Centre for Canadian Nuclear Sustainability

Pickering Community Advisory Council

Carla Carmichael, Vice President
Nuclear Decommissioning Strategy

Sept. 21, 2021

Centre for Canadian Nuclear Sustainability

Sustaining the Clean Energy Lifecycle

CCNS Vision:

Nuclear technology is adopted as the sustainable energy source for future generations

CCNS Mission:

Bringing the industry together to invest in our environment, community and economy through the advancement of innovative and sustainable nuclear lifecycle solutions

Foundation Pillars

Environment

Sustainable Plans for safe, environmentally and socially responsible decommissioning

Economy

Advance projects resulting in **Economic Stimulus** and skilled job opportunities

Innovation in the Industry

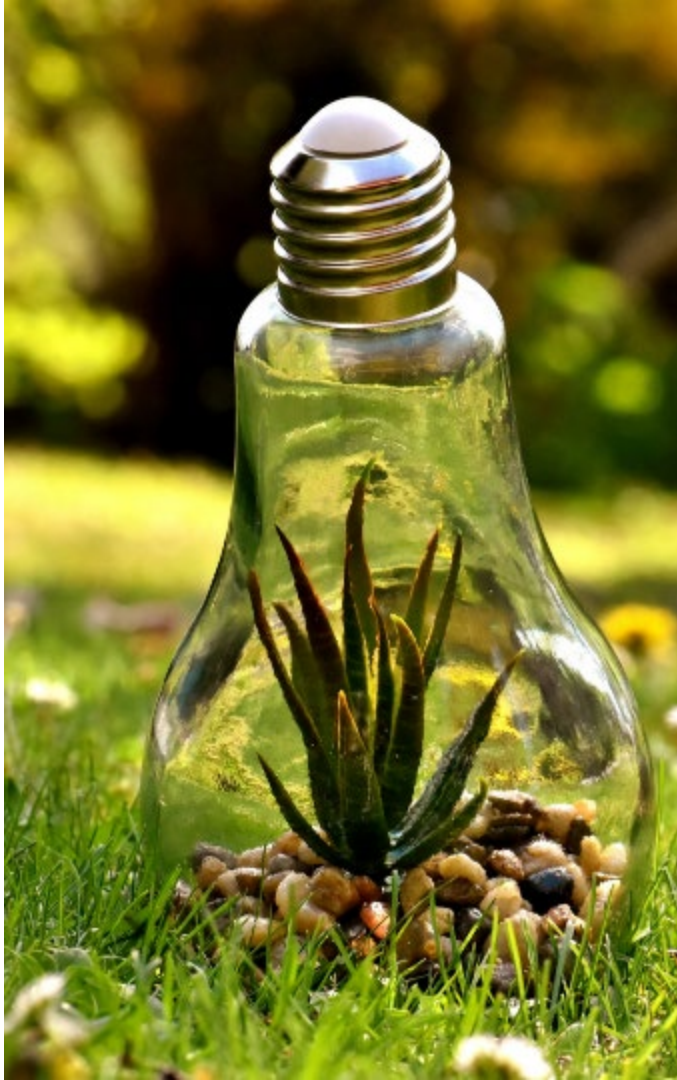
Innovative Thought Leadership

Collaborative research and development with academia and vendors

Community

Broad outreach and inclusiveness

Community Involvement



Innovation

- Annual $2M innovation fund for new R&D projects
- Will help support decommissioning in a number of key areas, including process optimization, radiation management, nuclear material management, and site restoration
- Potential for use across the nuclear industry and could help advance new zero-emission nuclear technologies, like Small Modular Reactors
- To date, OPG has selected nine ideas through the RFII process

OUR STORIES

OPG's Centre for Canadian Nuclear Sustainability investing in innovation

Home › Powering Ontario › Our generation › Nuclear power › Nuclear decommissioning › OPG's Centre for Canadian Nuclear Sustainability investing in innovation

JUNE 10, 2021

For decades, OPG's Pickering Nuclear Generating Station has produced clean electricity safely and reliably, and has been a steady source of life-saving Cobalt-60 medical isotopes.

This proud legacy will pave the path forward for the future of clean energy innovation, as Pickering Nuclear undergoes decommissioning.

OPG's new Centre for Canadian Nuclear Sustainability, located in Pickering.

OPG's new Centre for Canadian Nuclear Sustainability (CCNS), also located in Pickering, is gearing up to support this landmark project and help fulfill OPG's mission to achieve a net-zero economy. The innovation hub will develop and promote sustainability of nuclear power generation throughout its entire lifecycle, while boosting the economy and creating skilled jobs.

In addition to research and development projects already underway, the centre has established a $2-million innovation fund for new R&D projects that will help prepare for decommissioning, as well as advance solutions for minimizing nuclear materials and recycling clean materials.

The ideas, techniques and solutions that come from these projects will help reduce timelines and costs for the decommissioning project, enhance employee safety, reduce radiation exposure and waste, and ensure the safety of the community and environment.

> ***"We're bringing the same excellence and spirit of innovation to decommissioning nuclear stations that we brought to building and operating them."***
>
> *Carla Carmichael, OPG's Vice-President of Decommissioning Strategy*

"Since it first went into service, Pickering Nuclear has advanced clean energy innovation and has been a model of safe, reliable nuclear generation for the world," said Carla Carmichael, OPG's Vice-President of Decommissioning Strategy. "Now, we're bringing the same excellence and spirit of innovation to decommissioning nuclear stations that we brought to building and operating them."

Carla Carmichael, OPG's Vice-President of Decommissioning Strategy

Working with industry partner Nuclear Promise X, a nuclear innovation firm, the CCNS put out a Request for Innovative Ideas. The aim is to gather as many ideas from the energy industry, academia, and other stakeholders to create sustainable solutions.

Close to 300 submissions were received. After multiple vendor consultations and review meetings, OPG honed in on a handful of promising ideas set to be **publicly revealed** over the next few months.

These new ideas will help support decommissioning in a number of key areas, including process optimization, radiation management, nuclear material management, and site restoration. They also have the potential for use across the nuclear industry and could help advance new zero-emission nuclear technologies, like Small Modular Reactors.

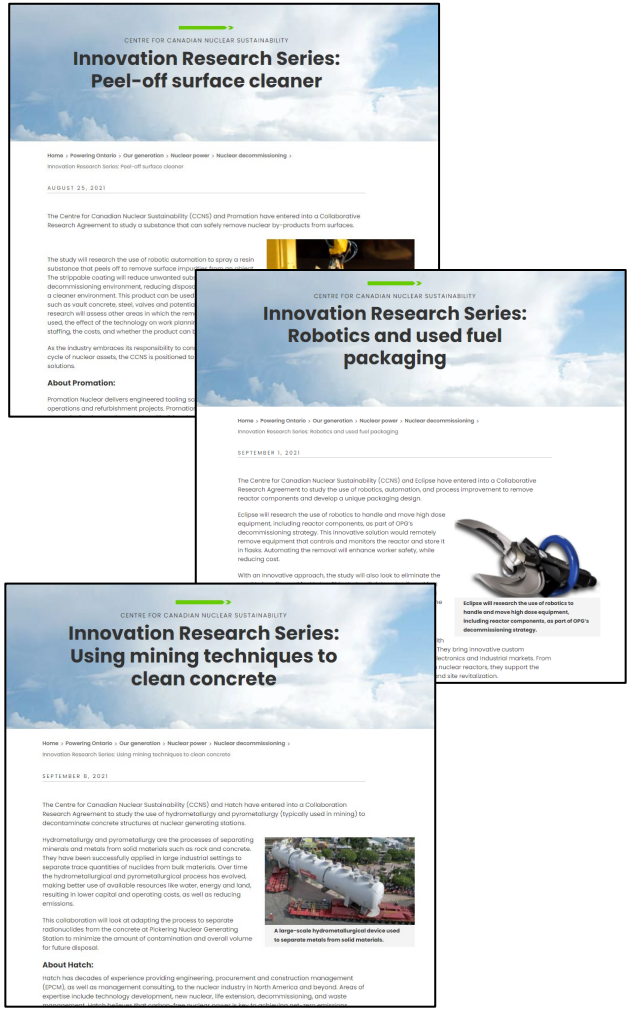
"Through these innovative ideas, we want to showcase opportunities that enhance the current decommissioning plan and timeline while striving for sustainability," said Sabrina Nestor, CCNS Manager.

Innovation

- Innovation Research Series highlights each project

- Four projects announced to-date:
  - Peel-off surface cleaner – Promation Nuclear
  - Robotics and used fuel packaging – Eclipse
  - Using mining techniques to clean concrete - Hatch
  - Energy-saving cooling system for used fuel - Framatome

- Next Steps:
  - Each project has varying timelines
  - Vendor submits report with findings/recommendations
  - OPG evaluates and makes a decision to proceed or not
  - Continue to look for innovative ideas through this annual funding



Community

- Virtual community presentations – local Rotary clubs
- One-Year Anniversary Celebrations – Virtual community events
  - Expert Panel on nuclear sustainability
  - "Myth vs. Fact" social media challenge
  - STEM activity for kids
- Indigenous Advisory Council
  - Second meeting in September
  - Connecting communities with CCNS partners
  - New Indigenous Economic Development Advisor
- Charitable Giving
  - Sponsoring Youth Science Canada 2022 – CCNS established an innovation award
  - Charitable donations at one-year anniversary

Thank You

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