REDUCING OUR PAWPRINT
Local Climate Action, Global Impact
OUR VISION

UConn’s is a global leader in the international campaign to address the existential threats posed by climate change.

We are committed to advancing sustainability in all we do.

OUR STRATEGY

We address the existential threats posed by climate change through a comprehensive and holistic approach combining education, research, technology innovation, technology deployment and demonstration through partnerships, and community engagement and advocacy.
AT THE CORE

Infrastructure is central to our strategy to address climate change and its impacts

- Our campus is a living laboratory for all students, faculty, and staff to learn, experience, and experiment with approaches to climate change and sustainability.
- Our campus demonstrates to the public what is possible in our transition to carbon neutrality.
- Our environment supports our climate change initiatives in all four areas.
INFRASTRUCTURE AND OPERATIONS

How we live now and how we are changing our campus for the better
WHERE WE ARE NOW

UConn Storrs/ Depot Campus GHG Emissions (CO2e Metric Tons)

y = -2644.3x + 164708
WHERE WE ARE NOW

Emissions Reductions to Date, UConn, Storrs

2001 Baseline % GHG Emissions Reductions compared to Campus Growth (Square Footage)

- 25% reduction through FY 2021
- 44% increase in campus square footage

- COGEN CHP Online
- Class III REC Fund Started 2007
The Co-Gen plant is the main supplier of energy to the Storrs campus.

The Co-Gen plant was built to reduce UConn’s carbon footprint and to decrease our dependence on more carbon-intensive sources of power.

The Co-Gen plant meets UConn’s heating, cooling, and hot water needs.
• The Depot campus has been powered by an efficient fuel cell for over 10 years, which also provides heating and cooling to nearby buildings.

• The Center for Clean Energy Engineering, located on the Depot Campus, is a world leader in clean energy technologies.

U.S. Secretary of Energy Jennifer Granholm speaks a press conference at C2E2 on May 20, 2022. UConn’s hydrogen fuel cell is in the background.
UCONN INVESTMENTS IN PHOTOVOLTAIC SOLAR ARRAYS

Werth Residence Tower
• PV Solar Array on roof
• Solar domestic hot water system

Science 1 Research Building
• 500 kw- PV Solar Array on roof
• Stormwater green infrastructure bioswale
• In construction- scheduled to open Winter 2023

South Campus Residence Hall
• PV Solar Array on Dining Hall roof
• In construction-scheduled to open Fall 2024

Depot Campus Installation- Research Tool
South Campus Infrastructure
- 1 MW fuel cell
- 140 geothermal wells
- Currently in design - targeting completion in Fall 2024

Mansfield Apartments Redevelopment
- New fuel cells totaling 1.2MW
- 180 geothermal wells to provide 70% of the heating and cooling
- Currently in design – targeting completion in Fall 2025
FUTURE UCONN INVESTMENTS IN SUSTAINABLE INFRASTRUCTURE

Mirror Lake Improvements

- Ecologically based filtering of stormwater and forebay development for improving habitat, water quality and future maintenance operations
Recently Completed Buildings
- LEED Gold Certified
  - Student Recreation Center
  - Werth Residence Tower
  - UConn Hartford

Buildings in Construction seeking LEED Gold
- Science 1
- Gant Renovation
- Supplemental Utility Plant
EDUCATION AND STUDENT IMPACT
Empowering students to make an impact on the world
As a core requirement, students must pass at least one 3-credit course in Environmental Literacy

UConn offers 17 majors with concentrations directly or partially related to Sustainability and the Environment

Two dozen graduate and postgraduate programs, including

- Energy/Environmental Law
- Energy/Management
- Agricultural Economics
- Sustainable Environmental Planning
EXPERIENTIAL LEARNING
NSF-REU ON HYDROGEN

H2 REU

- Workshops
- Seminars
- Roundtables
- Activities

May 30 - August 5, 2022

Research Experience for Undergraduates (REU) - H2-based Clean Energy Technologies

Participants will spend 10 weeks with UConn faculty and graduate students, participating in graduate level engineering research projects. These projects will involve fundamentals and technical aspects of H2 technologies, environmental policies & law and real-world industrial practices. This program comes with room and board as well as a summer stipend.

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Principal Investigator
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Stoyan Bliznakov, PhD
Co-Principal Investigator
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RESEARCH
Driving solutions to our climate crisis and providing exceptional opportunities for our students
UConn has at least 230 faculty members involved in research that aligns with the University's commitment to climate change mitigation, clean energy research, and a sustainable future.

Kathy Segerson, Environmental Economics, Board of Trustees Distinguished Professor 2022 inductee into the National Academy of Sciences

Kathy Segerson, Environmental Economics, Board of Trustees Distinguished Professor 2022 inductee into the National Academy of Sciences
CENTER FOR CLEAN ENERGY AND ENGINEERING (C2E2)

Major Partners

Research Focus Areas
• Fuel Cells/Electrochemical Separations
• Hydrogen Production: Water Electrolysis
• Sustainable Fuels

And many others…
As we pursue sustainability, we must recognize that it has not yet met the needs of the Black, Indigenous, and People of Color in our communities. In order to move forward, we must address the historical exploitation of Black, Brown, low-income, and marginalized people in order to make sustainability equitable.

Initiatives, research, and resources in environmental justice are supported by:

- Office of Sustainability
- Human Rights Institute
- Institute of the Environment

The UConn students and faculty members who traveled to the COP26 summit in Glasgow

UConn students and faculty participated in COP26 in November 2021, the United Nations' Climate Change Conference
PARTNERSHIPS
Partnerships for sustainability and the environment
EVERSOURCE ENERGY CENTER

An Industry-Academia Partnership
The Missions Of This Partnership Include

• Invest in the development of joint solutions to grand clean energy challenges.
• Foster the exchange of ideas to expand research capabilities that lead to scientific breakthroughs.
• Increase funding opportunities for joint research from sources not available to UConn or NREL individually.
• Joint appointment program to advance faculty’s and NREL researcher’s scholarship and increase the impacts of their works to community, the state and the nation.
NORTHEASTERN HYDROGEN HUB

Transforming New England and the Tri-State Area to a Clean Energy Infrastructure

- Partnership between states, universities, and industries
- $7 billion in federal funding available
- Transformative technology and advancements
- Economic driver and job creator
- UConn providing research expertise and creating opportunities for faculty and students

States partnering in the Northeastern Hydrogen Hub
GLOBAL HYDROGEN ALLIANCE

A new collaboration with OVPR and C2E2. Other members include:

• Massachusetts Institute of Technology, USA
• Kyushu University - I²CNR, Japan
• Politecnico di Milano, Italy
• Technion - Israel Institute of Technology, Israel
• University of Duisburg-Essen, Germany
• Fraunhofer Institute for Solar Energy Systems ISE, Germany
A collaboration with OVPR and C2E2, the initiative has raised $1 million in private donations for collaborative research with Technion - Israel Institute of Technology.

https://global.uconn.edu/uconn-technion-clean-energy-initiative/
ADVOCACY AND PUBLIC ENGAGEMENT

Educating the public and working for sound policy
NAVIGATING CLIMATE CHANGE & ENERGY SECURITY IN THE NORTHEAST: THE NEXT 5 YEARS

• Call to action on climate change bringing UConn together with local, state, and national officials, as well as leaders of industry
• Exploration of energy system resilience and grid modernization

"Decarbonizing the grid is the foundation to decarbonizing all the other parts of our economy."

Katie Dykes, Commissioner, Connecticut Department of Energy and Environmental Protection
GLOBAL ENGAGEMENT

THE's Global Sustainable Development Congress will unite higher education, governments, industry and civil society to ensure a more sustainable future.

October 31– November 2, 2022

Mind the gap! What more can be done to bridge the ever-widening inequality gap?

With political polarisation on the rise and the impact of climate change being felt around the world, the need to bridge inequality gaps has never been more important to ensure sustainable futures for all.

This session will explore how universities can collaborate with the private sector, what is working and why it is working. We will share examples of programmes achieving real impact, explore the hurdles and ask what more can be done.

Kezia Dugdale
Professor of practice...
University of Glasgow
Moderator

Radenka Maric
President and profes...
University of Connec...

Veronica Melvin
CEO
LA Promise Fund

 Maher Nasser
Director of the outre...
UN Department of Gi...

Bhavani Rao R
Unesco chair in gend...
Amrita Vishwa Vidya...
ADVOCACY AND PUBLIC ENGAGEMENT

UConn Storrs is a demonstration site building public awareness of clean energy approaches to combatting climate change

The prototype solar tree being assembled in the metal shop at the School of Fine Arts on Aug. 3, 2021.

Pres. Maric and Prof. Ugur Pasoguillari take Representative Joe Courtney and Secretary of Energy Granholm for a ride in a fuel cell powered car, the Toyota Mirai, May 20, 2022
Marina Creed, APRN, helps 5th-graders at Noah Webster MicroSociety Magnet School in Hartford build an air purifier on Sept. 8, 2022. The finished purifier, called “Air Force One” was delivered to the White House in Washington D.C.

ADVOCACY AND PUBLIC ENGAGEMENT

Working with and for the next generation

Liam Enea ’24 (CAHNR), founder and president of the Clean Energy Society
THANK YOU!