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Annual Report 2014

Energy Action Network Participants

2014 MEMBERS

Peter Adamczyk	VEIC - Vermont Energy Investment Corp.	Alison Hollingsworth	VEIC - Vermont Energy Investment Corp.
Charlie Baker	Chittenden Co. Reg. Planning Commission	Karen Horn	Vermont League of Cities and Towns
Robert Barton	Catalyst Financial Group	Scott Johnstone	VEIC - Vermont Energy Investment Corp.
Amanda Beraldi	Green Mountain Power	Dan Jones	Montpelier Energy Advisory Committee
Anne Berndt	Maverick Lloyd Foundation	Ellen Kahler	Vermont Sustainable Jobs Fund
Arthur Berndt	Maverick Lloyd Foundation	Chris Kramer	Energy Futures Group
Janet Besser	New England Clean Energy Council	Julie Lineberger	LineSync Architecture
Ludy Biddle	NeighborWorks of Western Vermont	Crea Lintilhac	Lintilhac Foundation
Kathryn Blume	Vermontivate	Adam Lougee	Addison County Reg. Planning Commission
Michele Boomhower	Chittenden Co. Reg. Planning Commission	Paul Markowitz	VEIC - Vermont Energy Investment Corp.
Peter Bourne	Bourne's Energy	Linda McGinnis	Independent Consultant
Lee Bouyea	Fresh Tracks Capital	Ralph Meima	Green Lantern Capital
Jeff Bower	SunEdison	Jim Merriam	Efficiency Vermont
Tom Buckley	Burlington Electric Department	Bill Miller	Green Lantern Capital
Sam Buckley	Vermont Community Loan Fund	Johanna Miller	Vermont Natural Resources Council
Melody Burkins	Dartmouth College	James Moore	SunCommon
Laurie Burnham	Sandia National Laboratory	Brian Otley	Green Mountain Power
Paul Burns	VPIRG - VT Public Interest Research Group	Tim Palmer	VerMentor
Megan Camp	Shelburne Farms	Scudder Parker	VEIC - Vermont Energy Investment Corp.
Erin Carroll	PowerAdvocate	Kenneth Perine	National Bank of Middlebury
Marta Ceroni	Donella Meadows Institute	Ernie Pomerleau	Pomerleau Real Estate
Joseph Cincotta	LineSync Architecture	Mary Powell	Green Mountain Power
Hal Cohen	Capstone Community Action	John Quinney	Energy Co-op of Vermont
Andrea Cohen	Vermont Businesses for Social Responsibility	William Raap	Gardener's Supply
Paul Comey	Baseline Solutions	Patty Richards	Washington Electric Cooperative
Steve Costello	Green Mountain Power	Greg Rieder	IBM
Paul Costello	Vermont Council on Rural Development	Cara Robechek	Vermont Energy Education Program
Matthew Cota	Vermont Fuel Dealers Association	William Sayre	Associated Industries of Vermont
Elizabeth Courtney		Jan Schultz	Burlington Telecom
Cairn Cross	Fresh Tracks Capital	Leigh Seddon	L.W. Seddon, LLC
Catherine Davis	Lake Champlain Regional Chamber of Comm.	Tim Shea	National Life Group
Robert Dostis	Green Mountain Power	Ronald Shems	
William Driscoll	Associated Industries of Vermont	Adam Sherman	BERC
Julia Dunderf	New England Grassroots Environment Fund	Luke Shullenberger	Green Lantern Capital
Matthew Dunne	Google	Sarah Simonds	Vital Communities
Rebecca Ellis	House Natural Resources Committee	Janice St. Onge	Vermont Sustainable Jobs Fund
Peg Elmer	Community-Resilience.org	Gabrielle Stebbins	Renewable Energy Vermont
Jon Erickson	UVM Gund Institute	James Sullivan	Bennington County Regional Commission
Jamison Ervin		Mary Sullivan	Burlington Electric Department
Richard Faesy	Energy Futures Group	Sam Swanson	Pace Law School Energy and Climate Center
Chad Farrell	Encore Redevelopment	Gaye Symington	High Meadows Fund
Anders Ferguson	Veris Wealth Partners	Tom Torti	Lake Champlain Chamber of Commerce
Laurie Fielder	Vermont State Employees Credit Union	George Twigg	VEIC - Vermont Energy Investment Corp.
Abby Friedman	Vermont League of Cities and Towns	Marianne Tyrrell	Catalyst Financial Group
Sara Gilbert	NeighborWorks of Western Vermont	Bob Walker	Sustainable Energy Resource Group
Karen Glitman	VEIC - Vermont Energy Investment Corp.	Ben Walsh	VPIRG - VT Public Interest Research Group
Steve Greenfield	Vermont Economic Development Authority	Richard Watts	University of Vermont
Peter Gregory	Two Rivers-Ottawaquechee Reg. Commission	Mary Westervelt	Hardwick Electric Department
Robert Griffin	Green Mountain Power	Rick Weston	Regulatory Assistance Project
John Hollar	City of Montpelier	Eric Zencey	UVM Gund Institute

STATE PARTNERS

Chuck Ross	Agency of Agriculture, Secretary
Alex DePillis	Agency of Agriculture
Pat Moulton	Agency of Commerce and Community Development, Secretary
Ken Jones	Agency of Commerce and Community Development
Deb Markowitz	Agency of Natural Resources, Secretary
Andrew Perchlik	Clean Energy Development Fund
Michael Pieciak	Department of Financial Regulation
Chris Recchia	Public Service Department, Commissioner
Darren Springer	Public Service Department
Ted Brady	USDA State Director for VT/NH, Rural Development
Elizabeth Pearce	Vermont State Treasurer

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Renewable energy installations like this community solar array in Whiting, Vermont, are an important part of Vermont's 21st century working landscape. Photo courtesy of SunCommon.



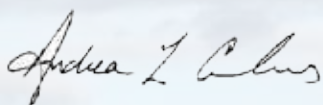
A Letter from EAN's Executive Director & Board Chair

It is again with great pleasure that we take stock of the Energy Action Network's on-the-ground implementation work in support of our goal of transforming Vermont's energy system to one based on efficiency and renewables. The past year has been highly productive across a broad range of activities in support of our mission to create a clean, affordable, and secure energy system for Vermont and to offer a model for other states across the northeast and beyond.


Highlights of this work include:

- Defined and launched **Brighter Vermont** – a public communications strategy to “move the middle” on clean energy;
- Initiated the **Clean Energy Finance Initiative** – a new public-private finance collaborative to reduce the cost of capital for clean energy investments;
- Implemented projects from the 2013 **Clean Energy Finance Summit** which resulted in: a new revolving loan fund for efficiency in state buildings; a new on-bill-financing program at GMP; a new community energy guide;
- Launched the **Net Zero Montpelier** project as a model and inspiration for communities across Vermont and the nation;
- Creation (ongoing) of a statewide **Community Energy Dashboard** to help change energy choices and behaviors;
- Engaged the State of Vermont in a **State Lead-by-Example** effort to power all state buildings with renewable energy;
- Used our **Pathways to Clean Energy** analysis to advance progress toward 90% by 2050;
- Convened a **Solar Permitting Work Group** to help support efficient processing of Vermont's solar energy projects;
- Partnered with Vermont Energy Investment Corporation and Vermont's Regional Planning Commissions to support **Regional Energy Planning** with specific decade milestones toward meeting the state's 90% by 2050 energy goals;

As we move into 2015, we look forward with great hope and encouragement to working with all of our members to bring action and implementation to our shared goal of a clean energy future for Vermont.



Andrea L. Colnes, Executive Director



Leigh Seddon, Board Chair

About Energy Action Network

History

EAN is a diverse group of businesses, non-profits, public agencies and other high-level stakeholders seeking to advance the state's transition to a sustainable energy future. EAN's work is based on an in-depth systems analysis which led to identification of four key leverage points that can drive large scale transformation of Vermont's energy system to one based on efficiency and renewables. The four leverage points that form the backbone of EAN's structure are: Capital Mobilization, Technology Innovation, Public Engagement and Regulatory Reform.



EAN recognizes that achieving our goals will require more than the capacity of individual organizations. Changing large, complex systems requires a network approach to harness the power of individual efforts into a leveraged whole. EAN makes this collaboration possible by providing a structure through which private, non-profit and public organizations can work together to achieve transformation of the larger energy system.

Mission

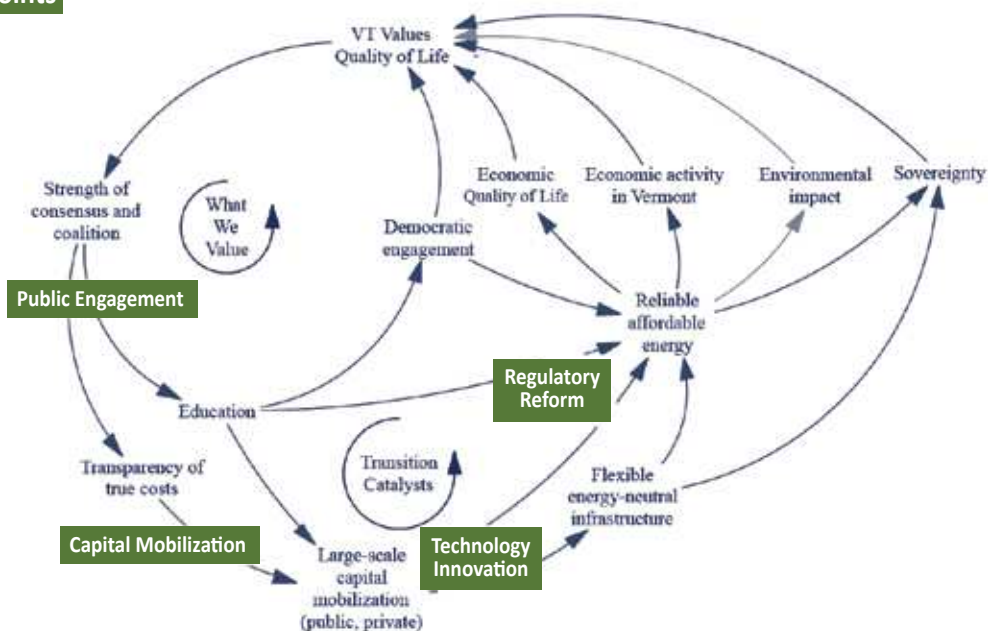
EAN's mission is to end Vermont's reliance on fossil fuels and to create clean, affordable and secure electric, heating, and transportation systems for the 21st Century.

Approach

EAN's work is based on an in-depth systems analysis of Vermont's energy systems. Our members used their diverse perspectives and viewpoints to boil down this complex system into four core leverage points that could catalyze a shift to a system based on efficiency and renewables. While working to achieve this level of change in Vermont, EAN is also striving to provide a replicable model for other states in the northeast and elsewhere across the US.

EAN System Mapping

4 Leverage Points



Pathways to Clean Energy

In 2011 the State of Vermont established a bold goal through its Comprehensive Energy Plan (CEP): to meet 90% of Vermont's 2050 energy needs from renewable sources and increased efficiency. While the CEP goal establishes the target for 2050, it does not define the path by which we will make that transition. EAN embraces that challenge.

**90%^B
2050**

In 2013, EAN produced a report, *90% Renewable by 2050: Exploring Vermont's Efficiency and Renewable Energy Pathways*. This report identified renewable and efficiency pathways and created a series of decade milestones in all three energy sectors that could enable Vermont to reach its goal. This analysis is not meant to be a "roadmap," but rather to identify the known technology pathways, key policy drivers and important questions for policy makers to consider. While efficiency is our most cost-effective pathway, the report stresses the need to invest in efficiency and renewable energy resources simultaneously, especially the technology pathways identified below.

Key Pathways to Reach 90% by 2050: These have the greatest capacity to transform Vermont's energy economy.

	<p>Electric Vehicles CAFE Standards Biofuels</p>		<p>Building Efficiency Heat Pumps Biomass & Biofuels</p>		<p>Solar Power Wind Power Hydro Quebec</p>
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1st Milestone: 20% by 2020

For the 2020 milestone, EAN set a target goal of reducing Vermont's overall dependence on fossil fuels by 20%. These targets informed the work of EAN's four leverage point work groups including many of the featured projects on the following pages.

SECTOR	2020 EAN TARGET		2010	2014	2020
		unit	baseline	achieved	target
TRANSPORT					
Electric Vehicles	Increase EVs and PHEVs to 5% of light vehicle fleet	# of vehicles	94*	867	28,000
Biofuels	Increase consumption to 10 million gallons annually	million gallons	1.2	?	10
Efficiency	Increase Vermont fleet fuel efficiency by 5% over 2010 (saves 17 million gallons annually)	fleet MPG	21.6	?	22.7
THERMAL					
Building Efficiency	Reduce building fossil fuel use by 5% from 2010 (Act 92 goals, enacted 2008)	trillion BTUs	33.5	33.1	31.8
Biomass	Increase use of biomass heating to offset 7% of 2010 building fossil fuel use	trillion BTUs	4.5	?	6.8
Heat Pumps	Cut fossil fuel use by 5% over 2010 through cold climate heat pumps	# of retrofits	---	5,000	23,000
ELECTRIC					
Wind	300 MW capacity from in-state and regional plants	megawatts	7.4	220	300
Solar	150 MW of photovoltaic capacity	megawatts	11	87	150
Hydro	35 MW of small-scale hydro	megawatts	5.5	29	35
Methane	20 MW of farm and landfill digesters	megawatts	15.1	17	20

Notes: This table is compiled from E.I.A. and State Reports. Electric generation includes Net Metering, Standard Offer, and SPEED projects reported through September 2014. "?" indicate incomplete data. * 94 EVs registered in VT in 2009.

PARTICIPANTS

members as of 12/14

Bob Barton, co-chair
Catalyst Financial Group

Marianne Tyrrell, co-chair
Catalyst Financial Group

Peter Adamczyk — *VEIC*

Ludy Biddle — *NeighborWorks of W. VT*

Lee Boyeau — *Fresh Tracks Capital*

Jeff Bower — *SunEdison*

Marta Ceroni — *Donella Meadows Inst.*

Hal Cohen — *Capstone (former position)*

Richard Faesy — *Energy Futures Group*

Laurie Fielder — *VSECU*

Abby Friedman — *VLCT*

Sara Gilbert — *NeighborWorks of W. VT*

Steve Greenfield — *VEDA*

Robert Griffin — *GMP*

Karen Horn — *VLCT*

Chris Kramer — *Energy Futures Group*

Linda McGinnis — *Independent Consultant*

Ralph Meima — *Green Lantern Capital*

Bill Miller — *Green Lantern Capital*

James Moore — *SunCommon*

Elizabeth Pearce — *State Treasurer*

Andy Perchlick — *Clean Energy Dev. Fund*

Kenneth Perine — *Nat'l Bank of Middlebury*

Ernie Pomerleau — *Pomerleau Real Estate*

William Raap — *Gardener's Supply*

Luke Shullenberger — *Green Lantern Capital*

Darren Springer — *Public Service Dept.*

Janice St. Onge — *VSJF*

Gaye Symington — *High Meadows Fund*

Mary Westervelt — *Hardwick Electric Dept.*

Capital Mobilization Work Group

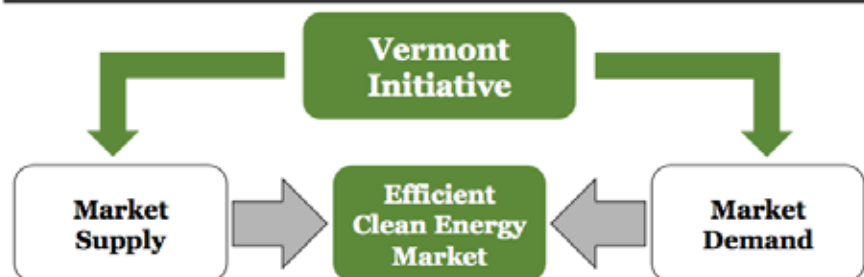
GOAL

The goal of EAN's Capital Mobilization work group is to apply capital on a transformative scale to investments in energy efficiency and renewables across all energy sectors in Vermont. EAN's work supports public and private partnerships and innovative finance models that can create a stable long-term investment environment, competitive returns, and minimize risk and uncertainty for investors.

PROGRESS

- **Work Stemming from the 2013 Clean Energy Finance Summit:** Outcomes include:
 - Creation of a new revolving loan fund by the Shumlin Administration, Treasurer and Legislators.
 - Creation of a new on-bill financing program by Green Mountain Power.
 - Creation of a new community energy guide by VNRC, PSD, VECAN and EAN.
 - Inclusion of aggressive clean energy goals and investment targets in emerging Vermont Comprehensive Economic Development Strategy.
- **Clean Energy Finance Initiative (CEFI):** EAN has initiated development of a new public-private finance collaborative to reduce the cost of capital for clean energy investments in Vermont. The CEFI is led by a Steering Committee including VEDA, ACCD, CEDF, Efficiency Vermont, and the State Treasurer have joined in a collaboration with the Department of Financial Regulation and PSD. Project implementation is through the Coalition for Green Capital and EAN.
- **Technical Assistance Program to Support Performance Contracting:** EAN has been working with the State, Efficiency Vermont and others to create a technical assistance program to better utilize Performance Contracting in Vermont.

Building a bridge to create efficient clean energy markets



- VT must build initiatives that bridge the gap between supply and demand
- Resources must be used efficiently with targeted financing, demand generation and market development

Clean Energy Finance Initiative

Overview

Transitioning Vermont to a competitive and vibrant clean energy economy presents an enormous economic development opportunity that will require investment in the range of \$30-\$40 billion over the next 35 years. This investment is well beyond Vermont’s existing funding and finance capacity. To meet this need, EAN established a new collaboration between the Clean Energy Development Fund (CEDF), Agency of Commerce & Community Development (ACCD), Vermont Economic Development Authority (VEDA), Efficiency Vermont (EVT), and State Treasurer Pearce with the non-profit Coalition for Green Capital (CGC) to build on Vermont’s existing finance structures (shown at right) and leverage new private capital to meet the challenge of large-scale energy transformation.

Existing Finance Structures

While Vermont has made a significant investment in a range of programs to support energy efficiency and renewables, these efforts are often complex and fragmented across many different agencies and organizations. Existing programs are also largely focused on grants and incentives, which we seek to compliment with more highly leveraged finance and loan programs.

STAGE 1: Defining Priority Markets

To define clean energy finance priorities for Vermont and explore barriers, opportunities and priority markets, EAN and the Coalition for Green Capital have interviewed over 70 stakeholders from the finance, government, non-profit, banking, utility, economic development, low-income advocate and renewable energy communities.

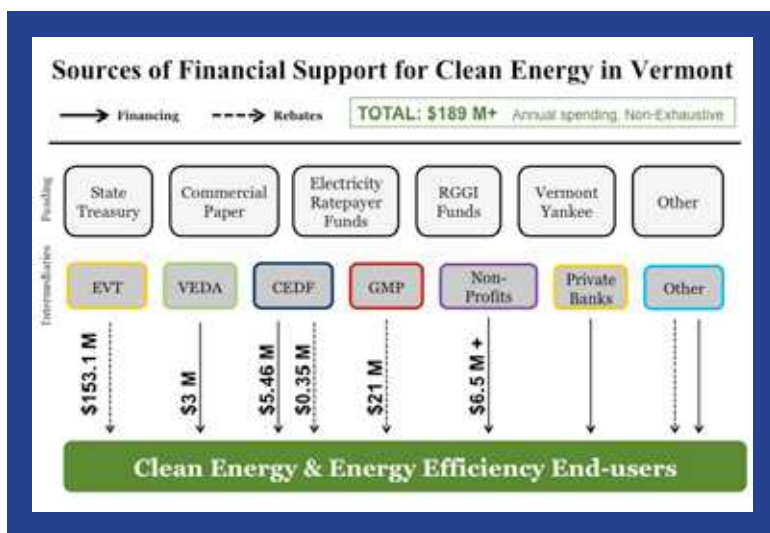
Key points garnered from these interviews include:

ON THE SUPPLY SIDE:

- Vermont offers grants, but very little financing, and even less marketing of that financing;
- We have not addressed the savings-investment opportunity for buildings across combined efficiency, thermal and electricity needs;
- Investors need a credit enhancement or guarantee that works.

Next Steps

By early 2015, this collaboration will identify specific strategies to help take Vermont’s clean energy finance capacity to scale through creative public/private partnerships to leverage major new private capital into Vermont’s clean energy markets. The next step once these recommended strategies are identified, will be to work with public and private partners to take them forward to implementation.



ON THE DEMAND SIDE:

- Customers need options that offer zero upfront cost, immediately positive cash flow and a simple payback process;
- Customers need more and clearer information;
- Customers need a turnkey solution that requires minimal effort.



CGC is a non-profit 501(c)(3) organization working at the state, federal and international levels to establish and develop clean energy finance and market-organizing entities to minimize greenhouse gas emissions and maximize deployment of clean energy technology.

PARTICIPANTS

members as of 12/14

Jim Merriam, co-chair
VEIC
Ron Shems, co-chair

Janet Besser — NECEC

Paul Burns — VPIRG

Joseph Cincotta — LineSync Architecture

Matt Cota — Vermont Fuel Dealers Assn.

Rebecca Ellis — House of Representatives

Chad Farrell — Encore Redevelopment

Asa Hopkins — Public Service Dept.

Karen Horn — VLCT

Julie Lineberger — LineSync Architecture

Linda McGinnis — Independent Consultant

Johanna Miller — VNRC

Scudder Parker — VEIC

William Sayre — Associated Industries of VT

Leigh Seddon — L.W. Seddon Consulting

Gabrielle Stebbins — REV

Sam Swanson — Pace Law School

Ben Walsh — VPIRG

Richard Weston — RAP

Regulatory Reform Work Group

GOAL

To develop simpler, consistent, regulatory policies that support development of renewable energy sources, energy efficiency and faster, more effective permitting of renewable energy projects.

PROGRESS

- **Solar Permitting Reform**

EAN has been asked by state permitting agencies and developers to convene a permitting work group focused on efficient processing of 150 kW - 500 kW projects and identifying broader permitting reform needs.

- **Total Energy Study Input**

EAN supported stakeholder input to the Public Service Department's work on the Total Energy Study and the related public policy implementation process.



Interest in Community Solar Arrays has increased since the fall of 2013 when this 144 kW array was built in Putney, Vermont, serving customers in the Green Mountain Power service area. Photo credit: Clean Energy Collective | VTsolargardens.com

Solar Permitting Reform

Overview

EAN worked with state agency partners, renewable energy developers and Renewable Energy Vermont to convene an inter-agency Solar Permitting Work Group to support efficient permitting of solar projects in Vermont.

The goals of this group include:

- **Immediate Goal:** Support efficient processing of 150 kW - 500 kW (community scale) projects.
- **Longer-term Goals:**
 - > Support efficient processing of all solar and renewable energy projects;
 - > Identify permitting reform needs at various project scales;
 - > Shift overall permitting culture to include and support the state's climate and energy goals as top priorities.

90%^{BY}
2050

Solar Regulation & Permitting Summit

The Solar Regulation and Permitting Summit was convened in July 2014 to get input from key stakeholders and begin discussions toward the longer term goals: improving solar regulation, permitting, financing to better serve Vermont's Comprehensive Energy Plan goal of meeting 90% of our 2050 energy needs from increased efficiency and renewable sources.

PARTICIPANTS

- Agency of Natural Resources
- Public Service Department
- Natural Resources Board
- Department of Agriculture
- Department of Historic Preservation
- Clean Energy Development Fund
- Renewable Energy Vermont
- Solar Developers

Some of the key issues addressed included:

- Understanding the state's view of solar development and challenges;
- Understanding developer views of Vermont's permitting process and financing structures for solar projects;
- Addressing any conflicting regulatory mandates across State Agencies;
- Providing greater clarity for utilities to develop or purchase solar energy;
- Identifying developer best practices that result in a timely regulatory review;
- Identifying legislative reforms needed to help Vermont achieve its solar goals.



The Solar Regulation and Permitting Summit was convened by the House Natural Resources and Energy Committee and the Public Service Department.

ENERGY ACTION NETWORK ~ 2014 at-a-glance

90%^B
2050

Cross Leverage Point Initiatives

GOAL >> Support implementation of Vermont's CEP goal of 90% by 2050 and define specific milestones across all energy sectors

Completed the "Pathways to Clean Energy" analysis to identify decade milestones en route to the CEP goal of 90% by 2050.

Working with UVM to develop a dynamic model of energy scenarios to meet our 90% by 2050 goal and track state-wide energy metrics over time.

Working with Regional Planning Commissions, PSD and VEC to utilize EAN's 2050 milestones as a basis for state, regional and town-specific energy plans.



Capital Mobilization

GOAL >> Mobilize capital on a transformative scale for investments in clean energy

Clean Energy Finance Summit II Outcomes:

- New revolving loan fund by the Shumlin Admin., Treasurer, Legislators
- New on-bill financing program offered by GMP and BED
- New community energy guide by VNRC, PSD, VECAN and EAN

Inclusion of aggressive clean energy goals and targets in Vermont CEDS

Initiation of a new public-private finance collaborative

- To mobilize capital for clean energy investments in Vermont
- Partners include the Coalition for Green Capital, VEDA, CEDF, ACCD, State Treasurer

Efforts to better utilize performance contracting in Vermont

Regulatory Reform

GOAL >> Regulatory policies that support faster, more effective permitting of clean energy projects

Solar permitting reform effort convened by EAN

- Support efficient processing of 150kw-500kw projects
- Identify broader permit reform needs to shift permitting culture to better support climate and energy goals

Support towards development of Total Energy Study

Energy-related legislation passed in 2014

- that supports Vermont's CEP goal of 90% by 2050
- Increased net metering limit from 4% to 15%
 - Approved cold climate heat pumps as an EE strategy eligible for financial incentives from utilities
 - Solar Tax Certainty for developers and customers with municipal control

NOTE: EAN does not actively work in the Legislature, but we do wish to congratulate the many EAN members who worked to promote the above changes.



Technology Innovation

GOAL >> *Demonstrate how efficiency and renewables can transform Vermont's energy economy*

Transform Montpelier into the nation's first "net zero" state capital

- Endorsement by City Council and Mayor:
- Pilot Projects:
 - > GMP – Heat Pump Pilot Program; Electric Vehicle charging stations; Group net metering project;
 - > Efficiency VT – "Net Zero Montpelier" community workshop; Incentives to make homes "net zero ready;" Energy road map for municipal facilities; Design support for new net zero transit center;
 - > VT BGS – Commitment to 10MW of solar projects to power state building electrical use

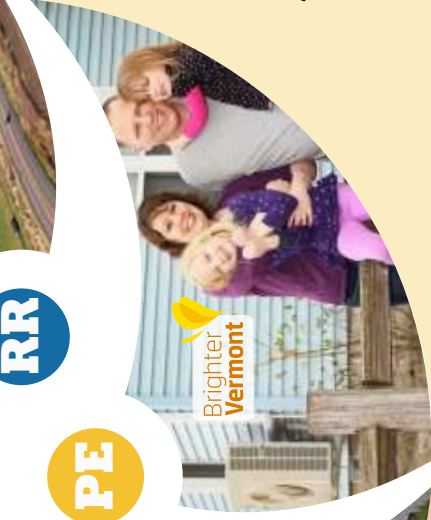
- Net Zero Montpelier has qualified as a quarter finalist for the nationally significant "Georgetown University Energy Prize."



NZM

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Public Engagement

GOAL >> *Develop a unified communications strategy to "move the middle" on clean energy*



Created "Brighter Vermont" brand

- Logo & tagline: Building a better energy future. Today.
- Website: links to local energy info across all sectors
- Distribution focused on leveraging network connections for social media, earned media, and new partnerships

Conducted Baseline Polling

- 90% believe a transition to clean energy is important
- 73% believe we need to act as quickly as possible

Creating first round of "Bright Ideas" videos

- use trusted messengers
- emphasize actions that are accessible, affordable, doable

Network Development

GOAL >> *Develop a diverse network of key energy stakeholders to ensure Vermont reaches its CEP goal of 90% by 2050*

Conducted EAN's first Network Mapping Survey to establish a baseline for evaluating the growth, value and effectiveness of EAN to our members and partners

93%

of members & partners are actively engaged in EAN

90%

believe EAN's work adds value to efforts to transform Vermont's energy economy



ENERGY ACTION NETWORK

PARTICIPANTS

members as of 12/14

Erin Carroll, chair
VEIC (former position)

Laurie Burnham — *Sandia Nat'l Laboratory*

Karen Glitman — *VEIC*

John Hollar — *City of Montpelier*

Alison Hollingsworth — *VEIC*

Dan Jones — *MEAC*

Anne Margolis — *Public Service Dept.*

Jim Merriam — *VEIC*

Michael Miller — *City of Montpelier*

Brian Otley — *GMP*

Greg Rieder — *IBM*

Tim Shea — *National Life Group*

Anne Watson — *Montpelier City Council*

Technology Innovation Work Group

GOAL

To demonstrate and drive on-the-ground transformation of Vermont's energy infrastructure to a system based on efficiency and renewables in support of our 90% by 2050 goal.

PROGRESS

- **Net Zero Montpelier**

Over the past year, EAN has worked closely with the City of Montpelier, the Montpelier Energy Advisory Committee and other partners to establish "Net Zero Montpelier" as a top priority for the City. Exciting implementation projects are emerging as we look to the year ahead (see page 13).

- **Community Energy Dashboard**

EAN has begun construction of our Community Energy Dashboard which will be a tool for communities to better understand energy use and help drive tangible action towards decade milestones and 90% by 2050. The Dashboard has been linked to the Vermont Energy Atlas of the Vermont Sustainable Jobs Fund in a new and exciting collaboration. Launch is anticipated in March 2015.

- **State Buildings Initiative**

EAN has been part of a team working to have Vermont become the first state in the nation to power all state facilities with renewable energy. Progress includes a commitment by the state to add 10 MW of solar power for state buildings. Project design and strategy development with an extensive array of partners have supported this effort.

- **McNeil District Heat Initiative**

EAN has been asked to join the efforts of the Burlington District Energy Service to help support the McNeil District Heat project. The goal of this project is to harness wasted heat from the McNeil Biomass Power Plant in Burlington to heat the University of Vermont Medical Center and other customers in the Burlington area.

Net Zero Montpelier



Key partners officially launched NZM in March 2014 during a press conference: (from left) Dan Jones (MEAC), Mary Powell (GMP), Jim Merriam (EVT), Andi Colnes (EAN) and Mayor John Hollar.

Why Montpelier?

Montpelier is uniquely positioned to move forward on achieving the net zero goal. The City has already taken significant steps toward this goal including:

- Completing a state-of-the art Biomass Community District Heating system to provide heat from locally-sourced wood to the downtown district;
- Reducing overall municipal electric use by 20% compared to 2006;
- Upgrading all streetlights to high-efficiency LEDs;
- Completing energy efficiency upgrades on 15% of the City’s housing units;
- Installing four public electric vehicle charging stations;
- Active engagement from residents and businesses including Montpelier’s largest employer, National Life Group, which has installed its own biomass heating system, a 500 kW net-metered solar array and 2 EV charging stations.
- Montpelier received national recognition in 2014 as one of 50 semifinalists for the Georgetown University Energy Prize and one of 16 communities selected by the White House as Climate Action Champions (see green box).

Pilot Initiatives

Because NZM addresses the energy used for electricity, heating and transportation, collaboration with key stakeholders is essential. Below is a list of pilot initiatives planned by two of the key partners in NZM:

• Efficiency Vermont

- > Convene a series of NZM community conversations to describe the initiative and help plan goals and actions;
- > Offer guidance, incentives and support to help homeowners make their homes more efficient and “net-zero ready;”
- > Work closely with the City to develop an energy road map for all municipal facilities;
- > Work with the Vermont Department of Buildings and General Services to reduce energy use in state buildings.

• Green Mountain Power

- > Expand the number of EV charging stations in Montpelier;
- > Expand its pilot heat pump program in Montpelier;
- > Work with AllEarth Renewables to install solar trackers in a group net metering project that will power two local non-profits and be a visual statement of the City’s commitment to the Net Zero Montpelier initiative;
- > Launch a new eHome pilot program through a partnership with VSECU and MEAC.

Overview

Net Zero Montpelier (NZM) is a new initiative that establishes an ambitious goal for the City of Montpelier: to meet or offset 100% of its energy needs using renewable sources and increased efficiency. This includes all of the City’s energy used for heating, electricity and transportation. Key partners include EAN, the City of Montpelier, Efficiency Vermont, GMP and the Montpelier Energy Advisory Committee.



2014 Climate Action Champions



Montpelier was one of only 16 communities recognized by the White House in 2014 for leadership in climate action. The recognition means Montpelier is eligible for targeted Federal support to further their efforts.

PARTICIPANTS

members as of 12/14

Megan Camp, chair
Shelburne Farms

- Kathryn Blume — *Vermontivate*
- Melody Burkins — *Dartmouth College*
- Alex DePillis — *Agency of Agriculture*
- Robert Dostis — *GMP*
- Peter Gregory — *Two Rivers-Ottawaquechee Regional Planning Commission*
- Karen Horn — *VLCT*
- Paul Markowitz — *VEIC*
- Linda McGinnis — *South Burlington Energy Prize*
- Johanna Miller — *VNRC*
- James Moore — *SunCommon*
- Cara Robechek — *VEEP*
- Sarah Simonds — *Vital Communities*
- Darren Springer — *Public Service Dept.*
- Gabrielle Stebbins — *REV*
- Mary Sullivan — *Burlington Electric Dept.*
- James Sullivan — *Bennington County Regional Planning Commission*
- Gaye Symington — *High Meadows Fund*
- George Twigg — *VEIC*
- Bob Walker — *SERG*
- Ben Walsh — *VPIRG*
- Bart Westdijk — *NEGF*
- Eric Zencey — *UVM Gund Institute*

Public Engagement Work Group

GOAL

To realize our goal of transforming Vermont’s energy system, we need to engage and educate the public and make energy choices transparent. The goal for EAN’s Public Engagement work group is to provide clear, concise information and messages that can be used by EAN members to change behavior and transform Vermont’s energy-use culture. EAN has completed significant work in creating a Master Frame to underpin clean energy communications in Vermont.

PROGRESS

• Creation of “Brighter Vermont” Umbrella Brand

EAN launched the “Brighter Vermont” initiative to serve as an overarching campaign to provide strategic direction for our diverse messages about transforming our energy system. The overall goal is to help Vermonters understand why this change is important, what their peers are already doing, and how they themselves can take action.

• Baseline Polling

EAN polled more than 600 Vermonters in the spring of 2104 to provide baseline data regarding Vermonters views about changing Vermont’s energy system from one based on fossil fuels to one based on increased efficiency and renewable sources.

*The chart below shows the percentage of Vermonters who **agree or strongly agree** with each statement that was part of the poll.*

90%	75%	79%	86%
1. Changing our energy system is necessary	2. We should make this change as quickly as possible	3. Changing our energy system is doable	4. Changing our energy system will make a difference

• Clean Energy Stories via Trusted Messengers

EAN is creating a series of “Bright Ideas” videos utilizing local trusted messengers -- everyday Vermonters -- to illustrate how using energy more efficiently and transitioning to renewables is doable, accessible and affordable.

The first two videos produced in the fall of 2014 showcased two Vermont families, one with a cold climate heat pump and the other with an electric car. The next videos will focus on how renewables are an important part of Vermont’s 21st Century working landscape and how investing in home energy efficiency improvements can help Vermonters save energy, reduce their use of fossil fuels and save money!



“Heat Pumps are Cool!” features Joel and Bonnie Melnick of Waltham.



“Vermonters are Driving Electric” features the Needle family of Burlington.

Brighter Vermont Initiative

Overview

Brighter Vermont is a new communications initiative that builds on the Master Frame EAN developed in 2012 and the 5-year communications plan developed in 2013. Brighter Vermont is more than just a logo and tagline: it's all about conveying a positive vision of our energy future and showing what regular, everyday Vermonters can do -- *and are doing* -- to build a Brighter Vermont and a better energy future, today. This is conveyed through our Brighter Vermont Facebook page, YouTube channel and website (see page 16).



VISIT: www.brightervermont.org

“The Middle”

Broad based change is not possible without “moving the middle.” One goal of Brighter Vermont is to help our members communicate more effectively with regular, everyday Vermonters who have busy lives and don’t spend all day thinking about energy. Below are three hypothetical personae that were developed to help illustrate the needs and concerns of “the middle.” Brighter Vermont messages and messengers are designed to reach this diverse audience.



Josh

I want to make a difference.
I need affordability.
I need simple guidance.



Mike & Lisa

I need to know the real story.
Explain how this issue affects me.
I need to know this is worth my time.



Laura

I need to hear from the right people.
Convince me this is a real issue.
Why do you think my lifestyle is wrong?

Positive Messages

Effective messaging is not only about what we say but how we say it. Brighter Vermont messages are positive, conveying the appealing vision of an energy system based on clean technology, not dirty fuels. This new energy system will create jobs, help stabilize our economy, minimize climate change, and make our country more energy independent. By showing how this new system will be *better*, the public will demand we invest in making the transition. *Today*.

Trusted Messengers

Utilizing trusted messengers is a key strategy of the Brighter Vermont initiative. Our Bright Ideas videos (see page 14) feature real Vermonters who are changing the way they use energy without sacrificing comfort or breaking the bank. Our distribution strategies rely on collaborating with EAN members and utilizing social media, especially Facebook and YouTube. In 2015 we plan to develop fun, high-profile promotions and events to engage a broader cross section of Vermonters.



Brighter Vermont Website

The Brighter Vermont website is a user-friendly portal through which Vermonters can access a wealth of local information about energy. The dynamic home page includes a **Tip of the Week** and sections focused on Vermont-specific energy-related news and events. The site is organized to provide the motivation (Why It Matters) and inspiration (Bright Ideas) Vermonters need to take action (Get Started) and change the way they use energy. Rather than reinventing the wheel, BrighterVermont.org utilizes EAN's extensive network, linking to our partners' websites to provide Vermonters with one site from which they can access local information about energy, efficiency, renewables and more!

VISIT: www.brightervermont.org

The screenshot shows the homepage of the Brighter Vermont website. At the top left is the logo for Brighter Vermont, featuring a yellow leaf icon and the tagline "BUILDING A BETTER ENERGY FUTURE. TODAY.". To the right of the logo is a navigation menu with links for "Why It Matters", "Bright Ideas", "Get Started", and "More...", along with a search icon. Below the navigation is a large hero section with a background image of Rosie the Riveter. On the left of this section, it says "Get Started..." followed by the text "Today is a great day to start reducing your dependence on fossil fuels." and a "LEARN MORE" button. On the right, it says "We Can Do It!". Below the hero section is a "TIP OF THE WEEK" section with a yellow background. It features an image of power strips and the text "Energy Saved is Money Saved" and "Advanced Power Strips are a simple way to help you do both! Makes a great gift for the bill-payer in your home." with a "LEARN MORE" button. Below this is a "News" section with four news items, each with a small image and a "LEARN MORE" button. The news items are: "UVM Hosts Youth Climate Summit", "Energy Co-op of VT Launches Heat Pump Leasing Program", "Net Zero Montpelier Energy Workshops", and "Efficiency Vermont Hosts Community Forums". At the bottom of the page are three social media links: "Find Us On Facebook", "Check Out Our Events", and "Visit our Channel". The footer contains the text "About Us | Press Room | Contact Us", the tagline "BUILDING A BETTER ENERGY FUTURE. TODAY.", and social media icons for Twitter and Facebook.



CROSS CUTTING FEATURED PROJECT:

Community Energy Dashboard

Overview

EAN is working with stakeholders to create a “Community Energy Dashboard” to enable communities to understand their energy use and make clean energy choices and investments across all energy sectors -- heating, transportation and electricity. It will make energy use visible and understandable to consumers and communities as a whole. The Dashboard will also enable communities to evaluate the impact of investments in renewables and efficiency towards the State’s 90% by 2050 goal and provide baseline metrics that define current and changing energy use over time.

Goals

The Dashboard will inform, educate and engage Vermont communities by tracking progress towards thermal, electric and transportation energy use. Specifically, it will provide:

- 2010 Energy Baselines;
- 20% by 2020 Milestones;
- 90% by 2050 Milestones & Snapshots;
- An updated version of the Vermont Renewable Energy Atlas, a powerful website developed by the Vermont Sustainable Jobs Fund to track the installed capacity and potential for renewables and efficiency throughout the state. See www.vtenergyatlas.com.

Project Partners

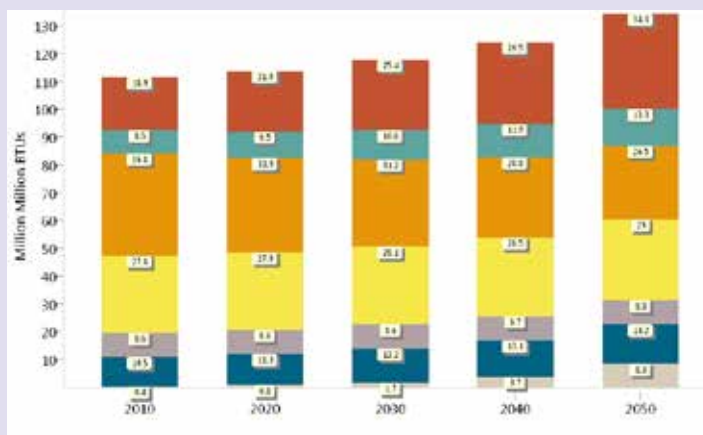
- Green Mountain Power
- Efficiency Vermont
- Vermont Energy and Climate Action Network
- Vermont Energy Investment Corporation
- Vermont Sustainable Jobs Fund
- National Life Group
- VLITE
- Energy Action Network
- Regional Planning Commissions
- Pilot Communities

Database

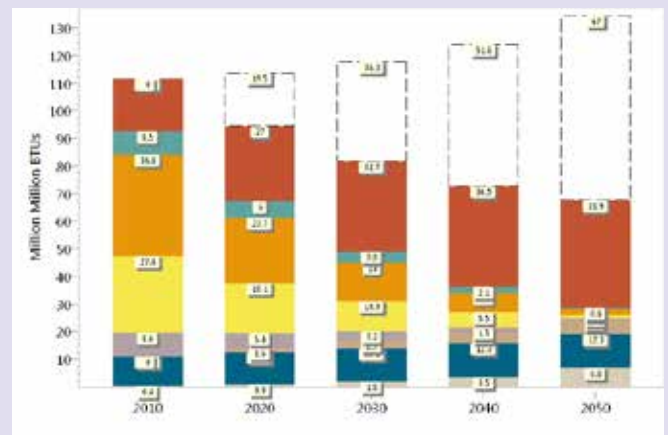
An extensive database has been constructed to drive the Dashboard including current energy use and milestone energy use for each Vermont community across each energy sector. Below are two graphs comparing the projected energy use for two distinct scenarios.

Vermont End-Use Energy Demand by Fuel Type: Two Scenarios

Scenario: Reference Case, EIA “Business As Usual”



Scenario: 90% by 2050 Pathway Example



KEY: Electricity, Natural Gas, Gasoline, Dist Fuel Oil, LPG, Ethanol, Biomass, Solar, Avoided vs Reference

Charts courtesy of David Hill, VEIC

Funding, Expenses & Financial Sustainability

In the past year of operation, EAN has maintained and strengthened ties with our existing funders and engaged several new supporters as well. Our next steps toward long-term financial stability will continue to focus on diversifying EAN's business model to extend beyond foundation support.

The charts below show the broad components of EAN's operating budget for Fiscal Year 2014. Overall, 88% of EAN's budget supported direct program work across our four leverage points and development of the capacity of our network. Administrative costs continue to be small and highly leveraged in support of active, value-added programs.

FY 2014 Operating Budget

Chart 1: Total Expenses

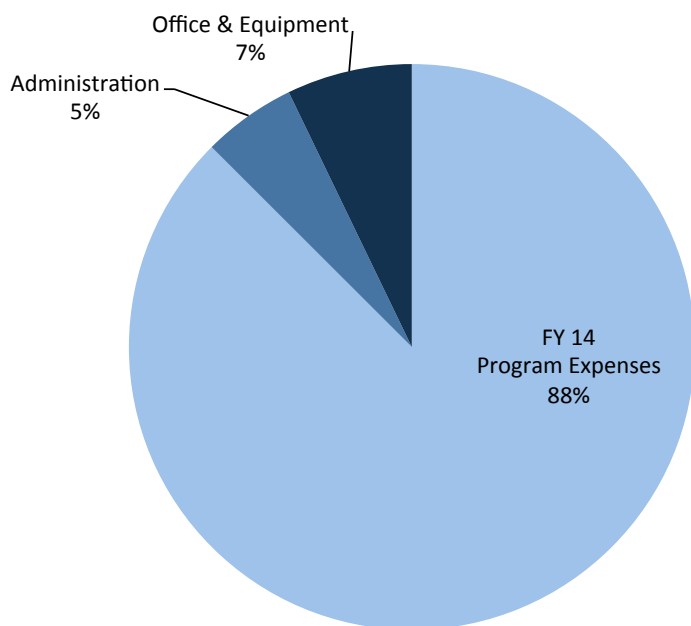
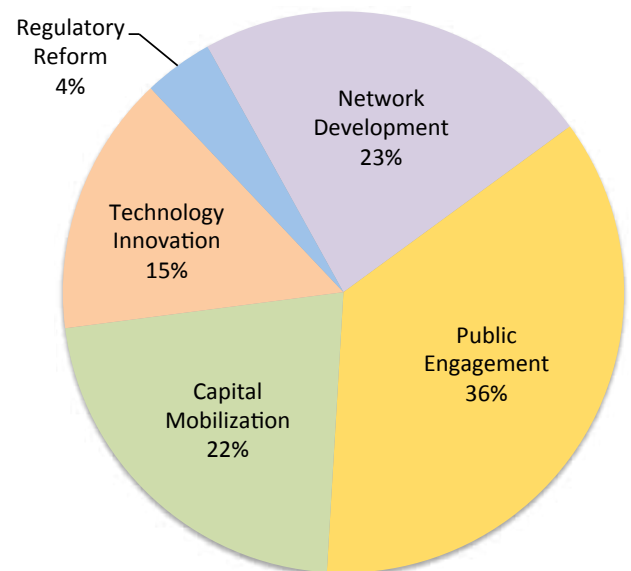


Chart 2: Program Expense Detail



Board of Directors



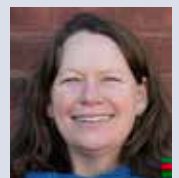
Leigh Seddon
EAN Board Chair
L.W. Seddon Consulting
President



Robert Barton
Catalyst Financial Group
Founder & CEO



Melody Burkins
Dartmouth College
Associate Director for
Programs and Research



Megan Camp
Shelburne Farms
Vice President and
Program Director

FY 2014 Budget: July 1, 2013 - June 30, 2014

REVENUES	Amount	% of Total
Maverick Lloyd Foundation	\$150,000	38%
Canaday Family Charitable Trust	\$100,000	26%
Green Mountain Coffee Roasters	\$66,666	17%
John Merck Fund	\$33,000	8%
Sustainable Futures Fund	\$20,000	5%
High Meadows Fund	\$20,000	5%
Interest	\$420	0.1%
TOTAL REVENUES	\$390,086	100%

We thank our funders for their generous support!

USE OF FUNDS	Amount	% of Total
Administration	\$18,368	5%
Office & Equipment	\$24,548	7%
Program Expenses	\$300,350	88%
Total Operating Expenses	\$343,266	100%
<i>FY 2015 Program Contracts</i>	<i>\$46,820</i>	
TOTAL EXPENSES & FUND ALLOCATIONS	\$390,086	



Erin Carroll
PowerAdvocate
Managing Director



Rebecca Ellis
Vermont Legislature
Vice Chair Natural Resources
and Energy Committee



Karen Glitman
Vermont Energy
Investment Corporation
Director of Transportation Efficiency



Ellen Kahler
Vermont Sustainable
Jobs Fund
Executive Director



Ron Shems



Sixty-five EAN members and invited guests participated in the 2-day Annual Meeting at Basin Harbor Club in Vergennes, Vermont.

Keynote Speaker: Reed Hundt

Reed Hundt is founder and CEO of the Coalition for Green Capital and author of numerous articles and books including his most recent, *Zero Hour: Time to Build the Clean Power Platform*. His experience as a member of the Obama Transition Team and chairman of the FCC ('93-'97) during the IT revolution affords him a unique perspective on how to approach transforming our energy system.

Hundt delivered an inspiring keynote that conveyed a sense of optimism in Vermont's ability to lead the way in transitioning to a clean energy economy. He stressed the need to focus on the "irresistible value proposition" associated with renewables and efficiency. Drawing inspiration from the rapid transformation of our knowledge platform via the internet, he focused on the opportunity to rebuild our energy platform through transformative finance tools and approaches.



Reed Hundt shared his experience as chairman of the FCC in the '90s to draw parallels between the IT revolution and current efforts to transform our energy system.

Anne & Arthur Berndt Leadership Award: Erin Carroll

EAN created the Anne & Arthur Berndt Leadership Award in 2013 to honor those who have demonstrated vision, leadership and commitment to creating a clean energy future for Vermont. It is awarded on an annual basis to an individual or organization that has shown bold leadership to advance broad, systemic change of Vermont's energy system towards one based on efficiency and renewable power.

The second annual Anne & Arthur Berndt Leadership Award was presented to Erin Carroll, in her capacity as Director of Consultative Services at VEIC. Erin serves on EAN's Board of Directors and chairs the Technology Innovation work group. Her passion, knowledge and leadership have been instrumental in advancing the Net Zero Montpelier project and developing the Community Energy Dashboard.



EAN's Board Chair, Leigh Seddon congratulates Erin Carroll after receiving the Anne & Arthur Berndt Leadership Award.

Plenary Presentations



Speakers for the Health In All Policies presentation, from left, included: Karen Glitman, Tracy Dolan, Chris Recchia, Chris Cochran and Sue Minter.



Speakers for the Social Justice presentation, from left, included: Scudder Parker, Nick Lange, Ludy Biddle, and Beth Sachs.

Health in All Policies

EAN members explored how clean energy intersects with health interests and how the two fields might collaborate to advance mutual goals. This initial conversation identified many points of interest, including how linking health and energy issues might engage more people and reach broader audiences in the public and private spheres.

Total Energy Study & 2015 CEP Revisions

The Public Service Department (PSD) provided an update on the State’s “Total Energy Study” (TES) and invited participants to provide input on two key questions:

- 1) How should Vermont incorporate biofuels in our energy mix?
- 2) What other policies are needed to enable that market-based policy to work well?

The PSD used EAN’s input to help shape the final version of the TES, released in December 2014.

Social Justice and Energy Policy

To achieve 90% by 2050, all Vermonters must have access to clean energy and efficiency. Key questions considered during this session included:

- 1) Why are social justice issues important to your organization?
- 2) What practical goals and objectives can be identified and acted on in the coming year for your organization and EAN as a network?

In the coming year, EAN will apply a social justice lens to each of our four leverage point work groups.

2050 Pathways to Clean Energy Update

EAN Board Chair, Leigh Seddon, reviewed our Pathways to Clean Energy report (see page 5) and described how this work has informed much of EAN’s work across all four leverage point work groups in 2014.

SAVE THE DATE

October 15 & 16

for EAN’s 2015 Annual Meeting at Basin Harbor Club





ENERGY ACTION NETWORK

17 State Street, Suite 205
Montpelier, VT 05602

- Addison County Regional Planning Commission • Associated Industries of Vermont • Baseline Solutions, LLC • BERC • Bennington County Regional Commission • Burlington Electric Department • Bourne's Energy
- Burlington Telecom • Capstone Community Action • Catalyst Financial Group • Chittenden County Regional Planning Commission • City of Montpelier
- Community-Resilience.org • Donella Meadows Institute • Encore Redevelopment • Energy Co-op of Vermont
- Energy Futures Group • Fresh Tracks Capital • Gardener's Supply • Green Lantern Capital • Green Mountain Power
- Hardwick Electric Department • High Meadows Fund • House Natural Resources Committee • IBM • L.W. Seddon, LLC
- Lake Champlain Regional Chamber of Commerce • LineSync Architecture • Lintilhac Foundation • Maverick Lloyd Foundation
- Montpelier Energy Advisory Committee • National Bank of Middlebury • National Life Group • New England Grassroots Environmental Fund

- NeighborWorks of Western Vermont • New England Clean Energy Council • Pace Law School Energy & Climate Center • Pomerleau Real Estate
- Regulatory Assistance Project • Renewable Energy Vermont • Sandia National Laboratory • SunCommon • Shelburne Farms
- SunEdison • Sustainable Energy Resource Group • Two Rivers-Ottawaquechee Regional Commission • UVM Gund Institute • VEDA
- Vermont Community Loan Fund • VEIC - Vermont Energy Investment Corporation • Veris Wealth Partners • VBSR - Vermont Businesses for Social Responsibility • Vermontivate • Vermont Council on Rural Development • Vermont Energy Education Program • Vermont Fuel Dealers Association • Vermont League of Cities and Towns • Vermont Natural Resources Council • Vital Communities
- VPIRG - VT Public Interest Research Group • VSECU • Vermont Sustainable Jobs Fund • Washington Electric Cooperative