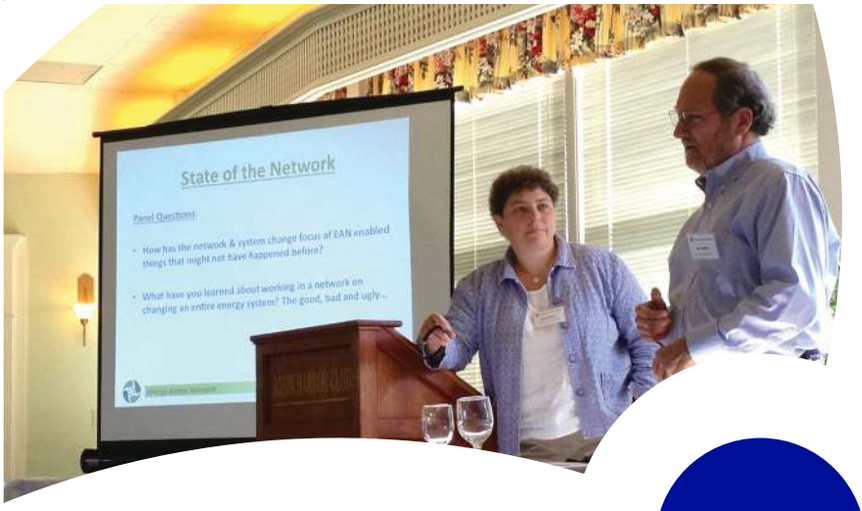

Annual Report 2013

ENERGY ACTION NETWORK

Energy Action Network Participants

all lists current as of 1/14

MEMBERS

Peter Adamczyk	Vermont Energy Investment Corporation
Charles Baker	Chittenden County Regional Planning Committee
Robert Barton	Catalyst Financial
Amanda Beraldi	Green Mountain Power
Arthur Berndt	Maverick Lloyd Foundation
Anne Berndt	Maverick Lloyd Foundation
Janet Besser	New England Clean Energy Council
Ludy Biddle	NeighborWorks of Western Vermont
Kathryn Blume	Vermontivate
Peter Bourne	Bourne's Energy
Lee Bouyea	Fresh Tracks Capital
Melody Burkins	University of Vermont
Laurie Burnham	Sandia National Laboratory
Paul Burns	Vermont Public Interest Research Group
Megan Camp	Shelburne Farms
Erin Carroll	Vermont Energy Investment Corporation
Joseph Cincotta	LineSync Architecture
Hal Cohen	Central Vermont Community Action Council
Andrea Cohen	Vermont Businesses for Social Responsibility
Paul Costello	Vermont Council on Rural Development
Steve Costello	Green Mountain Power
Matthew Cota	Vermont Fuel Dealers Association
Catherine Davis	Lake Champlain Regional Chamber of Commerce
Robert Dostis	Green Mountain Power
Janet Doyle	IBM
William Driscoll	Associated Industries of Vermont
Matthew Dunne	Google
Peg Elmer	Community-Resilience.org
Rebecca Ellis	Vermont House of Representatives
Jon Erickson	UVM, Rubenstein School
Richard Faesy	Energy Futures Group
Anders Ferguson	Veris Wealth Partners
Laurie Fielder	Vermont State Employees Credit Union
Sara Gilbert	NeighborWorks of Western Vermont
Karen Glitman	Vermont Energy Investment Corporation
Steve Greenfield	Vermont Economic Development Authority
Robert Griffin	Green Mountain Power
John Hollar	City of Montpelier
Karen Horn	Vermont League of Cities and Towns
Scott Johnstone	Vermont Energy Investment Corporation
Dan Jones	Montpelier Energy Advisory Committee
Ellen Kahler	Vermont Sustainable Jobs Fund
Emily Levin	Vermont Energy Investment Corporation
Julie Lineberger	LineSync Architecture
Paul Markowitz	Vermont Energy Investment Corporation
Linda McGinnis	Independent Policy Analyst/Economist
Carrie McLaughlin	
Ralph Meima	Brattleboro Energy Committee
Jim Merriam	Efficiency Vermont
Bill Miller	Green Lantern Capital
Johanna Miller	Vermont Natural Resources Council
James Moore	SunCommon
Brian Otley	Green Mountain Power
Timothy Palmer	VerMentor
Scudder Parker	Vermont Energy Investment Corporation
Kenneth Perine	National Bank of Middlebury
Ernie Pomerleau	Pomerleau Real Estate
Mary Powell	Green Mountain Power
William Raap	Gardener's Supply
Patty Richards	Washington Electric Cooperative
Greg Rieder	IBM
William Sayre	Associated Industries of Vermont
Elizabeth Schlegel	Institute for Sustainable Communities
Leigh Seddon	L.W. Seddon Consulting

STATE PARTNERS

Chuck Ross	Agency of Agriculture, Secretary
Alex DePillis	Agency of Agriculture
Lawrence Miller	Agency of Commerce & Community Development, Secretary
Ken Jones	Agency of Commerce & Community Development
Deb Markowitz	Agency of Natural Resources, Secretary
Elizabeth Pearce	State Treasurer
Chris Recchia	Public Service Department, Commissioner
Asa Hopkins	Public Service Department
Darren Springer	Public Service Department

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Timothy Shea	National Life Group
Ron Shems	
Amy Shollenberger	Action Circles
Luke Shullenberger	Green Lantern Capital
Sarah Simonds	Vital Communities
Mary Margaret Sloan	Vital Communities
Janice St. Onge	Vermont Sustainable Jobs Fund
Gabrielle Stebbins	Renewable Energy Vermont
Mary Sullivan	Burlington Electric Department
Sam Swanson	Pace Law School Energy & Climate Center
Gaye Symington	High Meadows Fund
Thomas Torti	Lake Champlain Regional Chamber of Commerce
George Twigg	Vermont Energy Investment Corporation
Marianne Tyrrell	Catalyst Financial
Bob Walker	Sustainable Energy Resource Group
Benjamin Walsh	Vermont Public Interest Research Group
Richard Weston	Regulatory Assistance Project
Bradway Widing	Hickock Boardman Insurance
Jeffery Wolfe	Jeff Wolfe Consulting
Karen Yacos	Green Mountain Coffee Roasters
Eric Zencey	UVM Gund Institute

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Program Director
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How does EAN benefit our members?

Wordle based on responses to the 2013 Network Mapping Survey.

ENERGY ACTION NETWORK

A Letter from EAN's Executive Director & Board Chair

Energy Action Network (EAN) has finished its first full year of on-the-ground implementation efforts which have included a broad range of activities to support our mission of creating clean, affordable, and secure energy systems in Vermont for the 21st century. Specifically, EAN has:

- Launched specific, tangible initiatives across our four leverage point areas;
- Established a central staff and core organizational capacity;
- Adopted a formal network structure and expanded its board of directors;
- Gained significant new membership and expanded participation;
- More than doubled our base of support from foundations.

EAN is up and running, making a difference to energy action in Vermont.

This annual report highlights our work over the past year including development of a long-term communications strategy to advance public support for clean energy; co-convening the Clean Energy Finance Summit with Governor Shumlin's administration and Senator Sanders' office to define and advance clean energy finance strategies; taking first steps towards helping the City of Montpelier become the nation's first Net Zero state capital; initiating Vermont's first "Community Energy Dashboard" to enable energy customers of all types to understand and change how they use energy; and supporting development of a robust "Total Energy Standard" by working with the State of Vermont and the University of Vermont to help assess Vermont's energy choices and options.

Underpinning all of this work, EAN has continued to research and analyze pathways to a clean energy economy. Our recently completed report, ***90% Renewable by 2050: Exploring Vermont's Efficiency and Renewable Energy Pathways***, defines technology and policy pathways that can help Vermont achieve the goals of the Comprehensive Energy Plan. This report includes a series of decade milestones for each energy use sector to illustrate where we might be in 2020, 2030, 2040, en route to 90% renewables in 2050.

We approach the year ahead with great hope and sincere appreciation for the work and support EAN has received from its members and funders.

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.

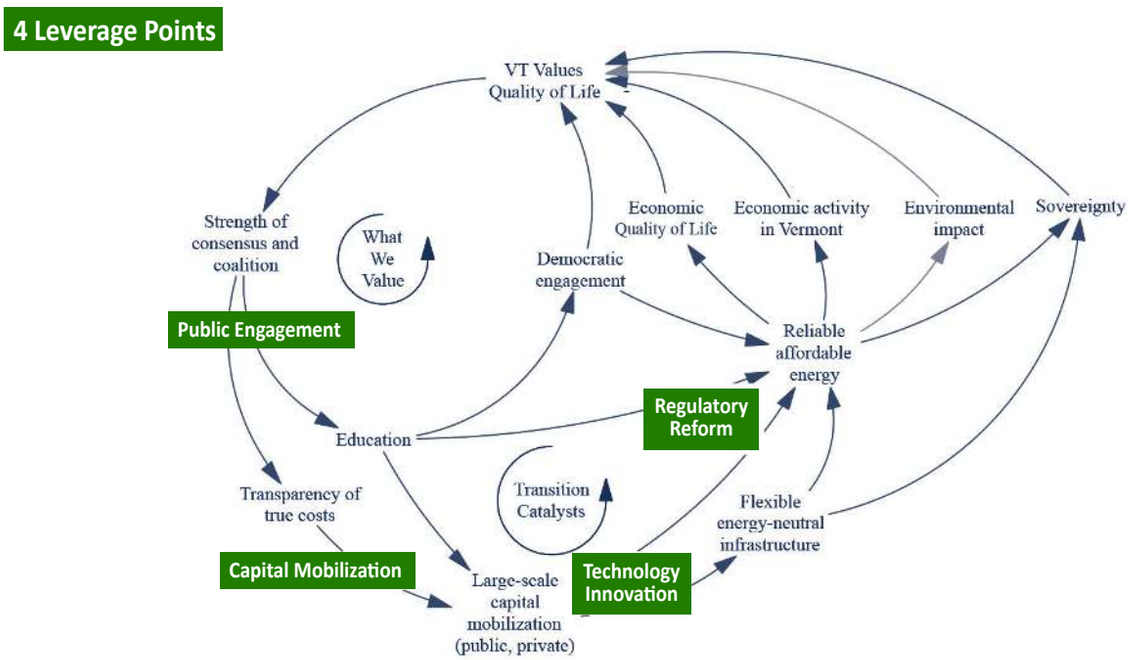
Mission

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

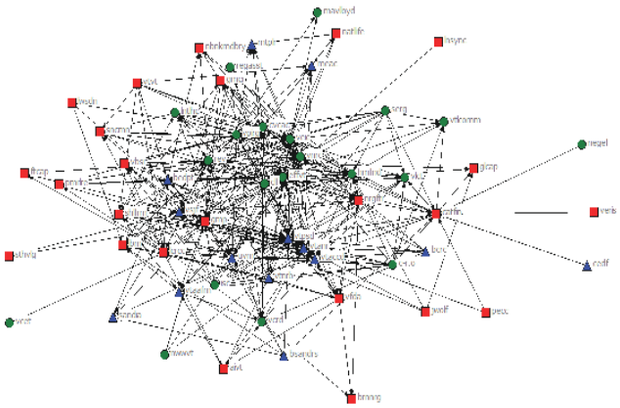
EAN's work is based on an in-depth systems analysis of Vermont's energy systems. Our members used their diverse perspectives and viewpoints to boil down this complex system into four core leverage points that could catalyze a shift to a system based on efficiency and renewables. While working to achieve 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



Network Mapping Project

To evaluate the effectiveness of our network and measure our growth and evolution as an organization, EAN embarked on a multi-year Network Mapping Project in 2013. Staff surveyed 81 EAN members following our Annual Meeting in October. The results, summarized below, show how respondents perceive the value of EAN. Information from the survey is being used to generate a series of network maps like the sample shown at right. EAN will assess its effectiveness by monitoring how these maps change over time.



Highlights from EAN's 2013 Network Mapping Survey

KEY: *= Strongly Agree* *= Agree* *= Neutral* *= Disagree* *= Strongly Disagree*
no respondents strongly disagreed

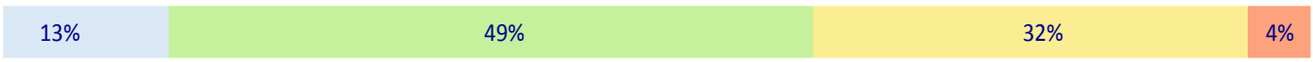
1. EAN's work adds value to our collective effort in VT to transition to a clean energy economy:

2. EAN's work adds value to my organization and/or field of work:

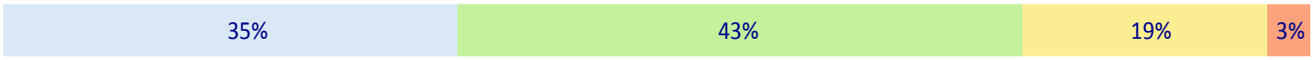
3. How does EAN add value to your organization?

Through the sharing of information (e.g. events, documents, news)	66%
By initiating/doing work that my organization is not in a position to do	52%
By collaborating on projects with other EAN members	44%
By gaining access to people, especially key stakeholders and decision makers	58%
By providing a diversity of perspectives on topics	60%
EAN does not add value to my work	7%

4. EAN helps my organization develop new ties with other organizations that share a common interest in clean energy:



5. EAN helps me develop new ties with other people who share a common interest in clean energy:



93% are actively engaged in EAN

defined as participating in at least one EAN all-network meeting and/or one of the four leverage point work groups

CM

Capital Mobilization Work Group

as of 1/14

Bob Barton, co-chair
Catalyst Financial Group
Marianne Tyrrell, co-chair
Catalyst Financial Group
Peter, Adamczyk
VEIC
Ludy Biddle
NeighborWorks of WVT
Lee Boyeau
Fresh Tracks Capital
Hal Cohen
CVCAC
Laurie Fielder
VSECU
Abby Friedman
VLCT
Steve Greenfield
VEDA
Robert Griffin
Green Mountain Power
Karen Horn
VLCT
Ralph Meima
Brattleboro Energy Cmte.
Bill Miller
Green Lantern Capital
Lawrence Miller
ACCD
James Moore
SunCommon
Elizabeth Pearce
State Treasurer
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 Department
Janice St. Onge
VSJF
Gaye Symington
High Meadows Fund
Mary Westervelt
Catalyst Financial

2013 Overview

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 partnership and innovative finance models that can create a stable long-term investment environment, competitive returns, and minimize risk and uncertainty for investors. Over the coming year, project and implementation priorities will build on the June 17, 2013 Clean Energy Finance Summit which brought together more than 140 leaders from business, government, and communities to advance on-the-ground clean energy finance tools.

Highlight: Clean Energy Finance Summit II: June 17, 2013

EAN's CM work group was instrumental in convening the second Clean Energy Finance Summit. The full-day working session summit included a morning plenary with energy updates from Senator Bernie Sanders, Congressman Peter Welch, and Governor Peter Shumlin -- who signed three energy-related bills into law at the event. The keynote speaker was David Danielson from the US Department of Energy. The afternoon was devoted to four working-session tracks focused on key clean energy finance issues in Vermont.

Action Priorities Identified at EAN's 2013 Annual Meeting

- **Seek regulatory assurances that support Vermont's transition to a clean energy economy** such as lifting the 4% net metering cap; developing a more effective rate structure; and, at the federal level, focusing on consistent tax policy – before Investment Tax Credits expire in 2016.
- **Apply and utilize VEDA funds** to build case studies that establish a track record for financing clean energy projects.
- **Provide bank, investor and lender education** to address risk perception & enhance credit for clean energy projects.
- **Define near-term capital requirements** to reach the first 2020 milestone along our path to 90% by 2050.
- **Advocate raising public funds** for energy efficiency and renewable projects.
- **Apply crowd funding** as a complimentary strategy to build a direct connection between Vermonters and clean energy projects.
- **Develop project aggregation strategies and bring Energy Savings Performance Contracts** to Vermont by using the successful models offered by the DOE and the State of Massachusetts.
- **Amend Qualified Energy Conservation Bond (QECB) guidelines** to support investing in renewables and energy efficiency improvements for affordable housing and state buildings.

ENERGY ACTION NETWORK

Capital Mobilization

Federal wind tax credits helped Green Mountain Power invest in building a 63 MW wind farm in Lowell, Vermont.

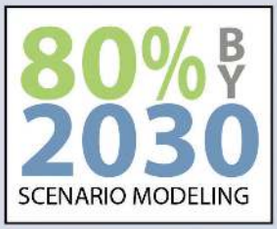
Suncommon's leasing program helps make solar more affordable for more Vermont homeowners.

VSJF grants have jumpstarted Vermont's biofuels industry.

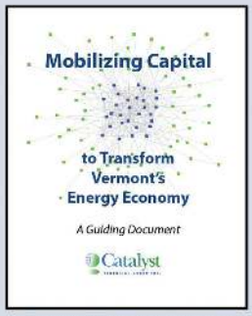
GOAL

To mobilize capital on a large scale to fund transformative investments in energy efficiency and renewables across all enegy sectors in Vermont, including public-private partnerships and innovative finance models.

WORK



In 2012 EAN developed an energy scenario illustrating how to meet 80% of Vermont's 2030 energy needs through efficiency and renewables.



This Guiding Document outlines broad costs and funding and financing options to achieve our goal of 80% by 2030.

More than 130 key energy stakeholders attended the CEFS, a working session summit to identify actionable priorities to finance Vermont's transition to a clean energy economy.

NEXT STEPS

Some of the actionable priorities that are emerging from the Capital Mobilization work group include:

- On-bill energy efficiency and renewables financing
- Strengthening residential performance guarantee programs for efficiency investments
- Education for lenders on non-recourse, project-finance lending
- Community energy guides and toolkits
- Applying Qualified Energy Conservation Bonds to Vermont projects
- Public Sector building efficiency and state-lead-by-example projects

One of four working sessions during the 2013 Clean Energy Finance Summit

ENERGY ACTION NETWORK

Public Engagement

MADD
Activism | Victim Services | Education

GOAL

To provide clear, concise information
and compelling messages as tools
to help our members "move the middle"
and transform Vermont's energy-use culture.

WORK

MASTER FRAME

Collective Effort

Economic Opportunity

Vermont Values

• small business • planning officials •
• foresters • large businesses •

• farmers • selectboard members •
• community leaders • voters •

ID KEY AUDIENCES

NEXT STEPS

Network launches clean energy campaign!

PE

Public Engagement Work Group

as of 1/14

Megan Camp, chair
Shelburne Farms

Kathryn Blume
Vermontivate

Aaron Brown
Vital Communities

Alex DePillis
Agency of Agriculture

Robert Dostis
Green Mountain Power

Karen Horn
VLCT

Johanna Miller
VNRC

James Moore
SunCommon

Amy Shollenberger
Action Circles

Darren Springer
Public Service Department

Gabrielle Stebbins
REV

Mary Sullivan
Burlington Electric Department

Gaye Symington
High Meadows Fund

George Twigg
VEIC

Bob Walker
SERG

Benjamin Walsh
VPIRG

Eric Zencey
UVM Gund Institute

2013 Overview

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. Over the coming year EAN will begin to implement a five-year strategic plan to gain broad public support for clean energy. This ambitious work will chart new ground and serve as a model for other states in the region and elsewhere across the US.

Highlight: Developing a Master Frame

A master frame is "the core story." It is a coherent, big picture narrative that explains why an issue matters, what the challenge is, how to solve it, and who can play a role in solving it. EAN contracted with Davey Associates to help the Public Engagement work group develop a Master Frame for clean energy. The main elements of the frame involve telling a "causal story" starting with Vermont values, stressing the need for collective action, and highlighting the economic benefits of transitioning to a clean energy economy.

This work provides valuable guidance to help EAN members develop compelling messages related to renewables, efficiency and the need to transition to a clean energy economy. It also lays the groundwork for developing a long-term communications strategy to "move the middle" and unite Vermonters in prioritizing our transition to renewables and efficiency in Vermont.

Action Priorities Identified at EAN's 2013 Annual Meeting

- **Branding:** Develop a brand to characterize EAN's joint communications effort.
- **Message Development:** Using EAN's "Master Frame," define specific, sequential messages to move the middle towards broad support of a clean energy economy in Vermont.
- **Message Delivery:** Promote stories of Vermont clean energy champions and a consistent flow of stories about clean energy action, success and challenges to show what is possible and what is needed to meet Vermont's goals. Create a central website to serve as an information hub for this campaign.
- **Metrics:** Conduct public opinion research as a basis for message development, to monitor progress and inform our overall clean energy campaign strategy.

5-Year Clean Energy Communications Strategy

Building on our Master Frame, EAN's Public Engagement work group has developed a long-term communications strategy to support Vermont's transition to a clean energy economy. Through this effort we will work with EAN members and other partners to align our voices and communicate more clearly and consistently about:

- What a clean energy economy looks like in Vermont;
- Why it is essential for individuals, businesses, communities and environment; and
- What issues must be addressed if we are to realize a resilient and robust energy future.

EAN's communications strategy seeks to change "social norms" about how we understand energy and to open pathways for bold action and transformation at scale across all energy sectors. The infographic on the facing page summarizes EAN's approach, which is based on communicating the experiences of Vermont residents and businesses in increasing energy efficiency and shifting to renewable energy sources. We will develop messages to inspire Vermonters to make the transition to clean energy through:

1. Creating an Umbrella Brand to help align our message and voices;
2. Crafting messages that tie national clean energy news to opportunities in Vermont; and
3. Telling Clean Energy Champion stories about how investing in renewables and efficiency is benefiting Vermonters, businesses, or communities.

The stories, messages and energy facts associated with the clean energy campaign will be archived on a new website as a resource for information about clean energy and the economic opportunity it holds for Vermont.

Message Development

EAN recently completed an analysis identifying a series of decade milestones en route to our goal of 90% renewables by 2050 (see page 16). This work will inform our message development and help to communicate our overarching theme: *transitioning to a clean energy economy is not just a challenge, it's an economic and social opportunity for Vermont.*

ENERGY ACTION NETWORK

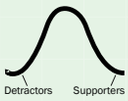
Vermont Clean Energy Communications Campaign

Vermont and Vermonters need to take bold, transformative action to shift off of fossil fuels and create a clean energy economy powered by efficiency and renewables.

The solution:

Align our voices. Speak to the middle. EAN will implement a unified communications campaign to move mainstream Vermonters to realize that clean energy is critical to Vermont's economy, its environment and its values. By combining EAN central coordination with member action, we can bring residents, businesses and leaders to action to achieve Vermont's goal of providing 90% of our energy needs form renewable resources by 2050.

Overarching Strategies



Move the Middle

Own the Message so it Can't Be Bought

Build on Common Ground

Align, Amplify & Audience

EAN-central coordinates and packages. EAN members push out the message to media, members and others in their networks.

#1 Develop the Brand

Create a clear and iconic umbrella brand and message to anchor our communications campaign.

- Survey Vermonters at baseline and intervals
- Periodic assessment of beliefs, values and understanding of clean energy in Vermont
- Re-align messages to speak to where Vermonters are now

#2 Broadcast Message of the Week

Create a constant drumbeat of what is possible, what is needed and what is happening pushed out through EAN networks.

Share national stories with a Vermont perspective to both applaud and challenge us.

#3 Promote Stories of Vermont Clean Economy Champions

Encourage action and connect to values through real people and believable local stories.

- Create bi-weekly stories of diverse Champions to raise public awareness of and support for clean energy in Vermont
- Leverage EAN networks to push out these stories
- Create Recognition Opportunites – Awards, Events, Speaking Opportunities
- Leverage Champions' networks to expand visibility – Newsletters, Awards

#4 Build a Centralized Campaign Website to Serve as Media Hub

Go-to place for media where links to clean energy facts and champion stories reside.

Moving Social Norms

TI

Technology Innovation Work Group

as of 1/14

Erin Carroll, chair
VEIC

Laurie Burnham
Sandia National Laboratory

Karen Glitman
VEIC

John Hollar
City of Montpelier

Alison Hollingsworth
VEIC

Dan Jones
MEAC

Emily Levin
VEIC

Carrie McLaughlin

Jim Merriam
VEIC

Brian Otley
Green Mountain Power

Greg Rieder
IBM

Tim Shea
National Life

Anne Watson
Montpelier City Council

2013 Overview

To spearhead Vermont's goal of getting 90% of our energy from efficiency and clean, renewable sources by 2050, EAN is working with stakeholders to transform Montpelier into the nation's first "net zero" state capital, where all energy used for electricity, transportation and thermal is produced or offset by renewable sources. This transformation will grow our local economy, reduce waste, minimize pollution and increase energy security. The project is important as an immediate, practical opportunity to harness all four leverage points identified by EAN – capital mobilization, public engagement, regulatory reform, and technology innovation.

Highlight: Community Energy Dashboard

EAN's first step in this ambitious project is to develop a "community energy dashboard" which will enable energy consumers to understand their energy use and make clean energy choices and investments across all energy sectors. The dashboard will define current energy use for the community as a whole and provide metrics for individuals to track energy use and the impact of new investments. This energy "dashboard" will make energy use and choices visible and accessible across the community. The community energy dashboard will have broad application for communities throughout the state.

Action Priorities Identified at EAN's 2013 Annual Meeting

- **Community Energy Dashboard:** Create a Community Energy Dashboard for use in communities throughout Vermont and in the Net Zero Montpelier project.
- **Outreach & Engagement:** Craft a comprehensive outreach strategy across all interests and members of the community to engage Montpelier and surrounding towns in achieving the Net Zero goal.
- **Community Ownership Models:** Encourage community and local ownership of renewable and efficiency investments through development of tools, capacity and local ownership models.

ENERGY ACTION NETWORK

Technology Innovation

The Vermont Home Energy Challenge provides incentives for homeowners to make efficiency improvements.

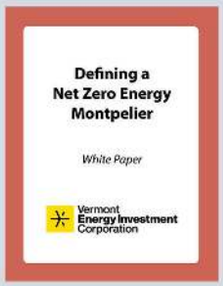
The District Heat Project will provide Montpelier's downtown corridor with access to renewable wood heat.

There are three electric vehicle parking spaces with access to free charging stations located in Montpelier.

GOAL

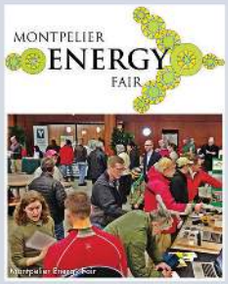
To apply new technologies in Vermont to develop a reliable and diversified energy infrastructure that maximizes efficiency and local, renewable sources.

WORK



EAN commissioned this paper to clarify the goals, define boundaries, and characterize the current energy use in Montpelier.

EAN is building the partnerships needed to support this project by working with the Montpelier Energy Advisory Committee (MEAC), Montpelier Planning and Community Development Office, key business leaders and others.



EAN and MEAC introduced the concept of the Montpelier Energy Challenge at the Montpelier Energy Fair in December 2012.

Montpelier Energy Challenge!

This ambitious project challenges Montpelier to become the nation's first state capital where the energy used in all three sectors - transportation, electric and thermal - is produced or offset by renewables.

NEXT STEPS

CALCULATE → COMPARE → → CONNECT → PARTICIPATE

This online Dashboard will engage Montpelier community members in learning about, supporting and taking action to help achieve a "Net Zero Montpelier."

ENERGY ACTION NETWORK

Regulatory Reform

Governor Shumlin signed the Vermont Energy Act of 2011 which expanded and improved the net metering program in Vermont.

Governor Shumlin signed into law three new clean energy bills at the Clean Energy Finance Summit on June 17, 2013.

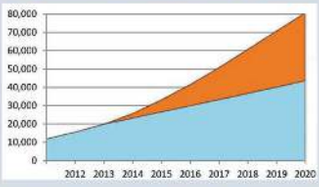
GOAL

To develop simpler, consistent regulatory policies and faster, more effective permitting procedures to support Vermont's investment in renewables and efficiency and streamline our transition to a clean energy economy.

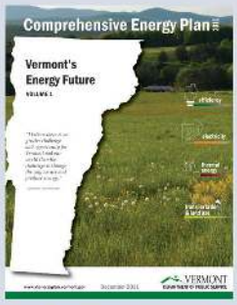
WORK

The Regulatory Reform work group supports the priorities of the other leverage point work groups by providing information and robust conversations.

THERMAL EFFICIENCY TASK FORCE

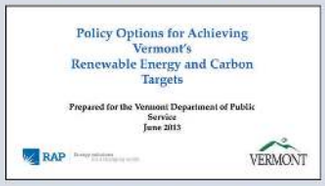


EAN's Capital Mobilization Guiding Document was used as a primary input to the "Thermal Efficiency Task Force" convened by the Public Service Department.



EAN's early work helped to inform the structure of Vermont's 2011 Comprehensive Energy Plan.

TOTAL ENERGY STUDY

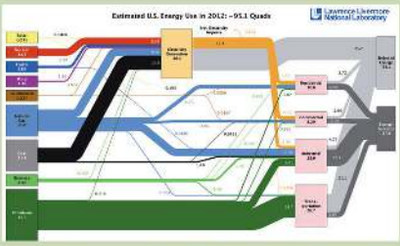


EAN is supporting efforts to develop a Total Energy Standard through providing information and robust policy conversations.

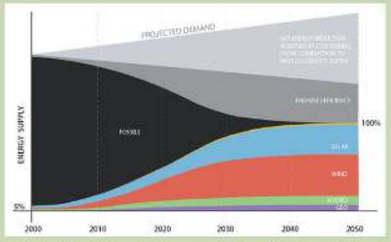
NEXT STEPS

Energy Scenario Modeling

EAN is working with the Public Service Department and the University of Vermont to develop a dynamic Energy Scenario Modeling tool that can be used to test the impacts of different energy scenarios that could help Vermont meet its goal of 90% renewables by 2050.



Knowing how our energy is used - and wasted - is needed to inform the strategies and policies that will expedite our transition to a clean energy economy.



New policies and regulatory approaches will be needed to achieve Vermont's goal of a renewable energy economy.

RR

Regulatory Reform Work Group

as of 1/14

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.
Janet Doyle
IBM

Rebecca Ellis
House of Representatives
Asa Hopkins
Public Service Dept.
Karen Horn
VLCT
Julie Lineberger
LineSync Architecture
Linda McGinnis
Independent Policy Analyst
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
Benjamin Walsh
VPIRG
Richard Weston
Regulatory Asst. Project

2013 Overview

The goal of EAN's Regulatory Reform work group is to develop simpler, consistent, regulatory policies that support development of renewable energy sources (including efficiency) and faster, more effective permitting for new energy projects as an essential underpinning of transforming our energy system. EAN seeks to support the policy and regulatory work of its members by providing compelling information and supporting robust, constructive dialogue on key issues.

Highlight: Energy Scenario Modeling

To support implementation of the goal of 90% renewable by 2050, EAN is working in partnership with the state and the University of Vermont to provide a tool for assessing energy choices, options and costs. This effort will include a dynamic energy scenario modeling tool and a stakeholder engagement process to create a robust and broadly accepted model. This initiative is also consistent with a lead recommendation of the Vermont Energy Generation Siting Policy Commission to develop a "roadmap" for how Vermont can meet its goals under the Comprehensive Energy Plan and define specific energy scenarios toward a renewable energy future.

Action Priorities Identified at EAN's 2013 Annual Meeting

- **Act 250 Land Use:** Add locational and other energy efficiency considerations to Act 250 requirements, along with regional plans, local plans and zoning requirements.
- **Reform Criterion 9(F):** Include renewable energy and combined heat and power as a part of Act 250 review. Define the standards for each based on greenhouse gas emissions.
- **Current Use and Renewable Energy:** Determine whether lands in current use can be used for biomass production and for solar energy production.
- **Energy Code Violations:** Fund split incentive to prompt landlords to bring rental properties into compliance with thermal and other efficiency standards.
- **Variable Peak Pricing:** Develop a dynamic statewide pricing model to support energy efficiency and renewables.
- **REC Retirement:** Support resolution of issues around accurate accounting for Vermont's renewable energy attributes.
- **Total Energy Standard:** Support effective development of a Total Energy Standard through developing a shared understanding within EAN of key metrics, milestones, mechanisms and costs to realize the state's goal of 90% by 2050.

Pathways to Clean Energy

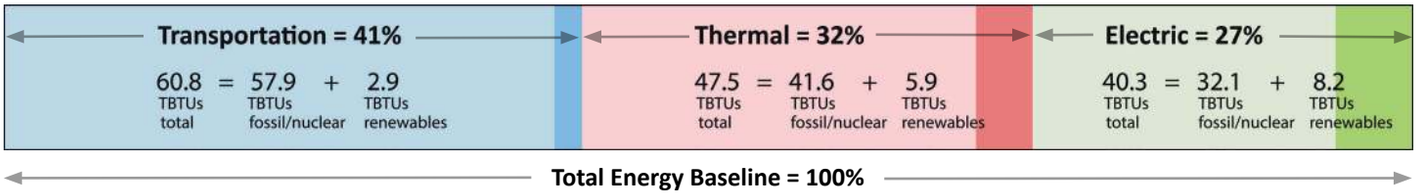
In 2011 the State of Vermont revised its Comprehensive Energy Plan (CEP) and established a bold goal: to meet 90% of Vermont's 2050 energy needs from renewable sources and increased efficiency. This goal includes energy used in all three sectors – *transportation, thermal and electric* – by residential, commercial and industrial users. 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% BY 2050

With support from the High Meadows Fund, EAN developed a series of decade milestones that illustrate a snapshot of where we might be in 2020, 2030, 2040, en route to 90% renewables in 2050. This analysis is not meant to be a "roadmap," but rather to identify the known technology pathways, key policy drivers and most important questions for policy makers to consider. Following are some brief highlights from the report, ***90% Renewable by 2050: Exploring Vermont's Efficiency and Renewable Energy Pathways***. To access the complete report please contact EAN.

Vermont's 2010 Total Energy Baseline

In 2010, Vermont used more than 148 trillion British Thermal Units (TBTUs) of energy across all sectors. The bar graph below shows the breakdown by sector and the relative amounts provided by renewables (bolder colors) vs fossil fuels and nuclear power (lighter colors).



SOURCE ENERGY: *EAN's analysis measures source energy which includes all the energy inputs required to deliver the energy we consume in all three sectors. This includes the energy associated with extracting, processing and delivering the primary fuels. For electricity, source energy also includes the conversion inefficiencies at the power plant and the transmission and distribution losses.*

Key Pathways to Reach 90% by 2050

While efficiency is our most cost-effective pathway, to achieve the goals of the CEP we will need to invest in efficiency and new renewable energy resources simultaneously. The technology pathways identified at right have the greatest capacity to transform Vermont's energy economy.

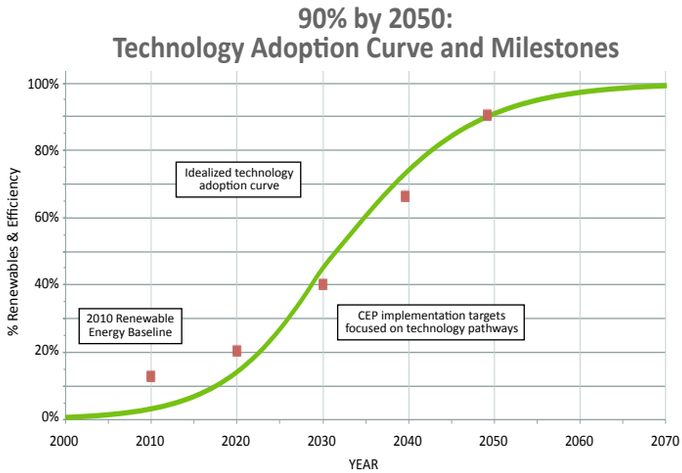
TRANSPORTATION
Electric Vehicles
CAFE Standards
Biofuels

THERMAL
Building Efficiency
Heat Pump
Biomass and Biofuels

ELECTRICITY
Solar Power
Wind Power
Hydro Quebec

Adoption Curve & Milestones

To further define what the adoption curve for 90% by 2050 might look like, EAN developed a series of decade milestones to provide a snapshot of where we might be in 2020, 2030, and 2040 (see graph on opposite page). As with many transitions, the adoption curve for renewables and efficiency will not likely be linear. The graph at right shows how the decade milestones approximate a sigmoid-curve, which is more typical of transitions of this nature.



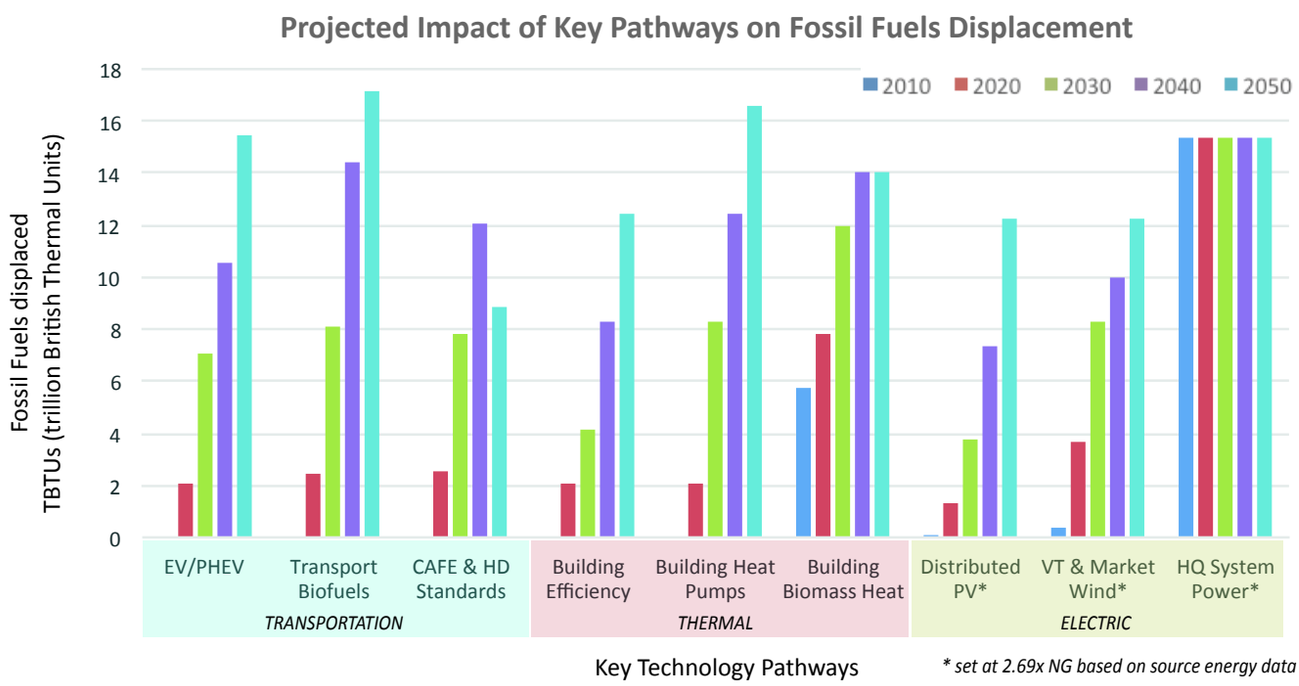
Our First Milestone: 20% by 2020

For the 2020 milestone, EAN set a target goal of 20% renewable across all sectors. To illustrate the actions that might allow Vermont to reach this goal, EAN has compiled a list of specific targets for each of the key technology pathways.

TRANSPORTATION	Target:	Requires:
Electric Vehicles	Increase to 5% of light duty vehicle fleet	Add 28,000 EVs and PHEVs
Biofuels	Increase by an additional 5% of liquid fuels for light duty vehicle fleet	An additional 15 M gallons biofuels annually
Efficiency	Increase light duty vehicle fleet efficiency rating by 5%	Support of Corporate Average Fuel Efficiency (CAFE) standards & Heavy Duty Truck Fuel Efficiency standards by encouraging new efficient vehicle purchases

THERMAL	Target:	Requires:
Efficiency	Reduce building heat loses by 5%	Retrofit 50,000 buildings with 30% average energy savings
Biomass	Increase by an additional 7% building sector heat load	Install 20,000 new pellet stoves or boilers
Solar	Provide 2% building heat & hot water through solar thermal systems	Install 3,000 residential-scale (10 m2) solar hot water systems
Biomass Combined Heat & Power (CHP)	Provide 50 MW thermal and 10 MW electric generation	Build 60 MW of highest efficiency CHP plants

ELECTRIC	Target:	Requires:
Hydro Electric	Build or refurbish 5 MW small-scale hydro capacity	Support Agency of Natural Resources streamline the permitting process
Solar Energy	Build 100 MW new photovoltaic capacity (50 “Solar Farms”)	Set enhanced goals for the Standard Offer Program
Wind Power	Build 30 MW new in-state and 50 MW regional wind capacity	Reform siting guidelines and permitting process



** set at 2.69x NG based on source energy data*

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 2013. Overall, 81% 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 2013 Operating Budget

Chart 1: Total Expenses & Fund Balances

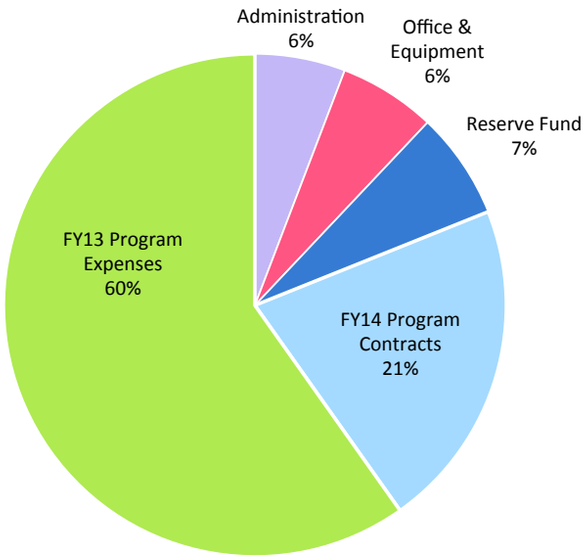
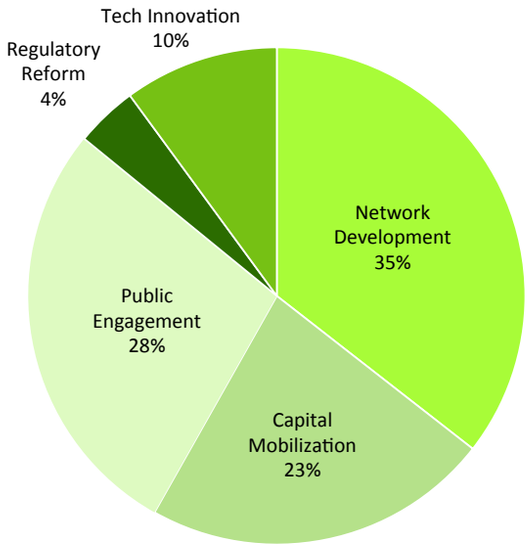


Chart 2: Program Expense Detail



Board of Directors

Robert Barton
Catalyst Financial Group
Founder & CEO

Melody Burkins
University of Vermont
Senior Director for Research and Strategic Initiatives

Megan Camp
Shelburne Farms
Vice President and Program Director

Erin Carrol
Vermont Energy Investment Corporation
Director of Consultative Services

Janet Doyle
IBM, *Senior Energy and Environmental Engineer & Gov't Affairs Program Manager*

FY 2013 Budget: July 1, 2012 - June 30, 2013

REVENUES	Amount	% of Total
Maverick Lloyd Foundation	$150,000	36%
Green Mountain Coffee Roasters	$100,000	24%
Canaday Family Charitable Trust	$100,000	24%
John Merck Fund	$50,000	12%
Sustainable Futures Fund	$12,500	3%
High Meadows Fund	$5,000	1%
TOTAL REVENUES	**$417,500**	**100%**

We thank our funders for their generous support!

USE OF FUNDS	Amount	% of Total
Program Expenses	$249,678	60%
FY 14 Program Contracts	$88,799	21%
Reserve Fund	$28,735	7%
Administration	$24,282	6%
Office & Equipment	$26,005	6%
TOTAL EXPENSES & FUND ALLOCATIONS	**$417,500**	**100%**

Karen Glitman
Vermont Energy Investment Corporation
Director of Transportation Efficiency

Ellen Kahler
Vermont Sustainable Jobs Fund
Executive Director

Tim Palmer
VerMentor
Principal
(Term ended December 2013)

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

Ron Shems

Annual Meeting Highlights

October 1 - 2, 2013

More than 70 EAN members and invited guests attended EAN's 2013 Annual Meeting at Basin Harbor Club in Vergennes, Vermont to share connections, develop strategies and chart EAN's direction for the year ahead.

Soren Hermansen received the 2009 Gothenburg Award -- considered the Nobel Prize for the environment -- for his work to help Samso transition to renewable energy.

Keynote Speaker: Soren Hermansen

EAN invited Soren Hermansen to be the keynote speaker for our 2013 Annual Meeting for a host of reasons: he is a master of community organizing, a resourceful problem-solver, and a passionate advocate for renewable energy. Hermansen shared the story of mobilizing 4,000+ residents of Samso, Denmark to transform their island home into the world's largest climate-neutral society. Through Hermansen's tireless efforts to engage his community and develop creative financing strategies for energy projects, Samso now generates 110% of the electricity its residents consume from clean, renewable sources.

Hermansen's work in rural, agricultural Denmark holds many lessons for Vermont and demonstrates that it is possible to create a society that is self-sufficient and based entirely on renewable energy sources. To learn more about Soren Hermansen and his work on Samso, visit http://energiakademiet.dk

1st Annual Anne & Arthur Berndt Leadership Award: Jennifer Berman

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

The criteria for this award include the following:

- Extraordinary vision
- Bold, courageous leadership
- Support for change at a transformative, system-wide level
- Deep investment in relationships and network capacity for change
- Commitment to working across diverse perspectives towards a higher goal
- Time, commitment, and passion for the cause

The first annual Anne & Arthur Berndt Leadership Award was presented to Jennifer Berman, who played a key role in founding EAN while serving as Executive Director of the Maverick Lloyd Foundation. Jennifer's vision, passion and outstanding work continue to influence and shape everything EAN does.

Anne and Arthur Berndt present Jennifer Berman (center) with the 2013 Anne & Arthur Berndt Leadership Award.

Plenary Presentations

5-Year Clean Energy Communications Plan

The Annual Meeting provided an opportunity for EAN's Public Engagement work group to present its 5-year Clean Energy Communications Plan to our full membership. PE Chair Megan Camp described the collaborative process; consultants from SmartPower reviewed details of the plan. The plan is outlined in detail on pages 10-11.

Strategic Priorities

EAN's Board Chair, Leigh Seddon, identified specific "decade milestones" that can help Vermont reach its Comprehensive Energy Plan goal of meeting 90% of our 2050 energy needs from renewables and efficiency. A detailed description of this work can be found on pages 16-17.

Input to the Total Energy Study

The Vermont Public Service Department utilized EAN's Annual Meeting as an opportunity for our diverse membership to provide input for the Total Energy Study. Energy stakeholders were asked to prioritize policies and technology pathways to reduce greenhouse gas emissions in Vermont.

Input to Vermont's Economic Development Strategy

The State of Vermont's Agency of Commerce and Community Development invited EAN members to identify and prioritize economic development strategies for advancing the State's goal of transitioning to a clean energy system based on renewables and efficiency.

SAVE THE DATE

October 6 & 7

for EAN's 2014 Annual Meeting at Basin Harbor Club

Please check our website for more information and updates: **www.eanvt.org**

• Action Circles • Associated Industries of Vermont • Bourne's Energy • Brattleboro Energy Committee • Burlington Electric Department • nity Action Council • Chittenden County Regional Planning Commission • City of Vermont • Energy Futures Group • Fresh Tracks Capital • Gardener's Supply • • Google • Green Lantern Capital • Green Mountain Coffee Roasters • Green Mountain Power • High Meadows Fund • Hickock Boardman Insurance • IBM • Institute for Sustainable Communities • Jeff Wolfe Consulting • L.W. Seddon Consulting • Lake Champlain Regional Chamber of Commerce • LineSync Architecture • Maverick Lloyd Foundation • Montpelier Energy Advisory Committee • National Bank of Middlebury • National Life Group • NeighborWorks of Western Vermont • New England Clean Energy Council • Pace Law School Energy and Climate Center • Pomerleau Real Estate • Regulatory Assistance Project • Renewable Energy Vermont • Sandia National Laboratory • • Shelburne Farms • SunCommon • Sustainable Energy Resource Group • UVM Gund Institute • VEDA • Vermont Energy Investment Corporation • Veris Wealth Partners • Vermont Businesses for Social Responsibility • Vermont Council on Rural Development • Vermont Fuel Dealers Association • Vermont League of Cities and Towns • Vermont Natural Resources Council • Vermontivate • Vital Communities •

ENERGY ACTION NETWORK

Non-profit, business, and government leaders working together to transform Vermont's energy economy.

www.eanvt.org

• VPIRG • VSECU • Vermont Sustainable Jobs Fund • Action Circles • Associated Industries of Vermont • Bourne's Energy • • Brattleboro Energy Committee • Burlington Electric Department • Catalyst Financial Group • Central Vermont Community Action Council • Chittenden County Regional Planning Commission • City of Montpelier • Community-Resilience.org • Efficiency Vermont • Energy Futures Group • Fresh Tracks Capital • Gardener's Supply • Google • Green Lantern Capital • Green Mountain Coffee Roasters • Green Mountain Power • High Meadows Fund • Hickock Boardman Insurance • IBM • Institute for Sustainable Communities • Jeff Wolfe Consulting • • L.W. Seddon Consulting • Lake Champlain Regional Chamber of Commerce • LineSync Architecture • Maverick Lloyd Foundation • • Montpelier Energy Advisory Committee • National Bank of Middlebury • National Life Group • NeighborWorks of Western Vermont • New England Clean Energy Council • Pace Law School Energy and Climate Center • Pomerleau Real Estate • Regulatory Assistance Project • • Renewable Energy Vermont • Sandia National Laboratory • Shelburne Farms • SunCommon • Sustainable Energy Resource Group •