heat and transportation in order to generate significant revenues for investing in their economies (in 3 years, \$2billion for Quebec, and \$5billion for CA). The Quebec Delegate to New England is offering to invite a delegation from Vermont to come learn about that program (Western Climate Initiative)
- **CARBON PRICING in VERMONT:** several studies have already looked at the potential costs and benefits of a carbon pollution tax in Vermont (the PSD's Total Energy Study 2014, the REMI study, etc.). These could be used as a basis on which to build in order to compare existing proposals (such as the ESSEX plan) with other modalities (such as expanding RGGI or joining the Western Climate Initiative (WC)).

### **WIN-WIN-WIN:**

**The bottom line is that this study will help us understand the costs and benefits of key policy levers that could help Vermont address some of its biggest challenges – and meet the statutory goals of this legislative body - simultaneously. And the kicker is that by addressing**

these challenges, we can also help grow our economy, create jobs of the future, and help the most vulnerable. This is a clear win-win-win for Vermont.

If designed appropriately (as outlined in the bill), such a study would provide the foundation for informed policy in an arena that is highly charged, and yet has the potential to provide Vermont with a sustained and substantial source of revenue in a time of tight budgetary constraints, while also reducing our GHGs. It will help us understand better how to target resources to ensure that ALL Vermonters benefit from moving toward a cleaner, more affordable and secure future while also protecting the most vulnerable.

*Thank you for your time*

*Linda McGinnis*