



ESSEX ENERGY COMMITTEE

Covering Town and Village energy needs since 2008

A G E N D A:

Wednesday, February 9, 2022 @7:00pm

Via Zoom Only (Due to Omicron)

Join from PC, Mac, Linux, iOS or Android:

<https://drm.zoom.us/j/5676278864?pwd=aGt6aWwvWDY0eEovS3NqQmU5S0ZyUT09>

Password: H8gew5

Or iPhone one-tap (US Toll): +13126266799,5676278864# or +16468769923,5676278864#

ADMINISTRATIVE

- A. Draft Minutes from 01/12/2022
- B. Stipends Status

SUBSTANTIVE

- 1. CCRPC Energy Committee Roundtable: Takeaways / Impressions
 - a. [NOTE: Members: please review the slides and video prior to the meeting.]
 - b. [NOTE2: CAP summary will be discussed at a different meeting: just focus on ECs]
- 2. Subcommittee Concept and Potential Topics (with updates):
 - a. Municipal Energy Coordinator Position
 - b. Low Income Housing
 - c. Spring Button Down Event
 - d. Renewable Projects and Grants [Incl. REPP]
 - e. [Others?]
- 3. VECAN 2022 Efficiency for Low Income Vermonters Workshop – Highlights (Phil)
- 4. Dandelion Event – Takeaways [Everyone]
- 5. Participation at Next Legislative Forum [02/17/2022] and Town Meeting
- 6. Other Business

Town of Essex
Energy Committee
Minutes
Wednesday, January 12, 2022
7:00 PM – Via Zoom

Present: Will Dodge (chair), Phil March, Michael Fink, Tom Yandow, Dottie Bergendahl, Natalee Braun, David Skopin

Phil thinks Lowe's was the best way to reach people thinking about home improvement.

ADMINISTRATIVE

- Stipends are now being paid to committee members who submit tax form to staff. Chair will relay attendance after each meeting.
- Punctuation changes noted on approved meeting minutes from November 10, 2021.
- Approval of meeting minutes from December 15, 2021 with changes.

David likes the idea of a pamphlet delivered door-to-door in older neighborhoods.

Dottie suggested tabling at in-person Town and Village Annual Meetings.

Also we should table at an outdoor event, such as July Block Party, which may be supplanted by Out and About next fall.

Get help from Ann Janda to snag some time on Across the Fence.

SUBSTANTIVE

1. Spring "Button Up" Concept

What to call it, whom to talk with?

Dottie suggested Senior Center Wed. Luncheon, once pandemic subsides.

Phil believes that CVOEO is something to notify seniors about.

Do we call it Button Down? asked Will. Seems appropriate, as we'll be talking about cooling done by heat pumps, said Irene.

Two items from Ann Janda via Will:

1) CCRPC will hold Energy Committee Roundtable Meeting on Jan. 31st. Will says, let's notify them about our idea for a Spring Button Up.

2) Noon on Thursday, Feb. 24th, the RPC will talk about weatherization, including windows.

2. Weatherization Updates

a. Updated Income Tables

b. Weatherization Guide

~~e. Weatherization Contractor List includ-
ing Contractor Registry legislation~~

~~c.~~

Phil will update the income tables in the Weatherization Guide.

CVOEO appears to strictly target low-income households for weatherization; EVT and VGS focuses on middle to higher- income households.

Will may have access to info re WRAP program (ARPA weatherization funds).

ARPA moneys for weatherization will likely come through the state and regional entities, as opposed to our Town and Village where plans are for use on local capital projects.

Phil: Incentives from EVT have not gone up at all this year, despite ARPA infusion.

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Natalee suggested attending House Reps Community Conversation, Jan. 23rd 2 pm.

Natalee asked, what state committee is going to manage those ARPA funds?

Phil wondered, does the legislature have any input on how the weatherization funds distributed to EVT are going to be spent? He seeks specifics.

Town and Village each plan to use ARPA money on two projects.

3. Annual Report Draft and Updates, incl. Energy Coordinator Position, Essex Rescue, Revolving Loan Fund

Will would like to receive edits on EEC Annual Report draft by Monday.

4. Dandelion Overview Promotion

Dandelion is a geothermal company looking to expand into Vermont.

Much cheaper way to heat and cool your house.

They can do it on a very small footprint.

Dandelion will make a Virtual Presentation on January 25th, from Noon to 1 pm.

Mike will write up a blurb for Ann Janda to distribute widely to increase size of audience.

We should put on our Facebook page and on Front Porch Forum.

Check link from Ann re funding new or retrofit heat pumps.

5. Renewable Natural Gas

Dottie and her daughter in Europe did research. RNG is methane, essentially. Sometimes made by bio-digesting carbon.

~~Burning methane~~ releases less ~~GHG~~ than other fossil fuels.

It can go right into an existing gas line.

Rule makers want to use it in transportation for larger vehicles.

Who's collecting, using, paid for it?

Is it really helping to lower ~~GHG~~?

Burlington Free Press had recent articles. Worldwide coal use went up lately.

Also two PBS specials, "Polar Extremes" on Nova and "Earth Emergency". Dottie will email details. She videotaped them.

Company that makes mead and is energy self-sufficient.

Tom mentioned that half the electricity used at WWTF is produced on-site.

Use of word Renewable is [problematic].

Phil asks if Dottie know what ~~GMP's-VGS's~~ primary source of methane will be?

Natalee: beware greenwashing. Tiny fraction of our gas is renewable.

This is a big marketing campaign.

Dottie: How about calling it captured Natural Gas?

Will: Ask VT Gas to see what would benefits be?

6. Pending Municipal Legislation / Opportunities for Interaction w/ State Reps

This will be addressed on January 23.

7. Sierra Club EV Pop Up Flash Mob

Will attended planning event.

Based on singing.

Will suggested bringing people together along with their EVs.

Event shouldn't go on with show cover.

8. Other Business

Dottie asked if we heard back from SB and Trustees on whether we can stay one Cttee.

Natalee has 350 Vermont list of bills to keep an eye on.

Phil wondered aloud which municipality pays joint committee stipends. Idea was municipality of origin.

Dana Claussen, Energy Coord from Harford, got back to Phil, who is eager to share that email.

Commented [MOU1]: I believe this is what Dottie meant to say

Natalee said there was a unanimous vote in Williston to hire an Energy Coordinator.

Will is curious about the job description, which Natalee will look for.

Irene will talk to Mike Yantachka on Energy and Technology Committee at Statehouse re ARPA questions.

Motion to adjourn accepted.

Next Meeting: February 9, 2022 at 7:00 PM

Overview of Vermont's Climate Action Plan

26 PATHWAYS

64 STRATEGIES

234 SPECIFIC ACTIONS



Global Warming Solutions Act

GWSA Enacted:

September 23, 2020

1st Climate Council Meeting:

November 20, 2020

Climate Action Plan adopted:

December 1, 2021

Required updates:

every 4 years

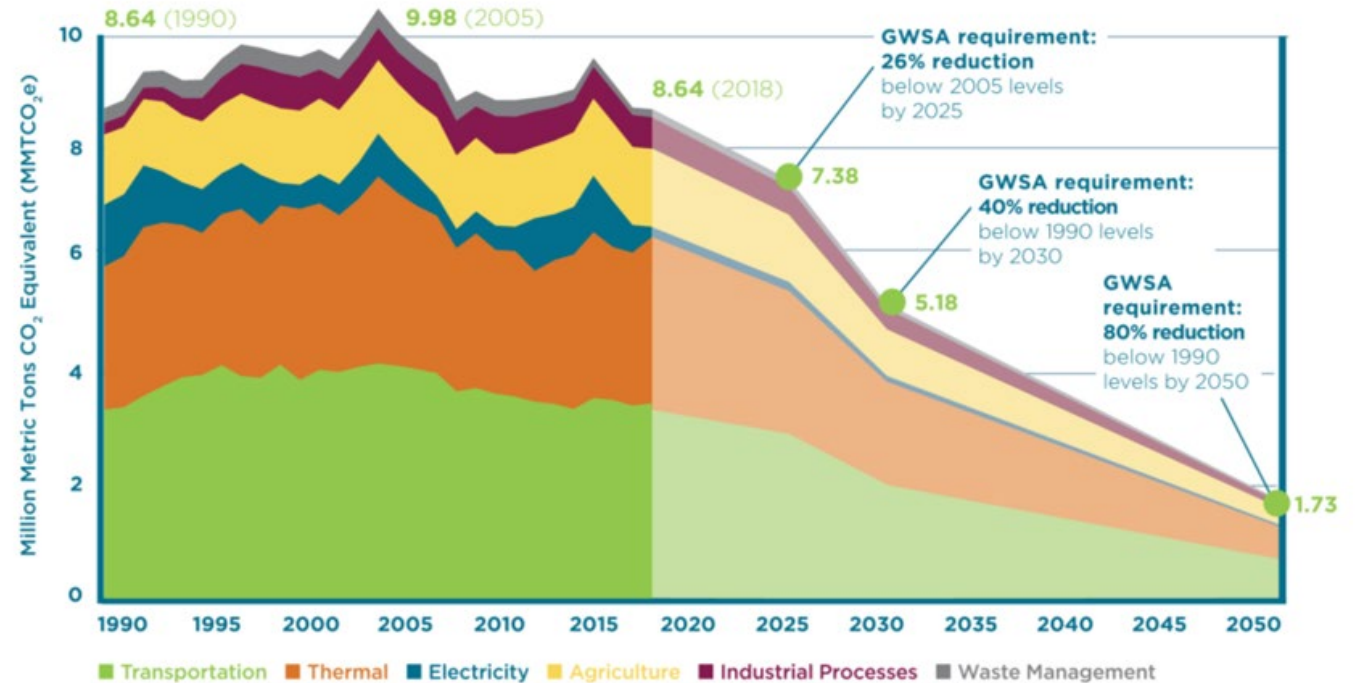
Emissions Reductions Requirements

By 2025: 26% below 2005 levels

By 2030: 40% below 1990 levels

By 2050: 80% below 1990 levels

Vermont's historical GHG emissions and future requirements



Source: Vermont Agency of Natural Resources, Vermont GHG Emissions Inventory and Forecast (1990-2017), 2021.

Climate
Action Plan is
organized around
five areas:

emissions
reductions

resilience and adaptation
natural and
working lands

resilience and adaptation
communities and
built environment

carbon
sequestration
and storage

cross-cutting
pathways

Equity Lens: Guiding Principles for a Just Transition

A framework for the Climate Council and subcommittees to evaluate, adjust and prioritize recommendations based on how they will impact Vermont's impacted and frontline communities.

01

**Ensuring
inclusive,
transparent,
and
innovative
engagement**

02

**Creating
accountable
& restorative
recommend-
ations**

03

**Moving at the
speed of
trust**

04

**Incorporating
solidarity to
create
inclusionary
spaces**

05

**Prioritizing
the most
impacted
first**

06

**Developing
supports for
workers,
families, and
communities**

This slide cut/pasted from the presentation used by VT Secretary of the Agency of Natural Resources, Julie Moore.

The Vermont Legislature will likely consider an Environmental Justice Bill this session

The Plan has a 2021 Carbon Budget for Vermont

AFOLU: Agriculture Forestry Other Land Uses

Table 1⁵⁹. Estimates of carbon stocks and fluxes of Vermont's agriculture, forestry, and other land use (AFOLU) sector compared to the state's greenhouse gas (GHG) emissions⁶⁰.

AFOLU sub-sector	Carbon storage (MMT CO ₂ e)	Net carbon flux (MMT CO ₂ e per year) ⁶¹			Components
	2020	1990	2005	2020	
Agriculture	63	+0.70	+0.61	+0.49	Crops (including hay), fertilizers, livestock, management
Forests	1,859	-5.1	-3.2	-3.2 ⁶²	Forests, conversion to/from forests, harvested wood products (combustion, decay, and storage in use and in landfill)
Grasslands and shrublands	41	+0.06	+0.05	+0.05	Unmanaged and managed (e.g., pasture)
Wetlands and water bodies	57	-0.01	-0.01	-0.01	Wetlands and water bodies
Urban and developed	15	-0.26	-0.27	-0.28	Trees
Net for AFOLU sector	2,035⁶³	-4.61	-2.82	-2.95	AFOLU sectors and components listed above
VT GHG emissions ⁶⁴		+7.41	+8.68	+7.22	Electricity, heating, transportation, fossil fuel industry, industrial processes, waste management ⁶⁵
Net of AFOLU sector and VT GHG emissions⁶⁶		+2.8	+5.86	+4.27	All sectors listed above

Since 1990, wetland and waterbodies, grasslands and shrublands, and urban and developed lands saw fairly stable annual net flux rates, and emissions from the agricultural sector declined.

Further investigation into this declining forest sector sink is warranted

and important to developing strategies for complying with the GWSA requirement that Vermont achieve net zero emissions by 2050.

Emissions Reductions

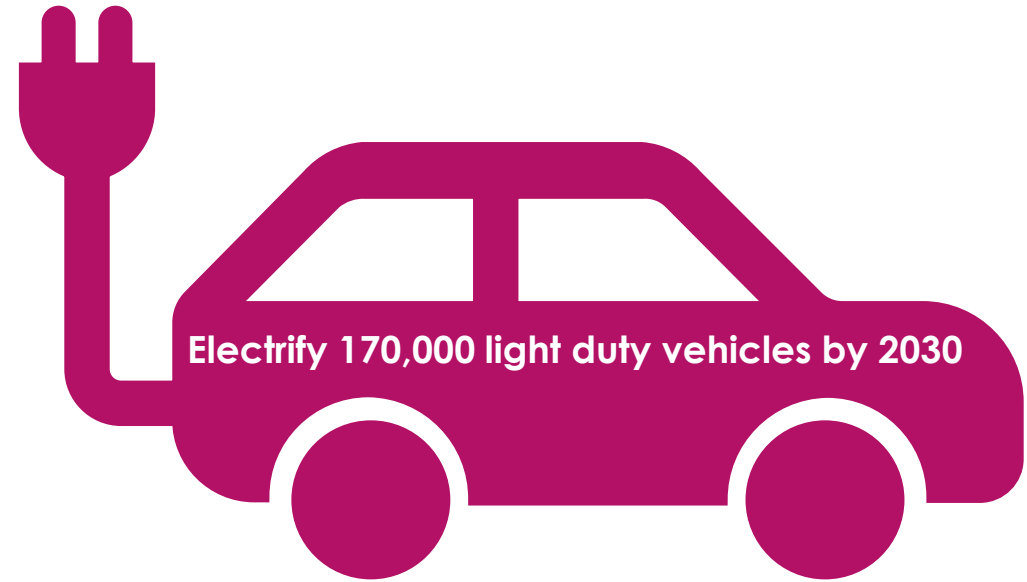
Pathways and Actions

Transportation Sector

Transportation

Pathway 1: Light Duty Vehicle Electrification via

- ▶ Regulation - By 2035 all car sales will be zero emissions
- ▶ Expanded Incentives - EVs and E-bikes
- ▶ Continued Equity Programs - Replace Your Ride, Mileage Smart, etc.
- ▶ More EV Charging
- ▶ Outreach and Education - EVs and VMT



Electrify 170,000 light duty vehicles by 2030

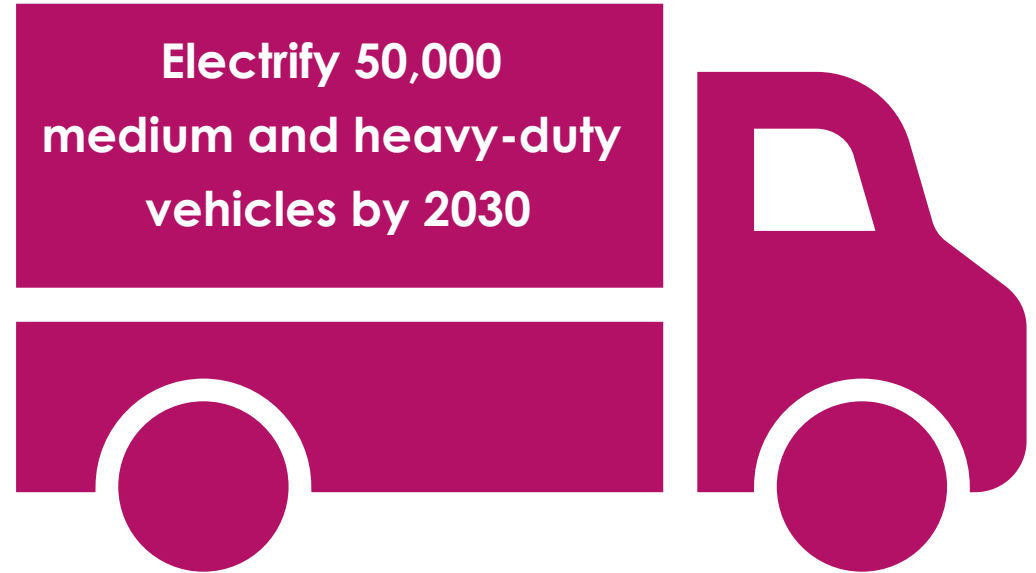
Currently there are
4,360 EVs
registered in Vermont

Transportation

Pathway 2: Heavy Duty Electrification via

- ▶ Regulation
- ▶ Incentives
- ▶ Idle Reduction Systems
- ▶ Electrify Truck Parking
Spaces for Auxiliary Power

**Electrify 50,000
medium and heavy-duty
vehicles by 2030**



Transportation Pathway 3: Reduction in Vehicle Miles Traveled (VMT)

VTrans to create Transportation Implementation Plan:

- Smart Growth strategies
- Establishing VMT targets
- Increase public transit

If feasible, affordable, and effective at reducing GHG emissions:

- Free public transit
- Expand and improve Amtrak/rail
- Enhance Complete Streets

Buildings & Thermal Sector



Buildings & Thermal

Pathway 1: Weatherization and Energy Code

- ▶ Weatherize 90,000 homes by 2030
- ▶ Workforce development (see next slide)
- ▶ Energy and financial coaching
- ▶ On-bill financing
- ▶ Efficiency standards for rental properties (RPES)
- ▶ Zero Energy Ready building energy code by 2030
- ▶ Code training and enforcement assistance to municipalities

Weatherization: actual & projected



Sources: What We've Done: Vermont Department of Public Service, "2019 Report on VT's Progress Toward Building Energy Fitness Goals"; What we said we'd do: 10 V.S.A § 581. Others: EAN.

1. Vermont Housing Finance Agency (VHFA), Vermont Housing Needs Assessment: 2020-2024, 2020.

Source: Energy Action Network Progress Report



Buildings & Thermal

Pathway 1: Weatherization and Energy Code

► Workforce development

Table 1: Weatherization Workforce Estimates for Completing Weatherization Targets in the CAP

	2023	2024	2025	2026	Cumulative
Total Weatherization Projects (Cumulative)	36,000	41,000	48,000	57,500	57,500
New Weatherization Projects (Annual)	3,500	5,000	7,000	9,500	25,000
Crews Needed (Assuming 11 projects completed per year by a crew of 5)	318	455	637	864	864
Crew Members Needed	1,590	2,275	3,182	4,318	4,318
Office Members Needed (Assuming 1 per 10 crew members)	159	228	318	432	432
Energy Auditors Needed (Assuming 90 completed per year per auditor)	39	56	78	106	106
TOTAL NEW WORKERS – CUMULATIVE	1,788	2,559	4,215	5,720	5,720
TOTAL NEW WORKERS – ANNUAL	510⁶	771	1,616	1,505	N/A

Source: Vermont Climate Council December 29, 2021 Recommendations for Deployment of ARPA Funding to Support Climate Action Plan Implementation



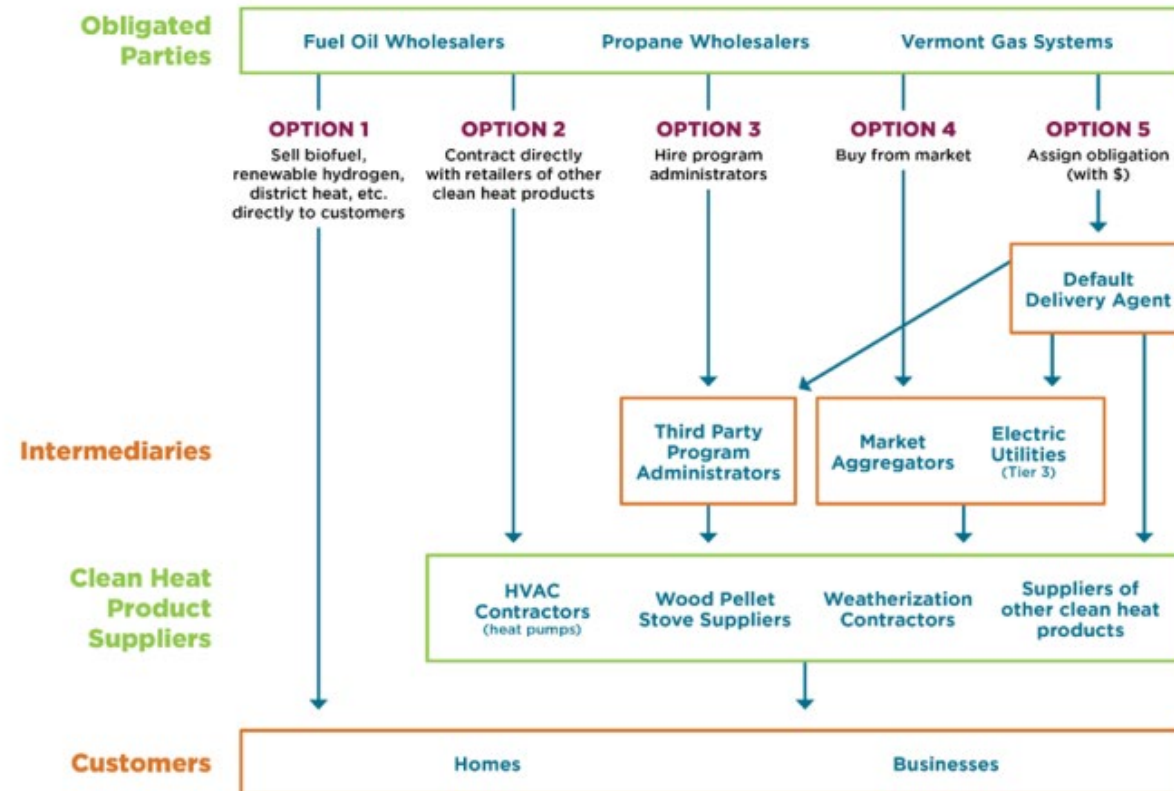
Buildings & Thermal

Pathway 2: Reduce carbon content of fuels

► Clean Heat Standard for fossil fueled heat wholesalers

- Timeline to Implement - Legislation by the end of the current session (May 2022) followed by no longer than 18-24 months for administrative process, including program design, etc.

Obligated Party Options



Electricity Sector

Electricity

Pathway 1: Further decrease GHG emissions from electric sector purchases

Pathway 2: Enable All Vermonters to Choose Electrification

Pathway 3: Load Management and Grid Optimization

Key Actions

100% Carbon Free or Renewable Electricity by 2030

200-amp service

Utility load control programs

Agriculture Sector

Agriculture

Pathway: Reduce the sources of emissions and enhance the sinks of greenhouse gases

- ▶ Reduce tillage and increase vegetative cover
- ▶ Expand Capital Equipment Assistance Program (CEAP)
- ▶ Rotational grazing
- ▶ Integrate woody vegetation in agricultural production
- ▶ Edge-of-field practices that increase herbaceous and woody vegetation
- ▶ Restoration practices that support climate mitigation and resilience
- ▶ Nutrient Management and Amendments (e.g. biochar, compost)
- ▶ Methane capture and energy generation on farms
- ▶ Improved manure management and storage programs
- ▶ Feed management program to reduce enteric methane emissions

Non-Energy Sector

Non-Energy Emissions Pathways

Reducing Emissions of
Refrigerants in Vermont

Reduce Process Emissions from
Semiconductor Manufacturing
in Vermont

Reduce Fugitive Emissions from
Wastewater Treatment Facilities

Resilience and Adaptation, Carbon Sequestration, and Cross Cutting Pathways

Noteworthy Actions

Resilience and Adaptation Noteworthy Actions

Land Use

- ▶ Low impact development
- ▶ Support smart growth
- ▶ Walking, biking and transit – increase investment
- ▶ Train local builders in small and mid-sized and accessory dwelling units
- ▶ Statewide conversation on land use and housing
- ▶ Increase Municipal Planning Grant (MPG) funds to support more housing
- ▶ Rolling planning grant for Neighborhood Development Area (NDAs) applications
- ▶ Multi-stakeholder committee process with funding to support the development of a statewide land use planning policy
- ▶ If a statewide land use planning policy and implementation plan is authorized, explore creation of a State Planning Office and/or other potential structure
- ▶ Significant revisions to Act 250 to support Compact Settlement (Cross Cutting Pathways)

Resilience and Adaptation Noteworthy Actions

Support for Local Energy
and Resilience Projects

- ▶ Climate and energy planning funding
- ▶ Evaluate Enhanced Energy Plans for ability to site renewable energy, avoid the conversion of working and natural lands, and loss of carbon sequestration
- ▶ Support electrification of municipal fleet vehicles
- ▶ Weatherization and Efficiency Navigators at RPCs
- ▶ Climate planning toolkit
- ▶ Natural resource position at RPCs
- ▶ Fund adaptation and resilience projects
- ▶ Require collection of fossil fuel usage data for municipal operations
- ▶ All utilities provide similar rebates, incentives

Resilience and Adaptation Noteworthy Actions

Forest Health and Conservation

- ▶ Farmland Conservation & Protection tools - easements, Act 250, planning, zoning.
- ▶ Develop program for forest landowners for climate-adaptive management practices.
- ▶ Protect forest health and biodiversity on state and private lands
- ▶ Establish "climate resilience zones"
- ▶ Enhanced planning support to municipalities and regions to maintain forest blocks and connecting habitats
- ▶ Authorize ANR to have statewide jurisdiction and permitting authority for river corridors for all kinds of development.

What Happens Now?

- ▶ Activity largely moves back into the Legislature to:
 - ▶ Identify high-impact policy priorities that will support durable environmental outcomes
 - ▶ Fully appropriate ARPA funds for climate action
 - ▶ Understand additional analyses and contractor support needed to fully achieve the requirements of the GWSA, including:
 - ▶ Advancing improvements to the emissions inventory and carbon budget
 - ▶ Establishing an approach for data collection and management to track progress
 - ▶ Creating a municipal climate toolkit, including vulnerability index
 - ▶ Continuing and expanded public outreach and engagement
 - ▶ Ensure diverse appointments to the Council, and support with just compensation



► The Council and subcommittee meetings are always open to the public:

<https://climatechange.vermont.gov/getinvolved/calendar/month>

► The Council also welcomes comments through the portal on the Council's website:

<https://climatechange.vermont.gov/getinvolved>

Chittenden County Regional Energy Forum 1/31

29 Participants

Ann gave an overview of the State CAP. Joey Miller gave an introduction on her work on the Climate Council.

Ethan asked about VMT, setting goals for VMT reductions. Who owns those goals and how do we anticipate reaching them? Joey responded that ultimately, it's the Agency of Natural Resources responsibilities to establish a guidepost. The goals do not have the state of law but the plan itself is law

Rebecca Foster: What is the relationship between the state and local levels? Is there an expectation that energy committees are going to be part of this work? Joey says there are a lot of opportunities including public policy that help local goals be attained. Ideas in the CAP that are easier if they have the partnership of community members playing an important liaison role. For example, making sure communities know what kinds of services are available, especially for low-income communities. Working on a targeted way for communities to be more strategic and beneficial. More capacity support for towns and regions coupled with legislative funding. How can we coordinate and be as strategic as possible?

Jeff Forward: I hope we don't spend all our ARPA money on water and sewer lines. Ongoing debate on personal responsibility and an opportunity as energy committees to be engaged and involved. For example, the grass roots effort talking to legislators to support the GWSA. There are several bills energy committee could be active on. 1) equity 2) Transportation innovation act 3) renewable energy standard. We need to make more electricity as opposed to buying hydro Quebec and Seabrook. More instate generation needs to be supported and promoted.

Michael Oman: Is there a comprehensive list of bills? Joey responded by telling people about the weekly climate dispatch and the new fuel switching bill. Environmentally common agenda is also another resource to understand what is going on in the state house.

Dorothy: Who is supervising and evaluating how the ARPA funds are being use? Joey explained the state is in charge, towns and regions are playing a role. Ann explained that ARPA might be more flexible for communities for energy transformation purposes.

Jeff Forward mentioned Richmond is getting over 1 million dollars. Richmond set up a group to figure out how the money will be spent. For example, Jeff is thinking about weatherizing the mobile home park. Jericho has an interesting way to ask about spending ARPA money.

Suzy Hodgson: There is development pressure in Charlotte, and we are losing our forest and ag land. When could payment for losing forest landowners and farm managers? Joey said it is starting we need more information about carbon budget and how do we value it? Ag and Ecosystem subcommittee provided a good foundation. I do not have a year for you, but it is getting elevation. Suzy gave an example of a forest owner in Charlotte who wants to be paid to maintain forest and not pursue development. Lenore Budd mentioned there is a move afoot to improve the current use program to meet the need of valuing forests.

Ethan had a follow up about proposal for projects. Is there a regional opportunity to share ideas for energy related ARPA projects? Is there an ongoing iterative list of way to share information? Joey will be sending out a survey to find out their priorities for ARPA funding. What could be organized through

municipal fuel switching bill. Targeted campaign for heat pump hot water heaters. How do we coordinate and be cohesive as possible and enable capacity and leadership? Online webinar to bring folks together to continue to brainstorm.

Ethan: in So Bu there are initiatives we want to make possible. Is there an active conversation to give towns more power? Joey said that a state policy framework is needed to not lock communities into price volatile natural gas so long as there is a technical cost competitive option.

Round Robin

Charlotte: 3,700 population very rural town, created their own energy committee website. Charlotteenergy.org It has been a wonderful way to get information out to the public. Dual use project public education which involves pollinator gardens and enhanced fields for solar pollinator. Wolfger made the design. Received a VCRD energy shelf project to encourage DIY for low-income folks. Interested in a statewide mechanism for scaling this up so people can do weatherization themselves. How can we be ready to apply for grants? Grant opportunities come up fast and want to be ready. Doing to groundwork to be prepared. In a town with sometimes lacking political support, they would love an energy coordinator and referenced the Hartford example.

Underhill: recently completed a 150 Kw gravel pit that is producing power and money for the town. Working on several initiatives, the energy committee purchased an IR camera and blower door to do pre-audits for homes in Underhill. Watching for COVID numbers to decrease to get to work, getting information out to people is critical so doing FPF campaign on energy to do information monthly. Tri town task force to work on transportation with Cambridge and Jericho to organize the GMT 36 commuter line. Worked with CCRPC to enhance alternative transportation. Coordinated an initiative on the future of rural transit to look at electrified rural transit routing connected to schools. Need data to know what is happening and what we are making progress on. Need input from a higher level. Worried about grid to support more renewable energy given there is not 3phase power and hoping storage can smooth it out.

Jericho: The energy committee has had activity during COVID. Started a push for solar on the old dump site which is in VEC but town hall is in GMP. Two new solar projects owned by towns came online. E-bike parking in harvest market. Winter movie series has been cancelled. Move forward with EV bike presentation. Europe has a value attached to homes to understand how much it costs to run. Jericho is thinking about this for their homes. Montpelier is also looking at home energy labeling.

Essex: Continue to work with town and village treasurers to compile electricity usage to pursue another net metering project. Facility manager is connected to making the buildings and facilities more efficient. Complicating issue with merger/separation. Need to dehumidify police station, it was designed to be energy efficient but needs to be tracked. Constructing the new Essex Rescue building to be energy efficient. They hosted a highly successful event at Lowes. Need to come to Button Up events more knowledgeable about weatherization and programs. Looking towards next for doing renewable energy generation for school district buildings and developing job description for an energy coordinator.

South Burlington: Bill revolving loan fund to improve municipal buildings. Large PV array on new City Hall that was completely funded by the revolving loan fund. South Burlington has maxed out the impact on the grid and is now pursuing storage. VT Gas is sound proofing and weatherizing and cold climate

heat pumps around the airport. South Burlington is working on a climate action plan. Formed a CAP Task Force to represent many sectors. For future meetings, I would like to discuss overlap for putting together a CAP

Williston: newly formed energy committee post energy plan adoption. They will be meeting for the first time on Wednesday. They have put a paid energy coordinator into the budget to be voted on. Solar array at town offices. New method of town planning to increase density, energy efficiency, and Transportation.

Richmond: Jeff Forward has been in the Volunteer town energy coordinator for 30 years and looking to Ann to do work for Richmond. Climate art exhibit with a forward at Bill McKibben. Future of Rural Transit with Underhill. EV charging grant may be looked in. Virginia Clarke questioned how to use zoning for electric charging and weatherization. Self-certification makes it challenging to ensure there is compliance. How do we do cluster development to preserve our forest and farmland? How are goals being translated to municipal ordinances?

Ann informed everyone that CCRPC staff is working on a guide to help towns understand how to implement energy goals in zoning and other policies. Building codes is an ongoing conversation with department of public service. We feel that enforcement of the state energy code lies with the state because it is a state code.

Ann thanked everyone for coming.