



THE STATUS OF CLIMATE CHANGE EDUCATION

IN ENGINEERING PROGRAMS ACROSS CANADA



UNIVERSITY OF
WATERLOO



WATERLOO
Climate Institute

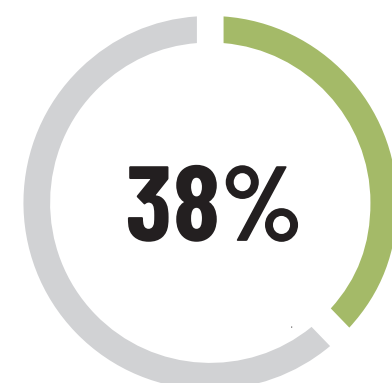


Natural Resources
Canada

Ressources naturelles
Canada

Engineering programs are just beginning to incorporate climate change into their program outcomes and courses

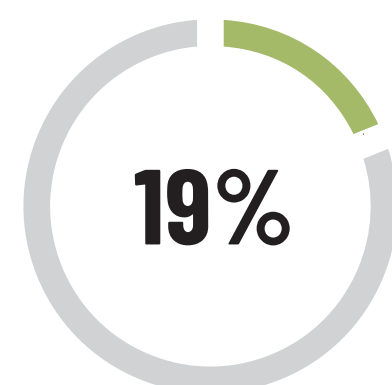
Climate science basics are already being taught by



38%
of civil and environmental
engineering programs
have started this work



80%
of civil and
environmental
engineering programs



19%
Only 19% of systems and
other engineering programs
have started this work



38%
of systems and other
engineering programs

Current pedagogical approaches

used in engineering for climate change education:



Standard approaches:

- lectures
- guest speakers
- seminars
- research



Hands-on:

- case-based learning
- experiential learning
- workshops
- projects

57% of engineering programs agreed that teaching about climate change requires special pedagogical approaches, supports and educational resources!

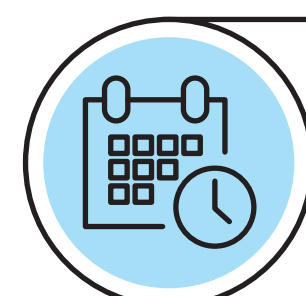
Top 3 enabling factors

for climate change education in engineering programs:

- 1** Faculty interest & expertise
- 2** Campus initiatives
- 3** Student enthusiasm

Top 3 barriers

to the integration of climate change education:



**Time
constraints**



**Expertise
constraints of
instructors**



**Limited
awareness of
resources**

Support needed

Engineering programs need more support in integrating climate change education into their program, including:

**Help with the
development
and redesign
of courses**

**Access to
relevant
teaching and
learning
resources
and tools**

**Climate
pedagogy
professional
development
for faculty**