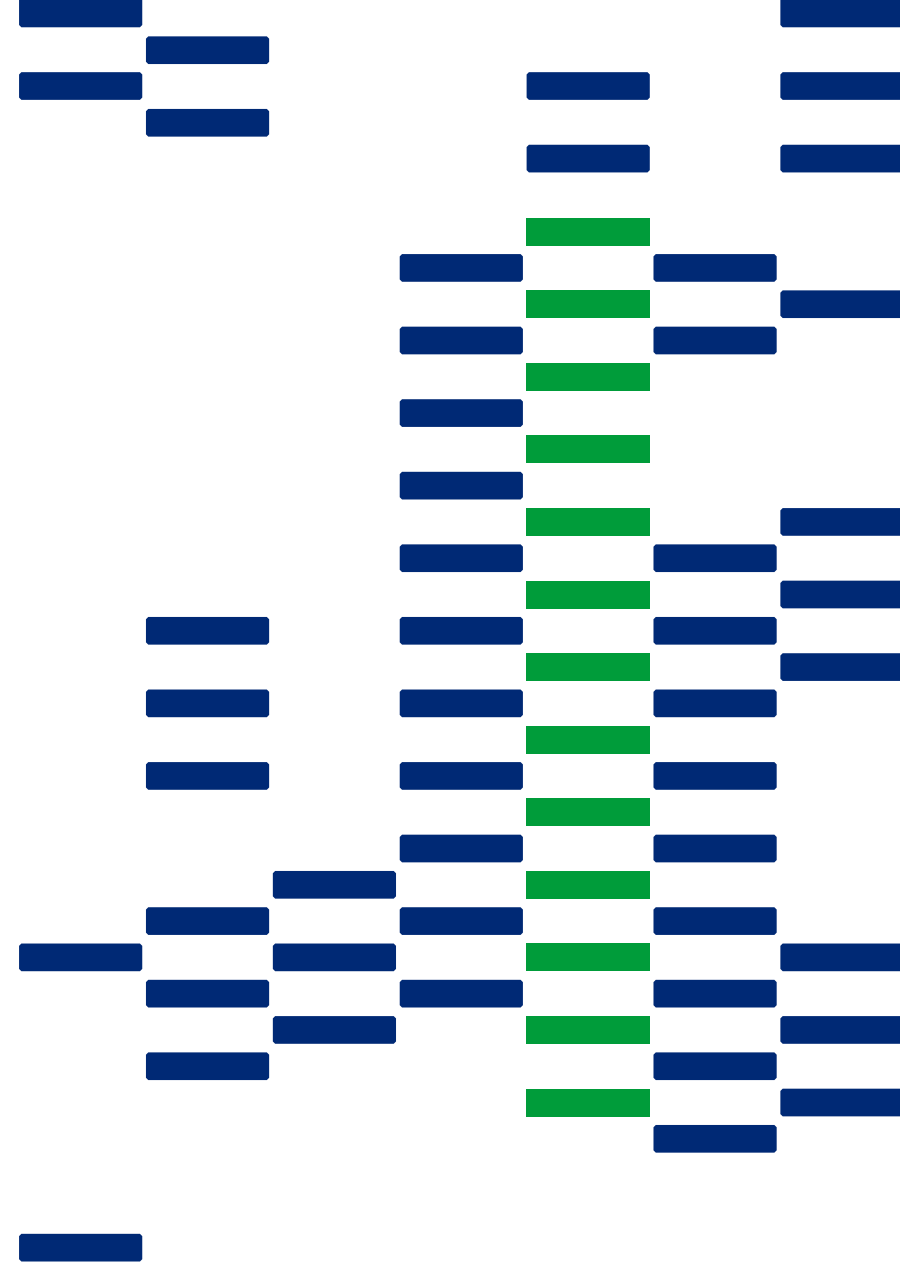


CLEAN ENERGY zone



Centre for
Urban Energy



Empowering energy entrepreneurs



The energy sector is transforming. The threat of climate change, the commercialization of renewable energy sources and the impact of big data are leading to rapid change. The Clean Energy Zone is at the forefront of this transformation.

Founded in 2012, the Clean Energy Zone, housed in Ryerson University's Centre for Urban Energy (CUE), is an incubator focused on clean, sustainable energy innovations including electric vehicles, renewable energy, energy storage and distribution, microgrids and net-zero city building. We bring researchers, students and industry partners together to commercialize sustainable solutions that address societal needs and provide real environmental, social and economic impact.

Benefiting from Ryerson's unique zone learning model, members of the Clean Energy Zone develop their ideas while learning new skills to improve their business acumen and technical expertise. Through our relationship with CUE, we also offer our zone members access to state-of-the-art research labs, co-working spaces and curated mentorship from industry partners and academic researchers and faculty.



Zones and zone learning

Zone learning is a distinct model of experiential learning pioneered at Ryerson, developed to prepare students for the workplace of the 21st century by working on real projects, causes, companies and startups at one of Ryerson's 10 zones. Each zone focuses on a specific industry and offers students access to resources and mentors to develop their own ideas or contribute to someone else's. Zone learning includes hands-on experiential education, workshops, Startup School, continuing education opportunities and an optional specialization.

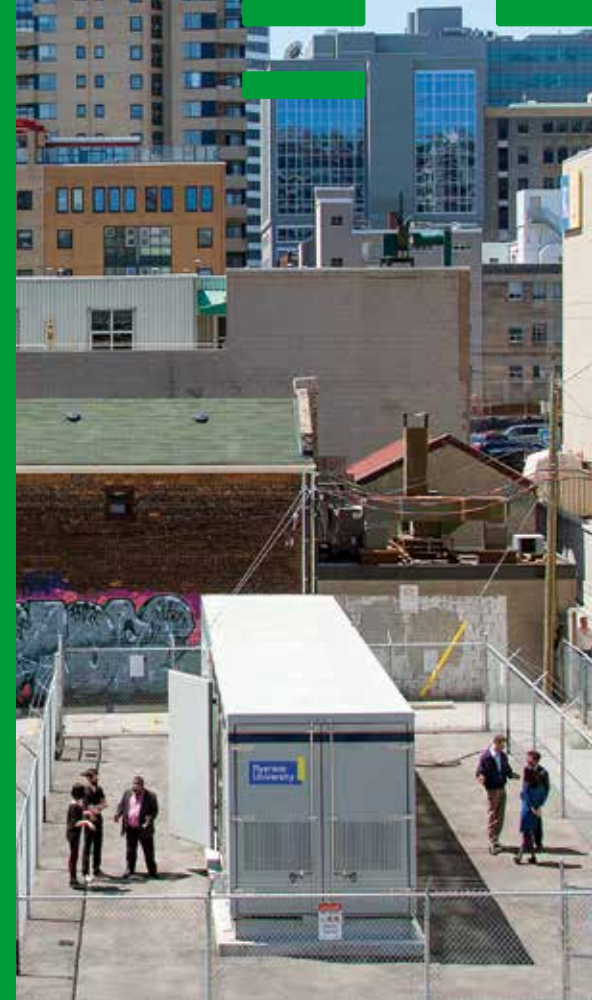
In the Clean Energy Zone, you will work at the forefront of multi-billion-dollar energy-based industries to develop new products, explore innovative solutions or embark on ventures to change the world. Working in one of the most vibrant and diverse cities in the world, you can develop critical collaboration and project management skills valued by employers, gain real-world experience for resumés and portfolios, or even graduate with your own company.

Programs offered

Startup School
Startup School helps students and zone members develop the mindset and skills required to manage the entrepreneurial process. Top industry experts, thought leaders and seasoned entrepreneurs lead free workshops on topics including design thinking, business plan development and managing investors.

Zone learning community
Access resources, community programs, workshops, competitions and networking or industry events from any area within Ryerson's zone network. Sandbox, the community arm of the DMZ (a leading business incubator for tech startups at Ryerson), provides free career development programs to help entrepreneurs master skills in web design, social media, coding or photography.

Optional specialization
Completing four terms of enrollment in zone learning earns students a specialization that appears on their transcript.



Large-scale battery
A pilot project between CUE and Toronto Hydro, testing energy storage systems (April 2016)

Centre for Urban Energy

The Centre for Urban Energy (CUE) at Ryerson University is a world-class academic-industry research and technology demonstration centre devoted to the discovery and commercialization of innovative, practical solutions to urban energy issues.

CUE was created in 2010 with supporting funds of \$7 million from founding sponsors Hydro One, Ontario's Independent Electricity System Operator (IESO), and Toronto Hydro. CUE houses state-of-the-art research and testing facilities including the Schneider Electric Smart Grid Laboratory – the first of its kind at a Canadian university.

Today, CUE partners with more than 45 of Canada's top industry leaders in the energy sector. CUE researchers and faculty members frequently publish reports and recommendations on topics including: electric vehicles, energy storage, utilities and infrastructure efficiency and electric grid improvements.

All facilities and resources at CUE are available for Clean Energy Zone member use. Zone mentors are often researchers, faculty or partners involved with CUE.

Centre for Urban Energy founding sponsors:



Benefits for zone members

Funding opportunities

Competitive grants and programs provide lucrative funding opportunities for Clean Energy Zone members. For example, through Ontario Centres of Excellence (OCE) programs, startups can access 1:1 matching funding of up to \$250,000.

- OCE (Government of Ontario)
- OCE Campus-Linked Accelerators
- OCE SmartStart Seed Fund
- Ryerson Futures
- David McFadden Energy Entrepreneur Challenge
- Norman Esch Engineering Innovation and Entrepreneurship Awards
- National Research Council Canada – Industrial Program (NRC-IRAP)

Industry mentors

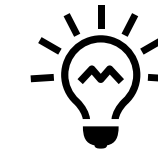
Zone members are matched with mentors – established industry thought leaders working with energy utilities, technology firms and businesses – that work in a field as close as possible to the venture.

Mentors provide entrepreneurs with expert guidance and networking opportunities throughout the innovation pathway from ideation to commercialization, helping them accelerate initiatives that have real potential for social or economic impact.

Andrew Clare,
Distributed Resources
Clean Energy Zone member
since 2012

Incubation process

The Clean Energy Zone supports the startup journey between ideation and market growth.



Ideation

Focus on solving a problem or exploring an opportunity



Development

Look for validation of a defined idea



Startup

Seek industry connections and funding for a prototype or concept

Get real-world experience and learn new skills

Success requires the development of soft skills like time management, collaboration and communication. Gain new experience and develop new skills on the job while bringing a clean energy solution to life.

- Collaborate and build ideas with other entrepreneurs within Ryerson's zone network
- Receive mentoring from an industry thought leader to help improve the chances of your innovation's success
- Test your prototypes in our state-of-the-art research labs
- Apply for various types of funding including lucrative awards, competitions and grants
- Learn on demand with workshops and startup courses offered through Ryerson's zone learning community

Melinda Clarke, Elocity
Clean Energy Zone member
since 2016



The pre-graduate startup

Electrical Engineering students Bolis Ibrahim and Oleh Zhyhinas created the award-winning solar energy startup Argentum Electronics, and are developing clean energy chargers for high-end consumer electronics. They've just completed their working prototype for a solar charge controller – a device that harvests energy from solar panels more efficiently than other alternatives currently available on the market.

Having been mentored by several faculty and industry experts, Bolis and Oleh also benefited from the Clean Energy Zone's co-working space and technical testing facilities. Their startup won the David McFadden Energy Entrepreneur Challenge at the Ontario Centres of Excellence Discovery conference, winning a prize of \$25,000 and a suite of business services to help them advance their winning concept. This financial boost added to the duo's previous wins of all three stages of the Norman Esch Engineering Innovation and Entrepreneurship Awards, totalling \$38,000, and is helping Bolis and Oleh take their idea from prototype to commercial product.



“We worked with real components to produce a physical, working model, and it was a good learning experience. I like being in Ryerson's zone learning ecosystem; there are always high-profile industry leaders and potential investors to bounce ideas off of.”

– Bolis Ibrahim

Kevin Daniel, Innovit
Clean Energy Zone member
since 2015



Incubate ideas and catalyze passion

Focus on your passion, while taking your project from idea to impact.

- Participate in clean energy-focused events and benefit from a wealth of networking opportunities
- Tap into an integrated ecosystem of industry connections and academic researchers
- Gain market insight from industry experts and mentors to define business opportunities
- Take advantage of the opportunities of a workspace in the heart of downtown Toronto
- Leverage the diverse talent pool of Ryerson students via zone matchmaking and co-founder pairing events



“The Clean Energy Zone provided us with a home in the heart of downtown Toronto, introduced us to partners and helped us leverage student talent, letting us focus on the heavy lifting in our critical startup years.”

– Cara Clairman

The cleantech champion

Plug’n Drive is a non-profit organization accelerating the adoption of electric vehicles in Canada by providing unbiased information about electric cars and charging stations. Specializing in education and outreach programs, Plug’n Drive partners with electricity distribution companies to increase electric vehicle research and engagement with all levels of government.

At a critical time for growing her business, Plug’n Drive president, CEO and founder Cara Clairman turned to the Clean Energy Zone for key government and industry connections. Additionally, Cara turned to a team of Ryerson students to help with market research, outreach and graphic design, allowing her the time to focus on developing her business plan.

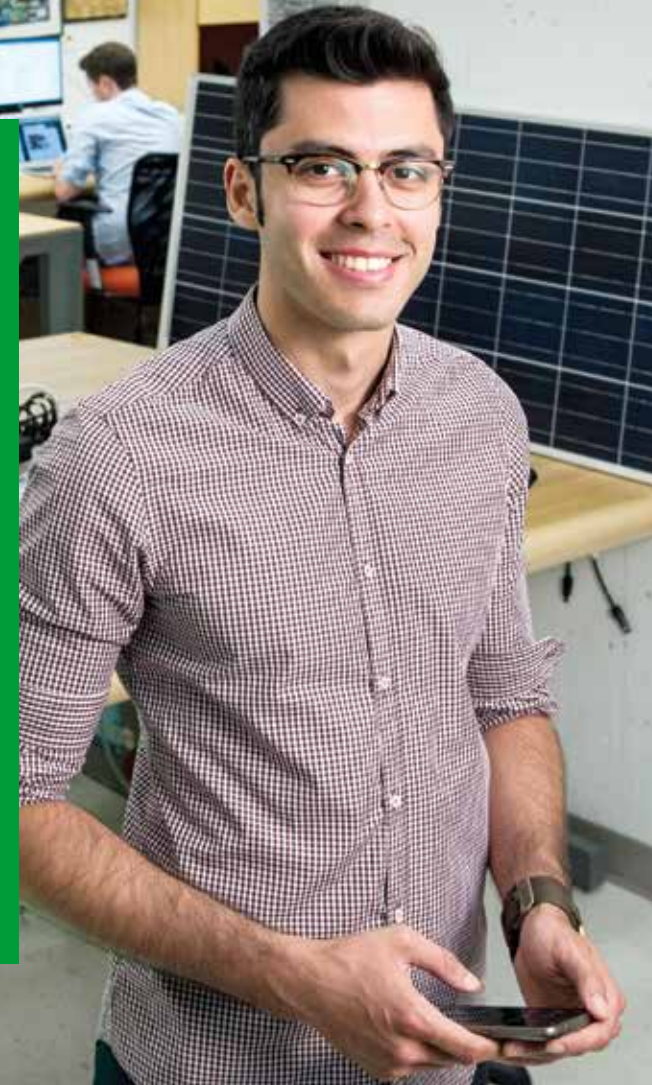
Now a nationally recognized non-profit organization, Plug’n Drive has partnered with the Ontario government to open the new Electric Vehicle Discovery Centre in 2017. The centre creates new space for electric vehicle education, where interested buyers can compare models and gather information in a sales-free, no-pressure environment.

Farbod Mansorian, PawCharge
Clean Energy Zone member
since 2016

Lead change with impactful solutions

Transform industries by building bold solutions that create real change. Lead the future of your movement and work with mentors to guide your growth.

- Spark social change for benefits beyond profits
- Respond to the rapidly evolving needs of society
- Get matched with a mentor with industry experience directly related to your project
- Graduate with hands-on experience creating economic, environmental or social impact
- Make a difference; help create a more sustainable world by transforming our energy systems



The industry disruptor

Ahsan ul Alam, a Ryerson Electrical Engineering graduate, co-founded Electrefy, a Clean Energy Zone startup that is focused on developing a fast charging station, able to significantly recharge an electric vehicle in 20 minutes. Set to solve one of the biggest barriers to electric vehicle adoption among consumers, this cost-effective system is poised to transform the environmental and economic impact of electric vehicles by redefining the accessibility and time cost of charging. This startup has the potential to shake up the auto industry as we know it.

Along with co-founders Joseph Tam and Sabbir Ahmed, Ahsan developed the technology behind Electrefy by leveraging influential research from Ryerson's CUE. The Clean Energy Zone's incubation process and industry and faculty zone mentors helped ensure controlled and calculated growth for this startup, bracing it for exponential growth in the face of major industry change.



“In an industry defined by incremental innovations, I wanted to make a significant change by solving a major problem holding back electric cars. The industry connections and being part of Ryerson’s ecosystem were critical in giving us credibility.”

– Ahsan ul Alam

Clean Energy Zone graduates



“The Clean Energy Zone offered a collaborative and innovative work environment with access to the people and resources we needed to launch our company.”

– Matt Tokarik, Founder of 2ND LOT



“The Clean Energy Zone played an integral role in supporting DanTeb through the process of building our own ‘Made in Canada’ product. We met some of our suppliers through the zone network whom we are still partnered with today. It was a great place for idea sharing and learning from mentors.”

– Laura Miller, Co-founder of DanTeb Enterprises

Clean Energy Zone by the numbers

2012

Founded

\$3M+

Funding raised to date

50+

Number of jobs created in new startups since 2012

100+

Number of zone learners in 2016

14 13

Current number of startups

Number of graduated enterprises



Visit **ryerson.ca/cue** today
to find out how you can join
the Clean Energy Zone

Ryerson
University

Centre for
Urban Energy