



“The Canadian Federation of Engineering Students believes that sustainability is an essential consideration in engineering practice, and believes it is necessary to educate and engage its members on issues of sustainability, while also evaluating and improving the sustainability of its own practices.”

The Students’ Position

- Engineers have a responsibility to act in the public interest, which entails a responsibility to perform work that is sustainable for future generations.
- The next generation of engineers should be educated and invested in sustainable practices of engineering prior to graduation.
- The CFES should evaluate the sustainability of its operations, and reform and improve its practices wherever necessary.

The Issue

What is sustainability?

According to the Brundtland Commission of 1987, sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations Commission on Sustainable Development 2007). As well, the Seventh Generation Principle, which originates from the Great Law of the Iroquois, calls on us to stay focused not only on the past and the present but also ensuring our current decisions are sustainable for seven generations in the future (Lyons 1980). The three pillars of sustainability are the environment, society, and the economy. These three pillars, and the balance between them, must be addressed in order to achieve this goal while simultaneously creating full lives and realizing human potential (Stavins et al. 2003).

Why is sustainability important in an engineering context?

Sustainability is a key component of engineering because engineers have to help society continue to advance, but in a way that limits negative impacts to the environment, society, and the economy. Engineers have a duty to the public good to protect public health and safety, as well as the environment. This means that within an engineers’ duties, they must consider the anthropogenic effects related to population growth, depletion of resources, environmental pollution, climate change, and damage to ecosystems. The future of energy, water, food, and non-renewable resource availability is at risk, and is fundamentally changing engineering operations.

How can we assist with sustainability?

The ultimate goal of the CFES is to provide valuable information to its members, while also incorporating sustainable practices within its operations.

Firstly, a national sustainability conference can be hosted by a CFES member school, as developed by the CFES Sustainability Working Group. This conference will gather students from across the country to participate in workshops, discussions, and activities aimed to educate and problem solve current issues related to sustainability.

Secondly, the CFES can develop guiding material for itself and member organizations to decrease their environmental impact. This can be done using a living document outlining best practices. This document shall be reviewed and updated annually to reflect any changes in best practices. In addition to this, other educational documents can be prepared including but not limited to how to attend conferences sustainably.

In order to incorporate sustainable practices within the CFES, an environmental footprint analysis must be performed. This will allow areas of improvement to be identified and solutions to be implemented.

Lastly, events supported by the CFES can be encouraged to consider sustainable acts throughout their planning and execution processes. These actions could be easily referenced through distributed documents promoted by the CFES. As a national student organization, the CFES has a major role to play in paving the way for sustainable actions as an organization and then further motivating the member schools.

What the CFES is doing

- The CFES formed a Sustainability Working Group in 2017 to research sustainable initiatives and lay the groundwork for a future conference on sustainability.

What the CFES plans to do

- The CFES will host a national conference on sustainability in engineering annually at one of its member schools with the goal of directly educating and engaging engineering students on sustainable practices related to the profession.
- The CFES will prepare a living document on best practices for sustainability for use by itself and its member societies, as well as other useful learning resources related to sustainability.
- The CFES will perform an environmental footprint analysis of its operations, and reform its operations to align with sustainable practices wherever possible.
- The CFES will encourage its event organizing teams to consider sustainable practices in their planning and execution processes.

Sources

Lyons, Oren. *An Iroquois Perspective*. In *American Indian Environments: Historical Legal, Ethical, and Contemporary Perspectives*. Syracuse University Press, 1980.

Stavins, Robert N, Alexander F Wagner & Gernot Wagner. *Interpreting sustainability in economic terms: dynamic efficiency plus intergenerational equity*. *Economics Letters*, 2003; 79(3) 339-343. Retrieved from: <http://www.sciencedirect.com/science/article/pii/S0165176503000363?via%3Dihub>

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