ACET project aims to find low-carbon energy solutions for Canada’s smaller remote and rural communities

There’s no one-size-fits-all tech solution to help communities transition to a low-carbon energy future, according to Curran Crawford, executive director of Accelerating Community Energy Transformation (ACET). As a mechanical engineer, he’s worked with a wide range of transformative green technologies—and now, with ACET partners spanning research, finance, policy and local governments, he’s ready to find community-specific solutions that work.

Crawford believes an interdisciplinary approach is crucial to implementing sustainable energy systems that are reliable, cost effective, societally driven and in line with the United Nations Sustainable Development Goals. His research history is a showcase for how visionary engineers, communities, finance experts and policy makers can pull together to create such positive change.

A UVic mechanical engineering professor, Crawford is the founding executive director of the ACET initiative, an ambitious research program with partners across Canada, and internationally in the US, UK and EU.

“Climate change is the defining issue of our time. Globally, governments are signing international agreements, setting targets and looking in all directions for the strategies that will reduce emissions as quickly as is possible. “But while high-level work is critically important,” Crawford says, “there’s much we must do to support communities as they try to move swiftly toward low-carbon energy systems.”

“That support is the raison d’être of ACET,” a seven-year research program that will support communities to develop, implement and assess specific place-based energy transformations that align with national and global climate action goals. The long-term intention is that what the ACET partners learn in Canada will be shared and put into practice around the world to help communities realize their unique visions for low-carbon futures.

Crawford’s unique set of energy expertise provides a strong foundation for the multifaceted ACET. He has been at the forefront of research into wind, tidal and wave energy; direct-air and seawater CO2 capture; grid integration of electric vehicles; and micro-grid energy in remote First Nations communities. For a large, future-facing project like ACET, his vision is vital.

“Our goal is nothing less than helping to transform community energy systems and developing scalable solutions that can be replicated around the world,” he says. “We are also nurturing the emerging great minds the world is counting on as never before.” Crawford has worked with colleagues in psychology, science, geography, business, environmental studies and management, public policy and economics, applying a broad systems approach to energy. He especially enjoys working with a diverse cross-section of students, from co-ops to grad students and post-docs, who each bring their own lived and disciplinary backgrounds to contribute innovative perspectives and ideas to solving the energy transformation puzzle.

At ACET, Crawford and the expansive research team will work with small to medium-sized Indigenous and non-Indigenous communities, both urban and rural, to identify, develop, finance and integrate breakthrough renewable energy technologies and policies, helping Canada, and the world, achieve net-zero emission targets—one community at a time.

More climate stories on pages 4-5

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Teaching climate action

“...there’s a problem with how we are living in it. ”
—UVic environmental studies professor Kara Shaw.

“What’s slowing down climate solutions is not knowing how to change our economies and societies. That’s the insight that inspired Shaw to create the Transformative Climate Action certificate—an interdisciplinary credit program, offered by UVic’s Continuing Studies and School of Environmental Studies, that provides students with tools and strategies to help shape a sustainable future.

Shaw hopes that learners from diverse backgrounds are empowered to find their own personal pathway toward climate action and create social and political change in their communities.

“The core thing I want students to take away from this program is an understanding of their own place in the world of climate action,” Shaw says. “What skills they bring, why those skills are important, and how they can put them into play.”

A tailored approach

Now in its first year, the Transformative Climate Action program is comprised of three core courses that all students must take, plus four electives—all of which are offered online and asynchronously to accommodate parents, professionals and full-time students who wish to complete the certificate on their own schedule.

While the core courses introduce the skills needed to plan and make decisions about climate action, the focus is on exploring various perspectives on climate change—including those of Indigenous communities, policy advocates, grassroots organizations, and climate scientists and engineers—and engaging in critical thinking with others.

“I want students to feel that they have agency and know how they can put that agency to work in making change,” Shaw continues. “It’s important people understand the social aspects of climate change because that’s where the action is now. That’s how climate solutions are built.”

The program’s electives allow students to tailor their program to meet their own specific climate action goals, whether by learning about new technologies, renewable energy, or innovative approaches to understanding climate change mitigation and adaptation.

Shaping a sustainable future

A former director of UVic’s School of Environmental Studies and a lifelong learner herself, Shaw researches the energy dynamics of climate change with engineers at the university, and collaborates with local governments and community organizations seeking to implement climate policy and programs. These collaborations encouraged her to build educational opportunities for others seeking climate solutions.

“There is a strong demand for more capacity in the area of climate action, and this requires understanding what solutions are possible and how to implement them,” she says. “Addressing climate change requires collaboration, so these programs prioritize collaboration with other students in the classroom and with local organizations and communities outside the university.”

Applications for the new Transformative Action Certificate program are now being accepted. Visit tiny.cc/tca-cert for info.
NCOL CROZIER

A new joint program in climate science—offered by the UVic Faculty of Law and the School of Earth Sciences—stands as the first-degree program of its kind in Canada, and the first on North America’s West Coast to be accredited for delivering on the United Nations Sustainable Development Goals (SDGs).

At UVic, for the fifth full year, we sit down with Carolyn Thompson, a fourth-year JD student studying climate science, and Doral Akil, chair of the UVic’s Indigenous Qwul’sih’yah’maht Robina School.

What is the role of a lawyer in a climate science program?

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An observatory for the Antarctic

Canada-Spain scientific collaboration establishes new Ocean Networks Canada subsea observatory in the Southern Ocean.

ONC is working with CSIC (Spain) to establish the first underwater observatory in the Southern Ocean, outside of Antarctica. This represents a major milestone in our international collaboration with CSIC.

The observatory will be a living laboratory that will enable scientists to monitor and understand the ocean's response to climate change and biodiversity loss.

The observatory will be built on the seabed, at a depth of 4,500 meters. It will be connected to the surface by fiber optic cables, which will enable real-time transmission of data to researchers around the world.

The observatory will be equipped with a range of sensors and instruments, including cameras, microphones, and chemical sensors, to measure a variety of ocean properties and processes.

It will be a global platform for research, offering scientists from around the world the opportunity to study the ocean in real-time.

This collaboration is a significant step forward in our international collaboration with CSIC, and it will provide new insights into the impact of climate change on the ocean.

Hope for some kelp forests in the Salish Sea

The kelp forests of the Salish Sea are a vital ecosystem that provides habitat for marine life, supports seafood production, and helps to protect coastal communities from storm surges.

However, these forests are under threat from climate change, with rising temperatures and ocean acidification leading to a decline in kelp coverage.

ONC has been working with scientists to monitor changes in kelp forests and to develop strategies to protect them.

Recent research has shown that the kelp forests in the Salish Sea are showing signs of recovery, with an increase in kelp coverage in some areas.

This is a positive sign that efforts to protect kelp forests are paying off, and that we may be able to扭转the decline in kelp coverage.

Bombarider and UVic aim to cut flight emissions in half

Bombarider, a Canadian aerospace company, has joined forces with UVic to develop a new aircraft that will emit half the CO2 of current commercial planes.

This partnership is part of a broader effort to reduce greenhouse gas emissions from the aviation industry, which is a major contributor to climate change.

The new aircraft will be a hybrid electric plane, using a combination of batteries and jet engines to achieve its emissions target.

The project is being led by UVic's Roberta Hamme Curran Crawford, an expert in climate research.

Hamme Curran Crawford has been a leader in the field of climate research, and her work has helped to inform policy decisions around the world.

In addition to her research, Hamme Curran Crawford has been involved in a number of initiatives to promote environmental sustainability, including the creation of a climate research centre at UVic.

This centre has brought together researchers from across the university, including experts in climate science, engineering, and policy.

Through this collaboration, Bombarider and UVic aim to develop a new aircraft that will be more environmentally friendly, while still meeting the needs of the aviation industry.

Ocean research and student engagement

If you're interested in pursuing a career in oceanography, there are many opportunities at UVic and beyond.

UVic's Ocean Networks Canada (ONC) is at the forefront of ocean research, and offers a range of programs and initiatives for students.

In addition to the ONC subsea observatory, UVic's research includes the monitoring of kelp forests, the study of climate change, and the development of new technologies to reduce greenhouse gas emissions.

UVic's Climate Research Centre is a hub for research on climate change, and offers a range of opportunities for students to get involved in cutting-edge research.

These initiatives are just the beginning of UVic's commitment to sustainability, and there are many more opportunities available for students who are interested in making a difference.

For more information, please visit uvic.ca/impact.
Co-op program advances UN SDGs while building careers

UVic’s co-op program launched a new initiative that helps students directly link their work to the United Nations Sustainable Development Goals.

UVic co-op education is an e-course students have always been encouraged to take, but it wasn’t until 2018 that UVic formalized this co-op option as a sponsor of Canada-UNI Canada’s initiative to the United Nations Sustainable Development Goals. This initiative was launched in 2013, and it has since been adopted by over 200 universities worldwide.

The initiative, known as the UN SDGs Co-op Program, is designed to help students link their co-op experience to the United Nations Sustainable Development Goals (SDGs). The SDGs are 17 global goals set by the United Nations to end poverty, protect the planet, and ensure that all people can enjoy peace and prosperity.

The program is open to students in all disciplines and encourages students to reflect on how their co-op experience contributes to one or more of the SDGs. Students are also encouraged to engage with the goals and objectives of the program, using the knowledge and skills they have gained in their co-op experience to contribute to solving real-world problems.

By participating in the UN SDGs Co-op Program, students can enhance their employability and gain valuable experiences that will make them stand out in the job market. The program also helps students develop critical thinking skills, research skills, and the ability to work collaboratively.

The program is open to all students at UVic and is available for students in all disciplines. Students who participate in the program are encouraged to reflect on how their co-op experience contributes to one or more of the SDGs. The program also encourages students to engage with the goals and objectives of the program, using the knowledge and skills they have gained in their co-op experience to contribute to solving real-world problems.

The UN SDGs Co-op Program is a great opportunity for students to gain valuable experiences that will make them stand out in the job market. It also helps students develop critical thinking skills, research skills, and the ability to work collaboratively.

This year’s Distinguished Alumni Awards Recipients are:

- Presidents’ Alumni Awards
  - Brian Bonnick, BSc ’85
  - Susan Blaikie, BSc ’85, MD’92
  - Jenny Morris, BA’97, MA’11
- Presidents’ Alumni Awards
  - Dennis Gupa, PhD ’21
  - Fiona Wong, JD ’20
  - Karen Saini, BA’97, MD’20
  - Carrie Tennant, BMus’99, PDT’00
- Emerging Alumni Awards
  - Scott Beatty, MBA’95, PhD’18
  - Susan Blanchet, BA’97, JD’02
  - Melissa McCall, J’19
  - Melinda Kachina Bige, MA’16
- Indigenous Alumni Awards
  - Melinda Kachina Bige, MA’16
  - Reid Saini, MA’16
  - Jenny Henry (Ciaugkay), BA’99, MA’11

This year’s Distinguished Alumni Awards were presented to alumni who have made significant contributions to their communities and/or their fields of study. The awards recognize individuals who have demonstrated excellence in their careers and have made a positive impact on society.

The President’s Alumni Awards are given to individuals who have made outstanding contributions to their work and have made a significant impact on society. The Emerging Alumni Awards are given to individuals who have shown exceptional promise in their fields and have made significant contributions to their communities. The Indigenous Alumni Awards are given to indigenous individuals who have made significant contributions to their communities and have made a positive impact on indigenous culture and traditions.

These awards are a testament to the success of UVic’s students and their dedication to making a difference in the world. The recipients of this year’s awards have demonstrated exceptional leadership, innovation, and commitment to their communities.

Read more at tiny.cc/DAA-24 for a list of this year’s recipients.
For more than 150 years, we have been there to help clients feel confident and protected on every step of life’s journey by providing comprehensive risk advice and tailored solutions for their personal insurance needs.