

Appropriations Committee Testimony
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I am a psychiatrist practicing in Colchester and an advocate on health care and climate change. I am a member of the Vermont Climate and Health Alliance as well as many other groups that are fighting climate change.

1. We have a climate emergency. Humans are the proverbial frog being slowly boiled alive—we respond poorly to slow change.¹
2. Changes are happening *far faster than scientists had predicted*, with cascading impacts on every aspect of life.
3. Climate chaos is an enormous threat to human health.²
4. I am especially concerned about trauma and suffering due to repeated disasters, food and water shortages, forced migration, and societal conflict/breakdown over food, water and land. These are already happening.
5. Scientists say **we have just over a decade to slash greenhouse gas (GHG) emissions by at least 50 percent, to limit warming to 1.5 degrees C**. The consequences of a **2 degree C rise over preindustrial levels will be much worse**.^{3,4,5}
6. Every bit of warming increases the *risk of feedback loops* that make *changes permanent and will escalate* to make Earth uninhabitable.
7. We must *quickly wean ourselves off of fossil fuels* (natural gas, gasoline, diesel, fuel oil, propane, coal.)
8. We need a **rapid transition to an electric-based, renewable, clean energy system for all sectors**: transportation, thermal and electricity. And we need **aggressive conservation and efficiency efforts** to slash our energy use.
9. Examples:
 - a. Weatherize every building in Vermont. (Buildings account for 24% of Vermont's greenhouse gas emissions, but we are far behind on even the Legislature's 2007 goal of weatherizing 80,000 housing units by 2022.⁶)
 - b. Heat/cool buildings with heat pumps, and heat water with heat pump water heaters (instead of natural gas, fuel oil). Heat pumps are far more efficient than older technologies; they *move* heat instead of burning something to *create* it.
 - c. Buy electric (not gas) appliances and furnaces when replacement is needed; use advanced wood heat in some cases.
 - d. Carpool, vanpool, public transit, electric vehicles, bike, walk as much as possible. Minimize or eliminate idling vehicles. (Transportation is Vermont's largest energy sector, creating nearly 45% of the state's greenhouse gas emissions.⁶)
 - e. Increase efficiency of business processes.
 - f. LED lighting
10. Vermont pays nearly two billion dollars a year for fossil fuels and nearly 80% of that money leaves the state. Ramping up conservation, efficiency and renewable energy keeps **more money and jobs in our economy, raising tax revenue**.
11. With federal progress stymied, towns and states are where the action is.⁷
12. **In a landmark study of the health effects of weatherization**,⁸ the Vermont Department of Health showed that weatherizing 50,000 homes would prevent more than 5600 Emergency Department visits, 330 hospitalizations and 13 deaths, **and have \$300-700 million in public health benefits over ten years**. A family in a weatherized home would save, on average, \$1450 per year—\$1174 in energy costs and \$276 in avoided health expenses—money to spend elsewhere in Vermont's economy.

PLEASE:

Increase funding to double or triple the number of homes that are weatherized each year under the Weatherization Assistance Program so that low- and moderate-income Vermonters can save money, be comfortable, and improve their health. Vermonters and our health care programs will all save money!

Commit all of the Volkswagen settlement money to electrification of Vermont's transportation system, focusing on low-income Vermonters and electric public transit. Electric public transit might be buses or mini-buses. Increase the number of vehicle rapid charging stations. Strongly increase financial support for low-income Vermonters to replace inefficient vehicles with new or used electric or efficient hybrid vehicles. (Those with lower incomes often commute long distances in older, inefficient vehicles, so substantial assistance should be given to them.)

Sources:

1. <https://www.pnas.org/content/early/2019/02/15/1816541116>
2. <https://blogs.scientificamerican.com/observations/climate-change-is-a-public-health-emergency/?amp>
3. US National Climate Assessment, 2018 <https://www.noaa.gov/news/new-federal-climate-assessment-for-us-released>
4. 2018 IPCC report www.ipcc.ch
5. <https://www.theguardian.com/environment/2018/oct/08/global-warming-must-not-exceed-15c-warns-landmark-un-report>
6. <http://vnrc.org/wp-content/uploads/2019/01/Climate-Action-Plan-for-2019.pdf>
7. <https://www.paristopittsburgh.com/>. This is a great video which you can stream at National Geographic. Please watch!
8. http://www.healthvermont.gov/sites/default/files/documents/pdf/ENV_CH_WxHealthReport.pdf

Additional Information about the Climate Crisis
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1. Earth has warmed about 1 degree Celsius over pre-industrial levels, causing:
 - a. warming oceans and atmosphere (warmer air holds more water vapor)
 - b. more frequent and catastrophic storms
 - c. melting glaciers and polar ice
 - d. rising seas; changes in ocean currents, winds
 - e. rainfall extremes (deluge to drought)
 - f. frequent, widespread fires
 - g. ocean acidification
 - h. fresh water shortages
 - i. impaired agriculture
 - j. collapse of ecosystems, including that of the ocean
 - k. worldwide extinctions, rise of pests
 - l. poor air quality
2. Changes are happening far faster than scientists had predicted.
3. Cascading impacts threaten:
 - a. human/animal life and health (e.g., increase in asthma, Lyme disease; heat-related illness; renal failure in farm workers in hot climates; disease epidemics; collapse of land and ocean ecosystems, including coral, shellfish and krill; animal suffering and death)
 - b. property losses (VT homes, businesses, state buildings in 2011; hurricanes; wildfires)
 - c. infrastructure (we've rebuilt the Colchester Causeway twice since 2011; our taxes rebuilt roads, bridges and culverts after Tropical Storm Irene)
 - d. local and global economies (ski and maple industries; tourism; Katrina; S Florida fresh water supply, property at risk)
 - e. agriculture and food production (drought; torrential rains; heat lowers yields; higher CO₂ reduces nutritional value of crops; people and animals fare poorly in heat; warming threatens fishing/seafood industries)
 - f. clean water (blue-green algae in warmer Lake Champlain; SW US and worldwide water conflicts)
 - g. displacement of people (climate refugees worldwide—and from US coastal areas as flooding continues)
 - h. societal conflict/breakdown (food, water, land; US military sees climate change as a threat multiplier)
4. Every bit of warming increases the risk of irreversible changes.
 - a. Once feedback loops start, we cannot stop them. (E.g., melting permafrost and frozen seabeds → release methane, a powerful greenhouse gas → more warming → more melting . . .)
 - b. We didn't start decades ago. Now we need a heroic worldwide effort to reduce energy consumption and transform our energy system before physics and chemistry make changes permanent and escalate to make the planet uninhabitable.