

EBC New Hampshire Webinar

Shaping a Clean Energy Future and Advancing Climate Sustainability in NH



Environmental Business Council of New England

Energy Environment Economy

Welcome

Robert Varney

Chair, EBC New Hampshire Chapter

President, Normandeau Associates, Inc.



Environmental Business Council of New England
Energy Environment Economy

Introduction

Catherine Finneran

Program Chair & Moderator

Vice President, Sustainability and Environmental Affairs

Eversource Energy



Environmental Business Council of New England
Energy Environment Economy

Keynote Presentation



Mark Zankel

State Director

The Nature Conservancy



Putting New Hampshire on the Path to Sustainability and Climate Resilience



What's on tap?



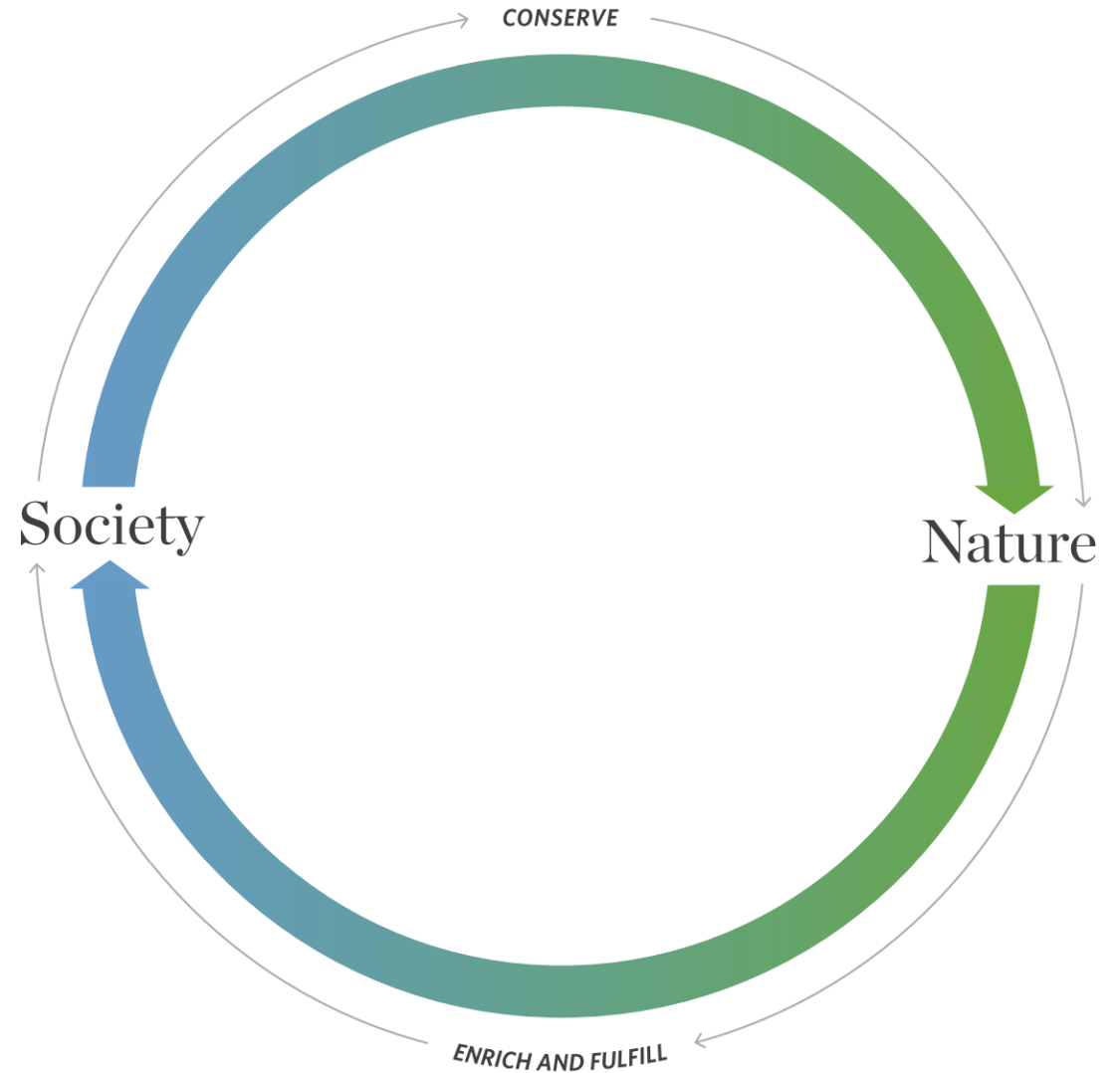
About TNC

How climate became our top
priority

Getting on the path to
sustainability and resilience

Our **mission** is to protect the lands and waters on which all life depends.

Our **vision** is a world where the **diversity of life thrives**, and people act to conserve **nature** for its own sake and its ability to fulfill our needs and enrich our lives.



How did tackling climate change come to be our top priority?

... and why did it take so long?



Tackling the
Climate
Challenge

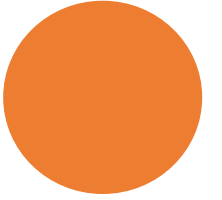
Make big changes to support a **low carbon future**

Help nature adapt to climate change by conserving resilient and connected landscapes

Help human communities adapt to climate change using nature-based solutions

Support a low carbon future

- ✓ Advance a clean energy future through renewables, electrification, & energy efficiency
- ✓ Sequester carbon using natural climate solutions



Establish a
State goal
for
emissions
reduction

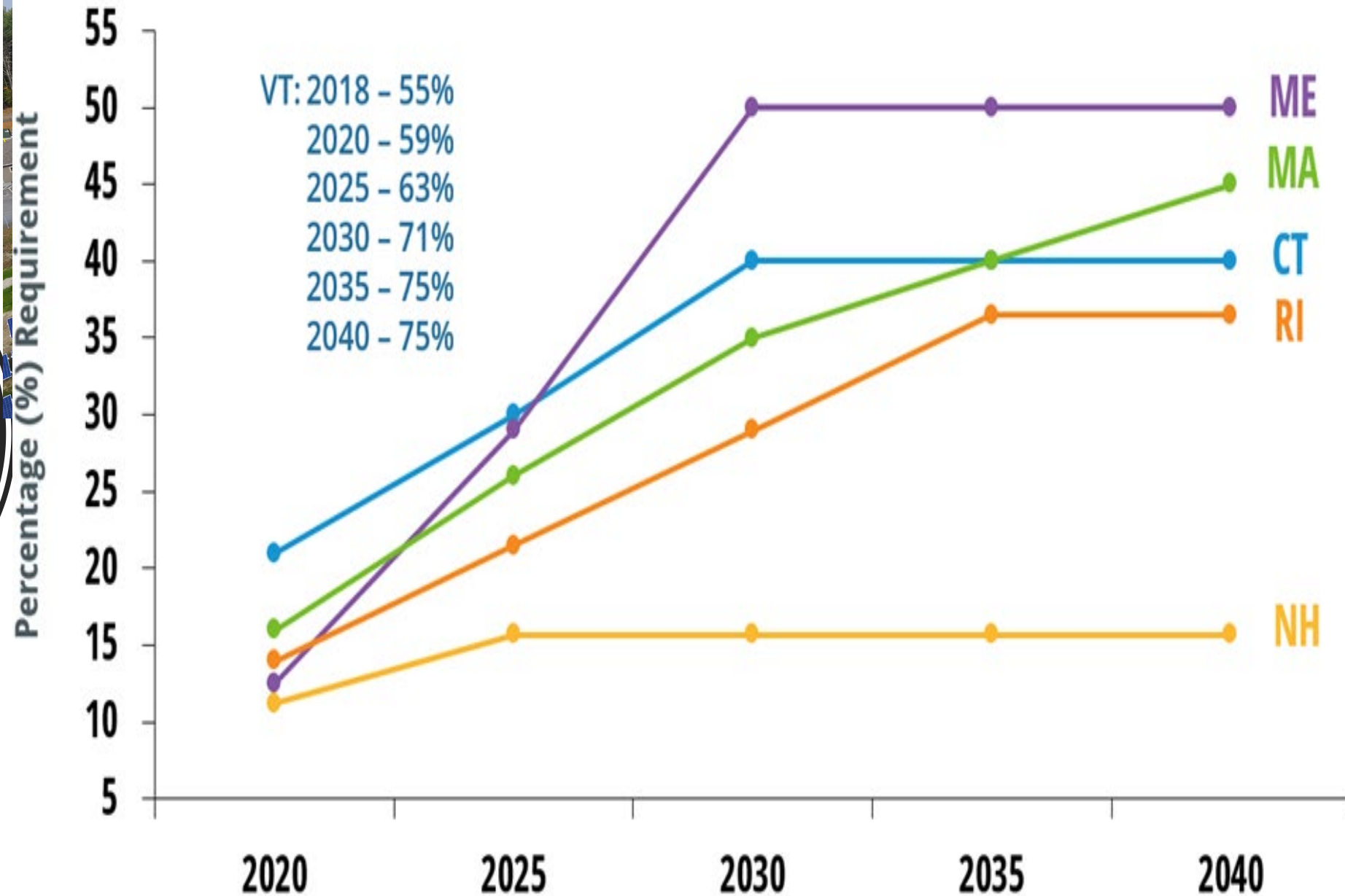
2050 GHG Emission Goals Across the Northeast

- ✓ CT: **80%** below 2001 levels
- ✓ MA: at least **85%** below 1990 levels
- ✓ ME: At least **80%** below 1990 levels
- ✓ NY: **100%** below 1990 levels
- ✓ RI: **80%** below 1990 levels
- ✓ CT: **80%** less than 1990 levels

X NH: ??????????????????

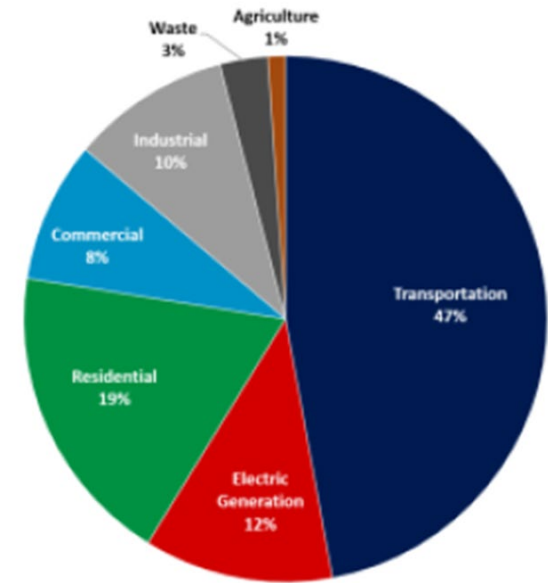
State Renewable Portfolio Standard (RPS)

Expand
renewables



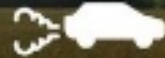
Drive down
transportation
emissions

GHG Emissions by Sector - 2017



The Nature
Conservancy

Transportation improvements in
rural areas can help to:



REDUCE GHG EMISSIONS



IMPROVE HEALTH & SAFETY



SAVE MONEY

Increase
investment
in energy
efficiency

← → ↻ 🏠 <https://www.concordmonitor.com/energy-efficiency-NH-36533203> 📄 ⋮ 📶

🌐 Getting Started 🌐 TNC CONNECT Home

☀️ 55°

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CONCORD MONITOR

News > Science

Statewide energy efficiency program's goal is to do more with less

By [DAVID BROOKS](#)
Monitor staff

Published: 10/10/2020 1:37:45 PM

It has long been known that the cheapest and cleanest unit of energy is the one you don't need to use, and a group that includes the state's utilities is rushing to put this into practice statewide despite the scheduling complications of COVID-19.

"We were put on hold in March, like everybody, when (the virus) hit," said Madeleine Mineau, executive director of Clean Energy NH, regarding efforts to get a three-year energy efficiency plan approved by Public Utilities Commission before Dec. 31. "The

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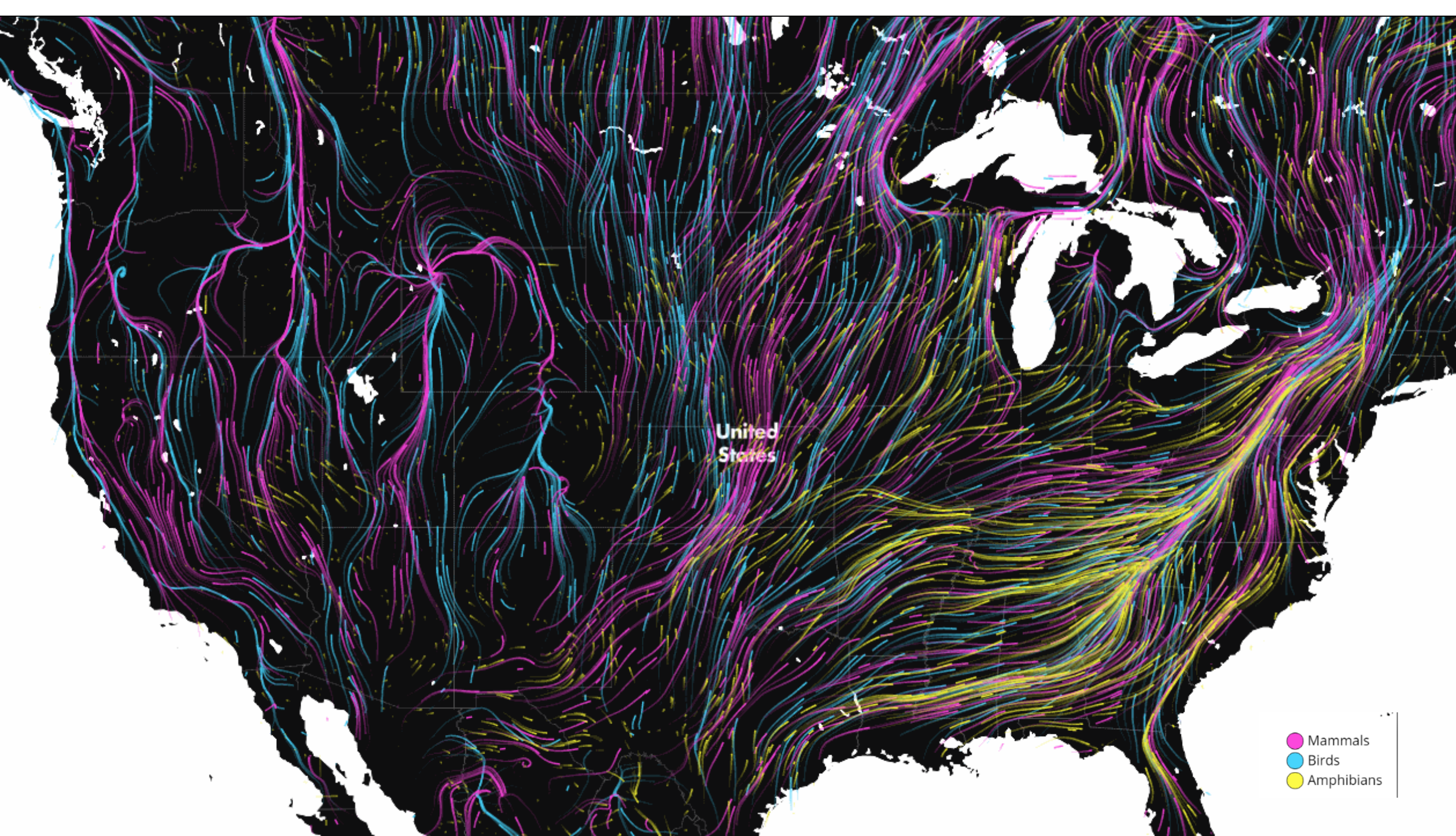
Most Popular

NH cities combat outbreak, increase transmission

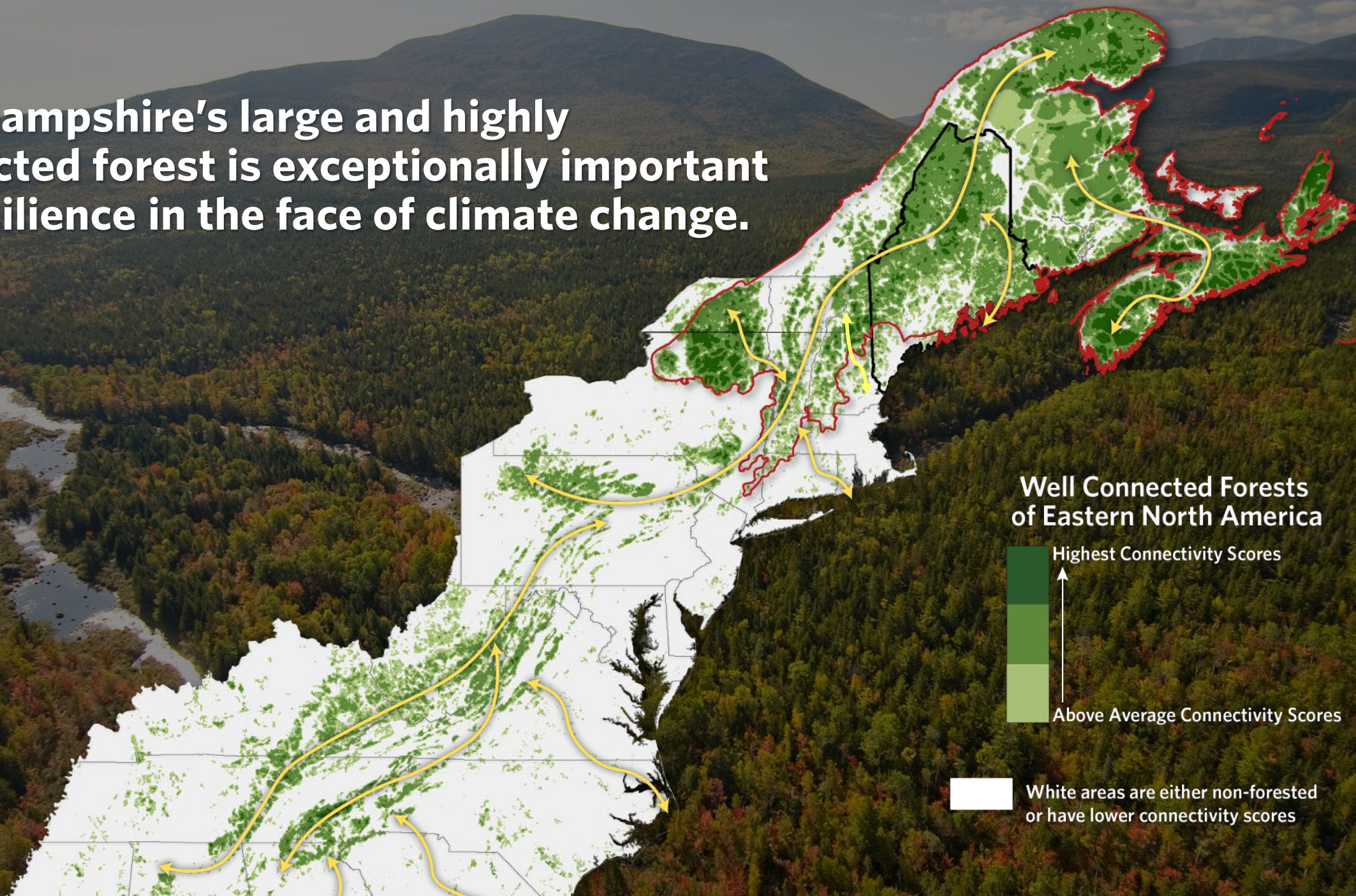


Help Nature Adapt to Climate Change

...by conserving resilient and
connected landscapes



New Hampshire's large and highly connected forest is exceptionally important for resilience in the face of climate change.

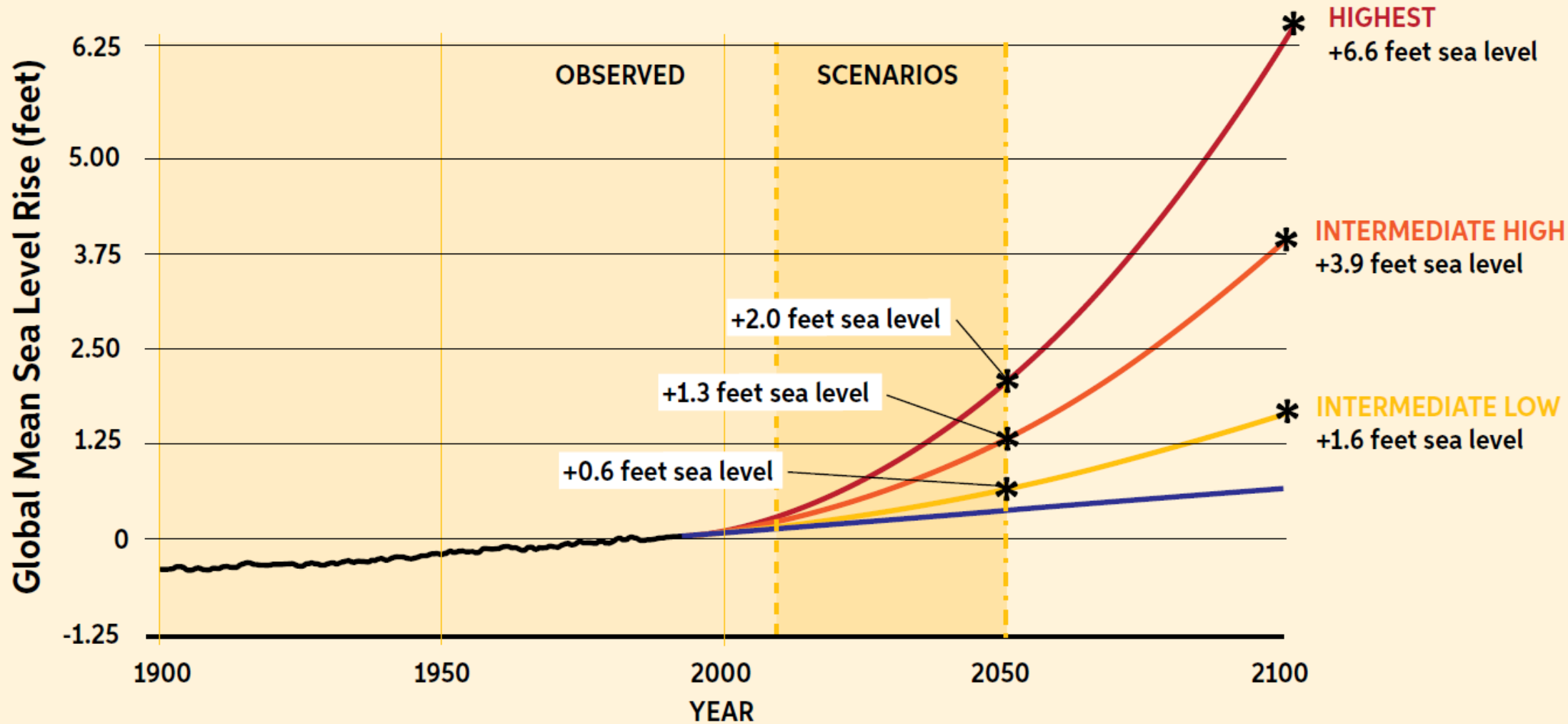


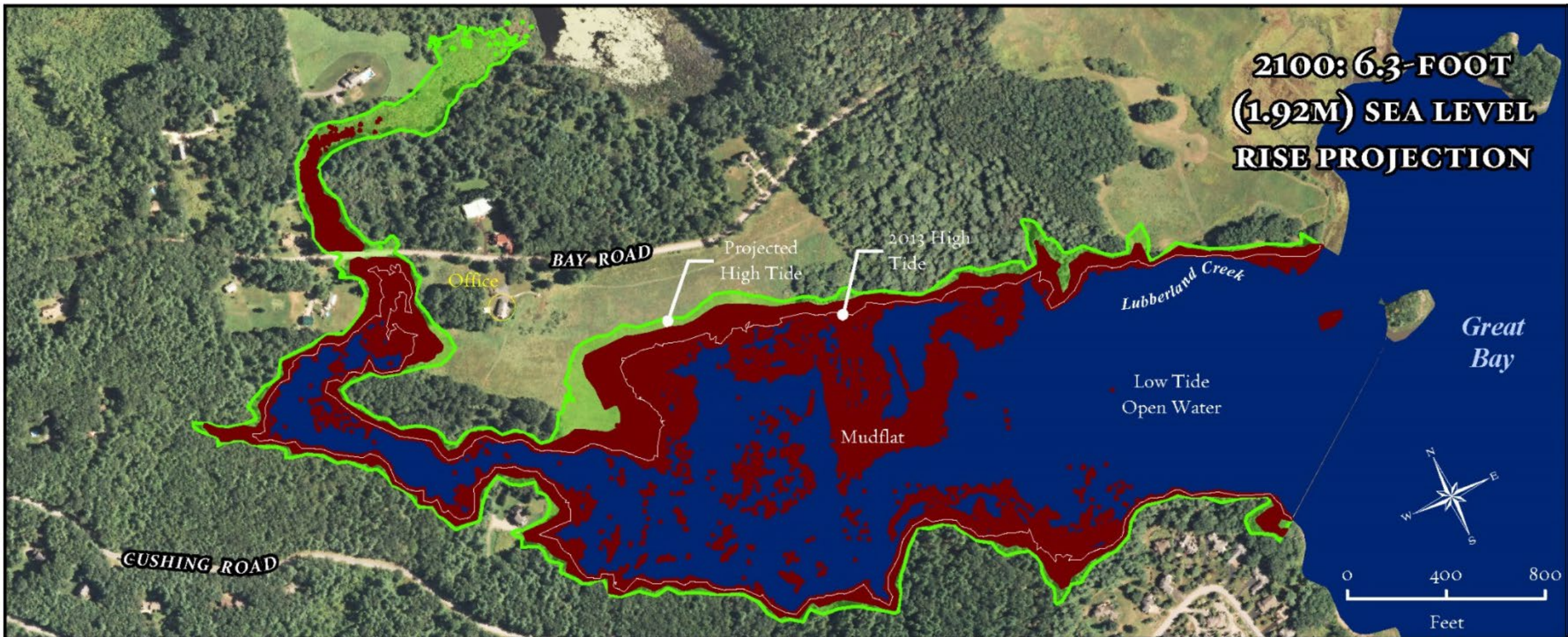
... using nature-based solutions

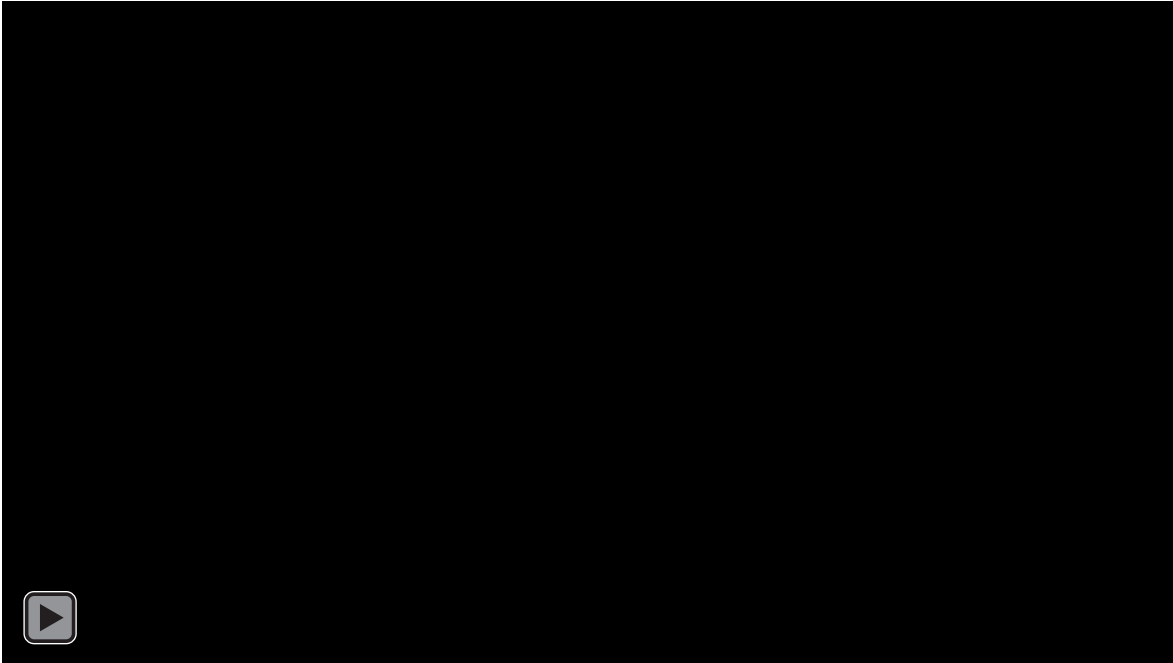
Help human communities adapt to climate change

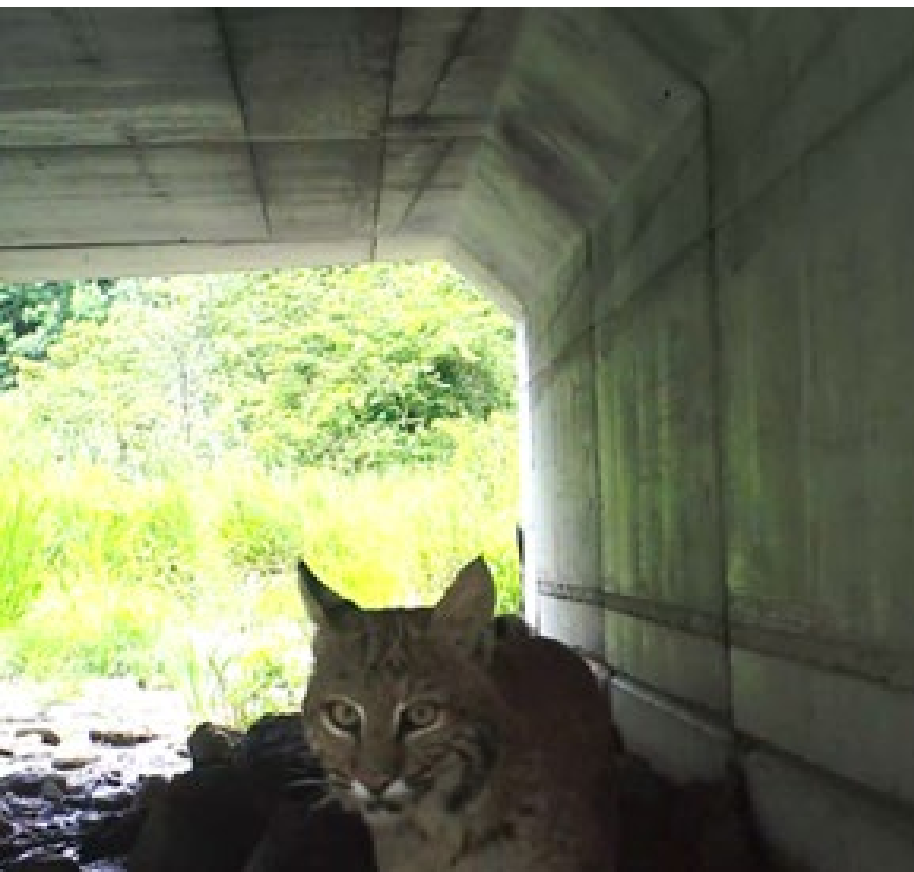


FIGURE 2. Sea-level rise scenarios under different emission levels in 2050 and 2100. *Source: Adapted from NHCRHC STAP (2014).*

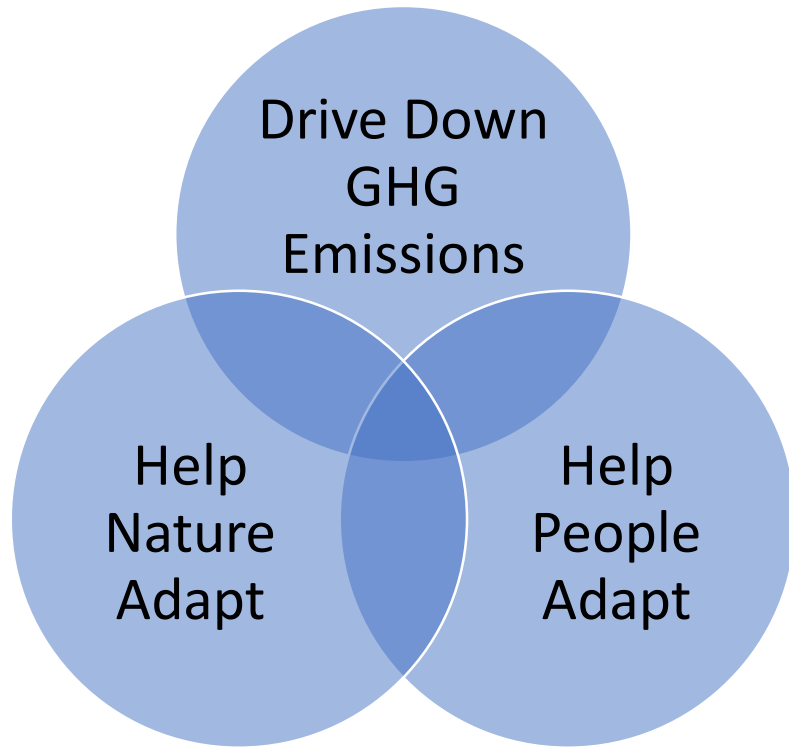








Putting NH on the path to sustainability and climate resilience



Building a Pipeline of Sustainability Leaders: Leveraging Universities and Their Students to Advance Sustainability, now and in the future

Fiona Wilson

*Director of the Sustainability Institute
Deputy Chief Sustainability Officer
University of New Hampshire*



Environmental Business Council of New England

Energy Environment Economy

Building a Pipeline of Sustainability Leaders: Leveraging Universities and Their Students to Advance Sustainability

*Dr. Fiona Wilson
Deputy Chief Sustainability Officer
Director, Sustainability Institute*



Sustainability

SUSTAINABLE DEVELOPMENT GOALS



Urgency: For a Regenerative & Inclusive Economy



SUSTAINABILITY LEADERSHIP



Sustainability

ONLY NINE ARE PLATINUM IN US

UNIVERSITY OF NEW HAMPSHIRE

ARIZONA STATE UNIVERSITY

STANFORD UNIVERSITY

COLORADO STATE UNIVERSITY

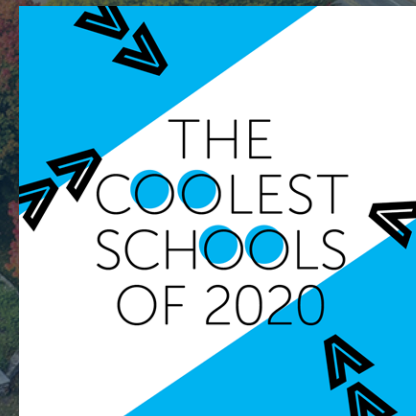
UNIVERSITY OF CALIFORNIA – IRVINE

CORNELL UNIVERSITY

UNIVERSITY OF CONNECTICUT



Sustainability



**Sierra Club
Top 10 Cool
Schools**

UNH AS A SMALL CITY

UNH STUDENTS, FACULTY & STAFF POPULATION

20,000

SIMILARLY-SIZED NEW ENGLAND CITIES

Biddeford, Maine

Essex, Vermont

Portsmouth, New Hampshire



Sustainability

HOW WE KEEP THE LIGHTS ON



Sustainability



TURNKEY LANDFILL – ROCHESTER, NH



COGENERATION PLANT – DURHAM, NH



- **STEELS POND DAM – ANTRIM**
- **AMPERSAND ENERGY – GROVETON**
- **FISKE HYDRO – HINSDALE**



HOW WE GET AROUND



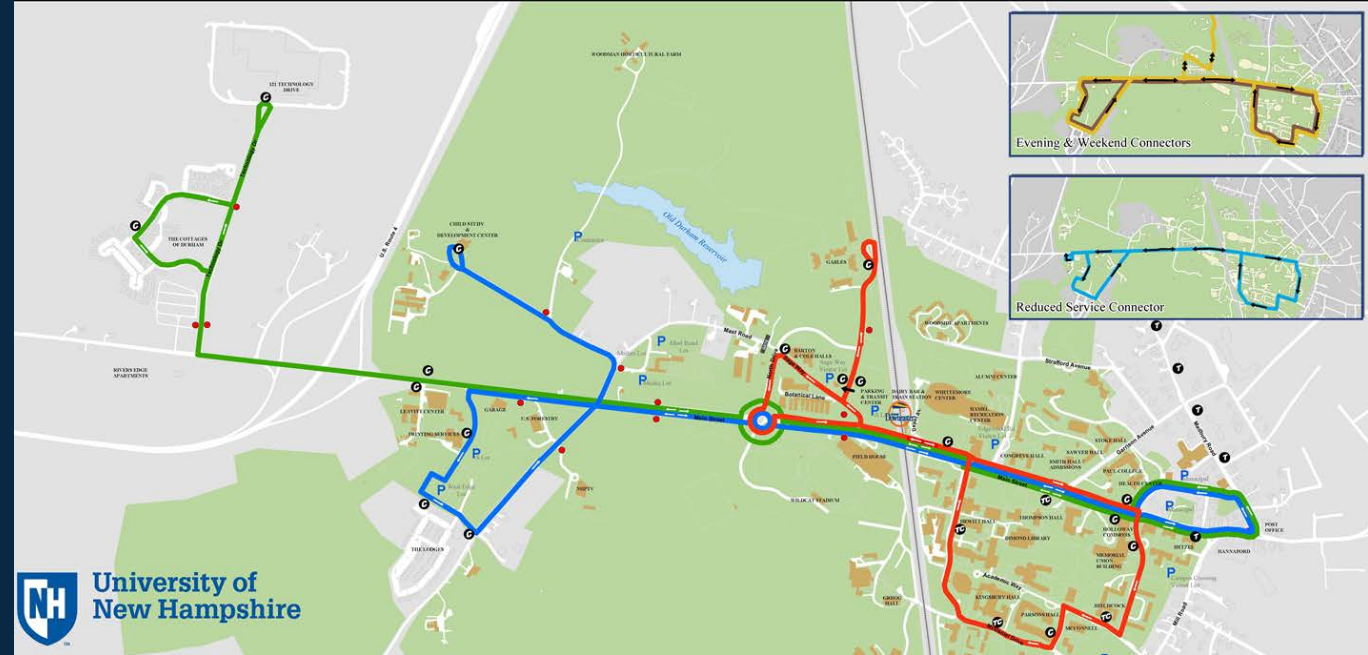
Sustainability



UNH IS A WALKING & BIKING CAMPUS



WILDCAT TRANSIT



CAMPUS CONNECTOR

**UNH COMMUNITY CAN TRAVEL TO
DOVER, NEWMARKET &
PORTSMOUTH FOR FREE**

HOW WE EAT (AND FARM)



Sustainability





Sustainability



Sustainability



HYDROPONIC LETTUCE – WOODMAN FARM



Sustainability



Sustainability



8:51

HOW WE INVEST



2017

Committee on Investor Responsibility

UNH begins public investments disclosure

2019

UNH Foundation transfers \$37 million to ESG investments

2020

All gifts to endowed funds now default to ESG

Sustainable retirement funds for faculty & staff



Leveraging Universities and Their Students to Advance Sustainability



Sustainability

Future Leaders



74%

of undergrads envision themselves as a leader who will improve the world's social or environmental challenges.

- Undergraduate Perspectives, The Business of Changing the World | Net Impact

UNH's Changemaker Collaborative



University of New Hampshire
Changemaker Collaborative

*A partnership of the Sustainability Institute, the Peter T. Paul College
of Business and Economics and the Carsey School of Public Policy*

The Changemaker Collaborative brings together students, faculty, staff, businesses, non-profits and government agencies committed to advancing positive change for the good of all. The Collaborative supports the next generation of skilled, courageous and confident leaders, through real-world experiences and the tools of public policy and business, while helping community partners advance their sustainability initiatives.

The Power of Experiential Learning

Experiences outside of the classroom
correlated with post-college career success.

UNH alumni
career success

2.4X

Higher if they took part
in all three forms of
experiential learning.

UNH Gallup Study 2015

The Power of Experiential Learning



8X

Any student (in- or out-of state) who interns in NH is more likely to stay in NH for their job.

FDS

Changemaker Collaborative

Get Career Ready AND Make a Difference!



Semester in the City

Intern at a Boston mission-driven organization or right here on campus at UNH!



Summer Fellowships

PAID opportunities to work on strategic projects with regional organizations.



B Impact Clinic

Consult for a business looking to assess their social & environmental impact.



Social Venture Innovation Challenge

Practice & gain real-world problem-solving skills.
BONUS: Win cash & prizes!



Sustainability Dual Major

Complement your primary major!
Boost your skills & lead positive change.



Events

Hosting regional business leaders who discuss hot topics in business & sustainability.

OFFERED FALL & SPRING



B Impact Clinic

Student consulting team matched with companies to assess and improve social, economic and environmental impact

B Corp certification, recertification or progress towards



LANEY & LU



Stonyfield
ORGANIC



University of New Hampshire
Changemaker Collaborative
A partnership of the Sustainability Institute, the Peter T. Paul College of Business and Economics and the Carsey School of Public Policy

nhbsr
In Good Company



Sustainability Fellows

- Add capacity to enable high-impact climate mitigation work
- Create rich learning experiences to train the next generation of sustainability leaders
- Foster cross-sector collaboration among communities, organizations, and institutions to accelerate progress toward a climate resilient future

Closing Thoughts

- The world needs new knowledge, new ideas and new approaches to solving complex problems
- Universities, with unique missions and resources, are a powerful tool to
 - Collaborative generate vital knowledge and new capabilities
 - Nurture future sustainability leaders
 - Create awareness
 - Help convene other stakeholders to collaborate and take action

A person wearing a yellow hard hat and a blue long-sleeved shirt is painting a mural on a wall. They are holding a paintbrush and a palette. In the background, a group of people are sitting at a table, looking at the mural. The image has a blue overlay.

fiona.wilson@unh.edu



Sustainability

The Role of Business in Addressing Climate and Building a Clean Energy Future

Lisa Drake

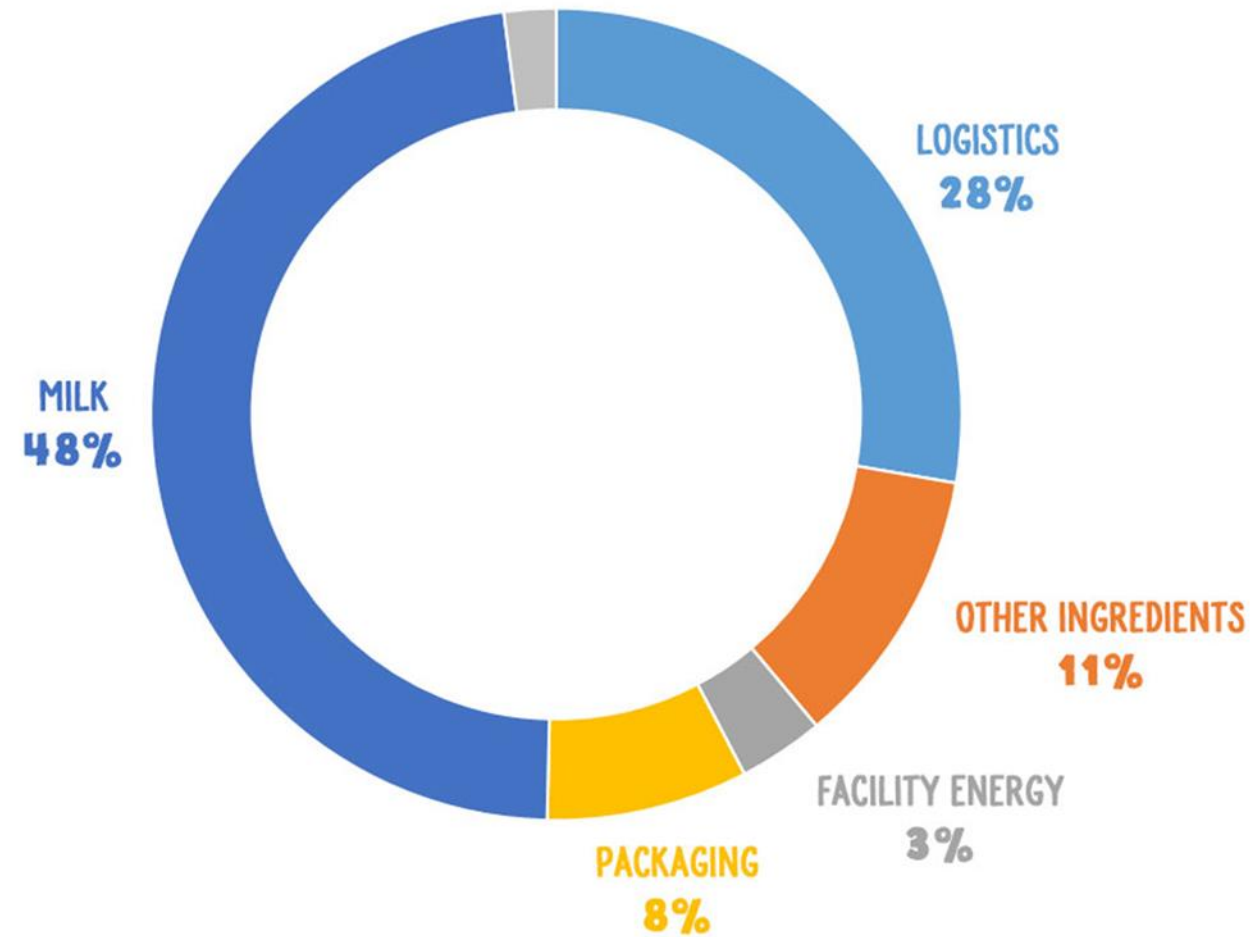
*Director of Sustainability Innovation
Stonyfield Organic*



Environmental Business Council of New England
Energy Environment Economy



STONYFIELD CARBON FOOTPRINT



STONYFIELD CARBON FOOTPRINT



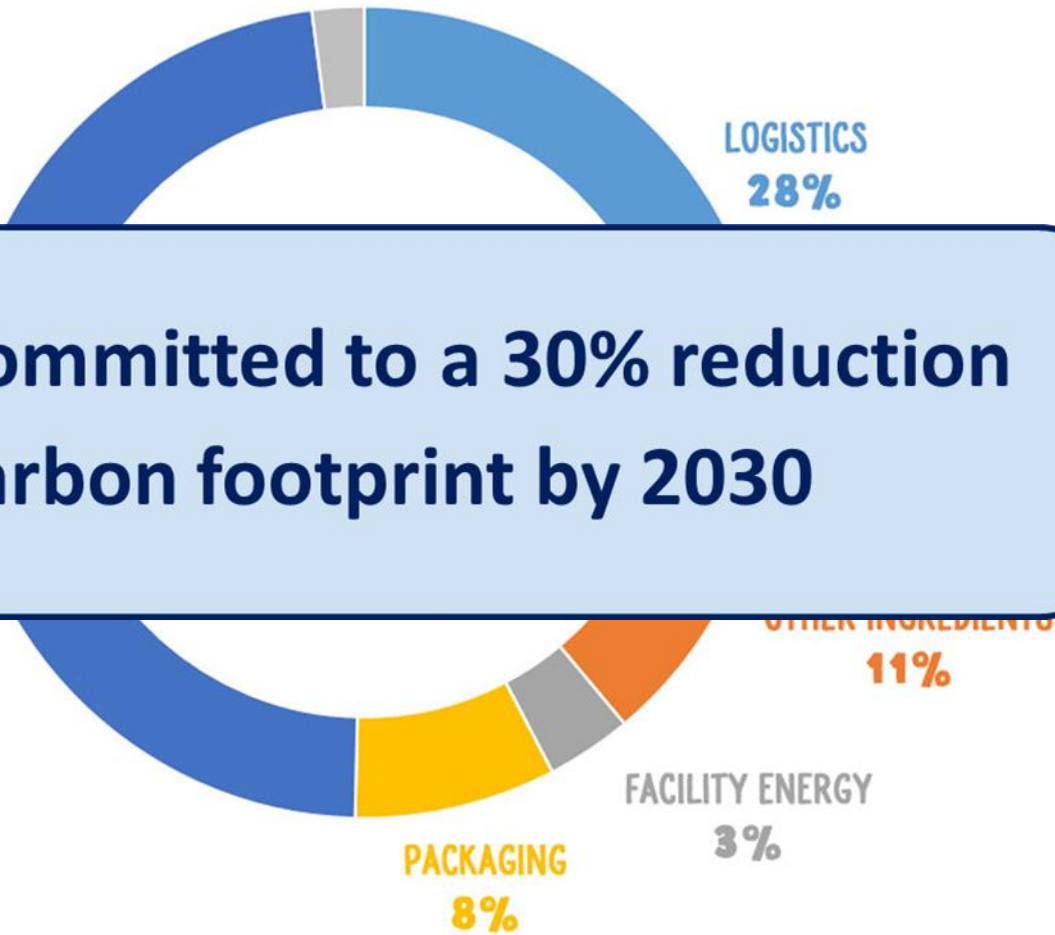
SCIENCE
BASED
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Initiative Partners



We've committed to a 30% reduction
of our carbon footprint by 2030







Clean Energy Principles

As businesses and employees invested in New Hampshire, we believe that transitioning to a clean energy economy will improve our own competitiveness, and our state's property, health, and security.

- Energy efficiency & clean energy solutions are essential to our businesses. Strengthening investments in market-driven clean energy programs will help NH businesses be more competitive and grow our workforce.
- Clean energy solutions help us protect the beautiful natural resources of our state, our tourism economy, our health and our way of life.
- Strong state policies to enhance access to energy efficiency and renewable energy will shift our economy away from imported fossil fuels, reduce energy costs and support locally produced clean energy resources—keeping our energy dollars in New Hampshire's economy.
- Investments in energy efficiency & renewable energy make us more resilient by reducing exposure to fossil fuel price volatility.
- Developing clean energy systems and technologies to meet the needs of a changing global economy provides economic opportunities for the businesses and people of our state.

We support policies & legislation that will advance these points and attract innovation & opportunity for our state and our people.

August 19, 2016, 11:39 am

Cleaner trucks are better for businesses – and dairy lovers everywhere

By Lisa Drake and Chris Miller

COMMENTS 4

Wikimedia Commons

Unless you grow, hunt or catch your own food, most of what you eat makes its way to your local grocery store by truck. Whether it's your pint of Ben & Jerry's ice cream made in Vermont, your quart of Stonyfield yogurt made in New Hampshire, or pretty much anything else that ends up on your table, it probably took a ride on a tractor-trailer averaging just six miles per gallon.

Heavy-duty trucks move about 70 percent of the freight crossing the United States, burning almost 2.7 million barrels of oil every month. That's more than enough to fill about half a billion five-gallon jugs.

BETTER FUEL ECONOMY DRIVES OUR COUNTRY

As food companies and retailers, we drive more than 1/2 billion freight miles for our customers.

Better fuel economy reduces shipping costs and cuts emissions. The EPA is set to boost heavy-duty truck fuel economy standards. **THAT'S GOOD NEWS. AND WE CAN DO EVEN BETTER.**

WE CALL FOR STANDARDS THAT WILL REDUCE TRUCK FUEL CONSUMPTION 40% BY 2025

GENERAL MILLS patagonia stonyfield

BEN & JERRY'S Annie's Happy Family LATE JULY

CLIF COOP LINDBERG Amy's ORGANIC VALLEY

BICEP BUSINESS BY INNOVATIVE CLIMATE & ENERGY POLICY



U.S. governors, mayors, businesses, investors, colleges and universities say:

WE ARE STILL IN

and will work together to ensure the U.S. remains a global leader in reducing carbon emissions.





Investments in Clean Energy
Help New Hampshire
Businesses Thrive

Clean Energy Principles

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NHBSR.org/Energy



MAKE EARTH COOL AGAIN




#VOTE4CLIMATE

“IT ISN'T ENOUGH TO JUST PRODUCE AND SELL ORGANIC PRODUCTS. THE THEFT OF OUR CHILDREN'S FUTURES RUNS COUNTER TO EVERYTHING WE STAND FOR. IT IS TIME FOR US ALL TO SPEAK OUT.”

-Gary Hirshberg, Co-Founder and Chief Organic Optimist

#STONYFIELD

I VOTED 
#VOTE4CLIMATE

“The most remarkable feature about this historical moment on Earth is not that we are on the way to destroying the World – we’ve been on the way for quite awhile. It is that we are beginning to wake up, as from a millenia-long sleep to a whole new relationship to our world, ourselves and each other.” – Joanna Macy

Stonyfield
ORGANIC

GOOD ON PURPOSESM

A Municipality's Efforts Towards Sustainability & Energy Efficiency

Benjamin Gaetjens-Oleson

Planning / Zoning Coordinator, Grant Administrator

Emergency Management Director

Town of Lancaster, New Hampshire



Environmental Business Council of New England

Energy Environment Economy

A Municipality's Efforts Towards Sustainability & Energy Efficiency



Projects

LED Street Lights-2016

Residential Energy Efficiency Program-2018 to 2019

Solar PV Array-2016



LED Streetlights

A curved streetlight fixture is visible in the upper left corner of the image, set against a background of a blue sky with scattered white clouds. The fixture is a modern, rectangular design with a light-colored finish.

Replacement of approximately 270 streetlight fixtures

Previous annual usage-117,568 kWh

Usage after change out-55,000 to 60,000 kWh a year

Savings per year of over \$15,000.00

Project cost-\$105,000.00

Community Energy Efficiency Program

In partnership with the Northern Forest Center-part of Community Revitalization project

Scope: Increase number of homes that enroll in and utilize Eversource's HPwES and TCCAP Weatherization programs and see install of wood pellet boilers.

Part-time energy advisor hired

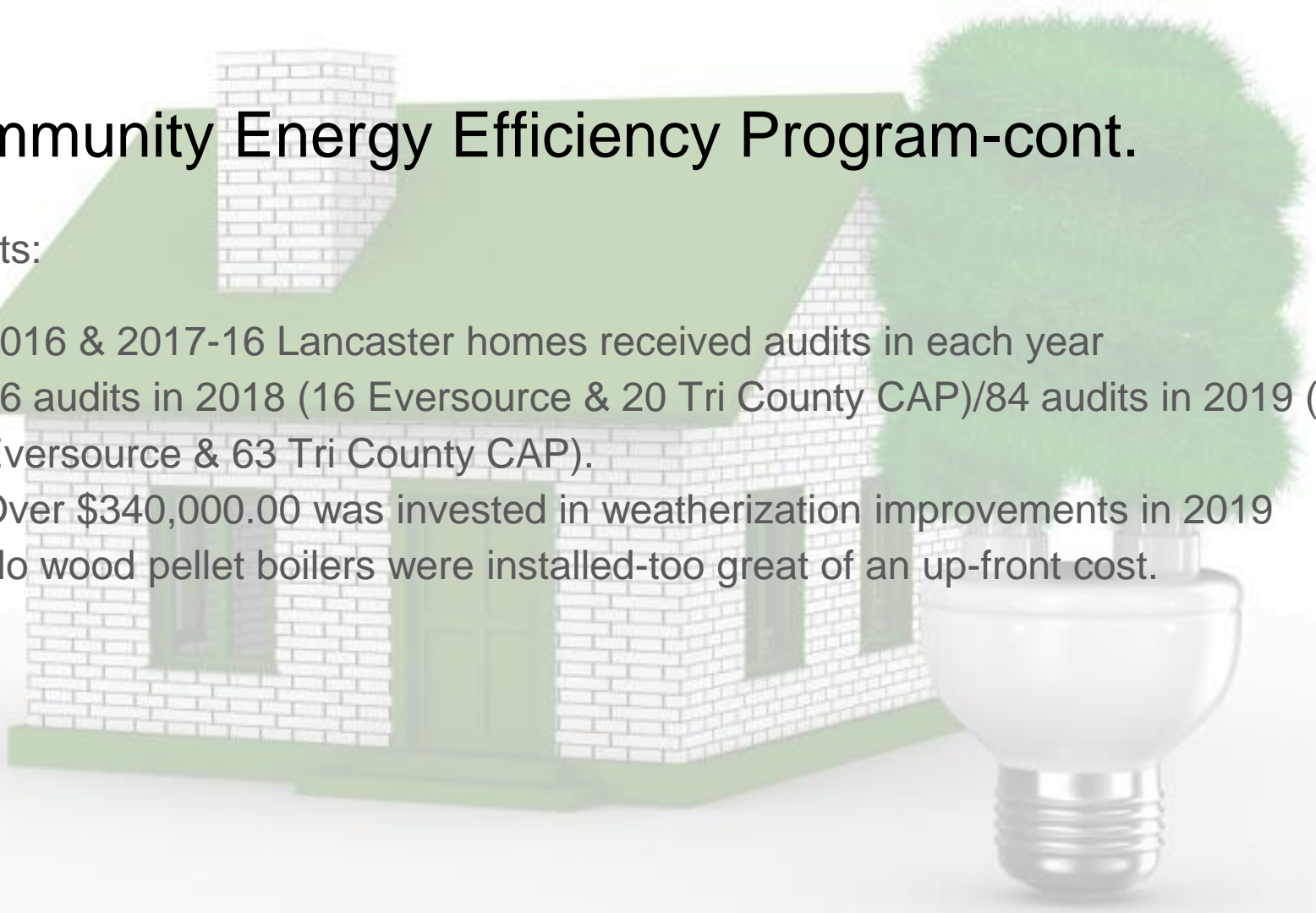
Extra incentives and rebates offered

Public information meetings held (Button Up, Elementary School STEAM open house, Farmers' Markets, Community Events)

Community Energy Efficiency Program-cont.

Results:

- 2016 & 2017-16 Lancaster homes received audits in each year
- 36 audits in 2018 (16 Eversource & 20 Tri County CAP)/84 audits in 2019 (21 Eversource & 63 Tri County CAP).
- Over \$340,000.00 was invested in weatherization improvements in 2019
- No wood pellet boilers were installed-too great of an up-front cost.



Lancaster Solar PV Arrays



3 PV Arrays

- Transfer Station-20 kW
- Wastewater Lagoons-80 kW
- Wastewater Lagoons Chlorinator Building-6 kW

Total Project Costs-\$288,600.00/\$176,800.00 after PUC Incentives & Town Labor

Municipally owned, developed and constructed

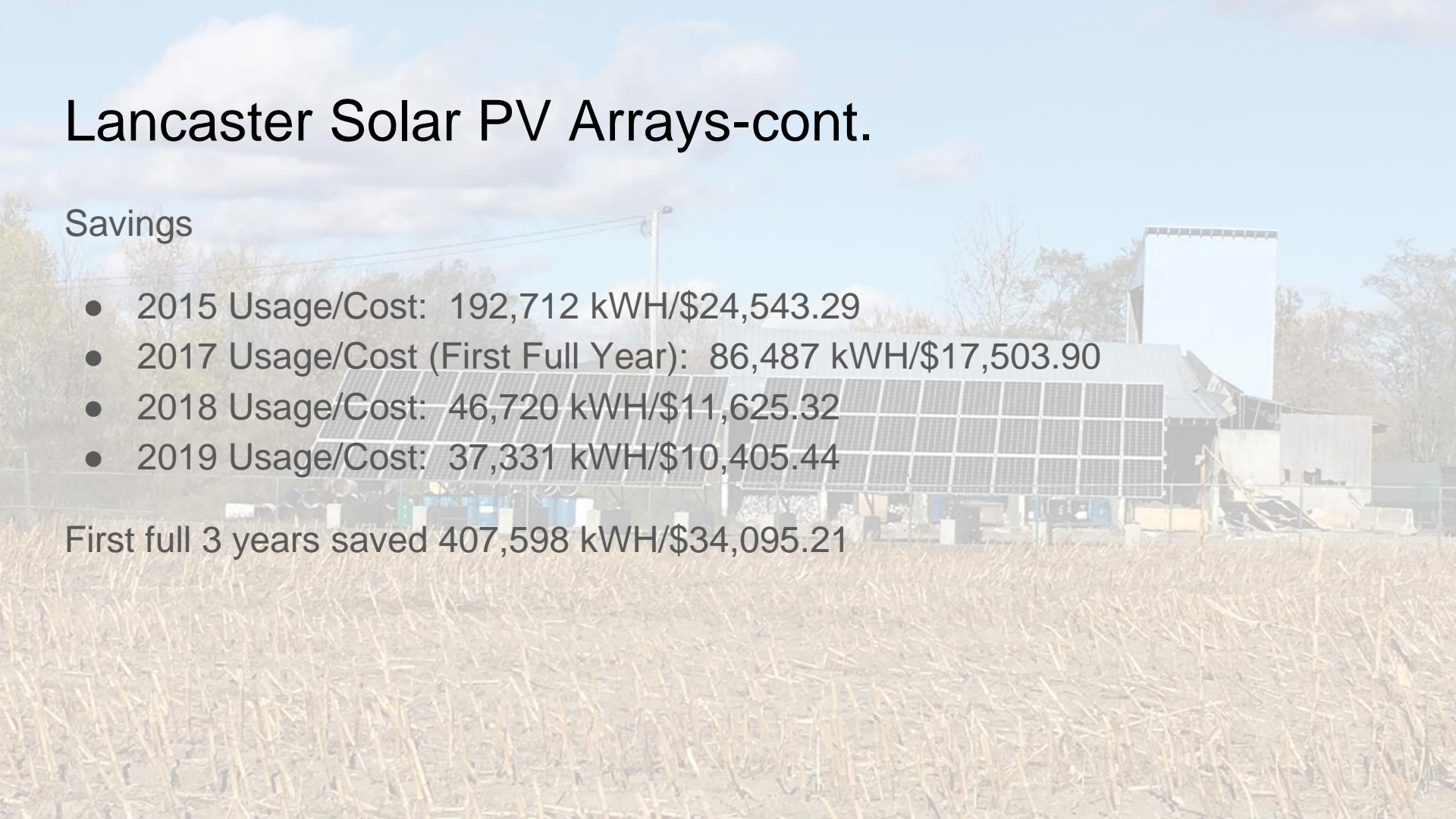
- Consultant Assistance (PAREI)

Lancaster Solar PV Arrays-cont.

Savings

- 2015 Usage/Cost: 192,712 kWh/\$24,543.29
- 2017 Usage/Cost (First Full Year): 86,487 kWh/\$17,503.90
- 2018 Usage/Cost: 46,720 kWh/\$11,625.32
- 2019 Usage/Cost: 37,331 kWh/\$10,405.44

First full 3 years saved 407,598 kWh/\$34,095.21



Deep Decarbonization and Adaptability for New England

Roger Kranenburg

Vice President

Energy Strategy & Policy

Eversource Energy



Environmental Business Council of New England

Energy Environment Economy

Moderated Discussion

Clare Connolly

Panel Moderator

Manager, Sustainability and Environmental Affairs

Eversource Energy



Environmental Business Council of New England
Energy Environment Economy