



**WORLD FEDERATION
OF ENGINEERING
ORGANIZATIONS**



**WFEO
Standing Committee on Engineering and the Environment
(WFEO-CEE)**

**Strategic Plan
2011-2015**

**Updated
September 2013**

WFEO Committee on Engineering and the Environment (“WFEO - CEE”) Strategic Plan 2011-2015

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1.0 Background

Engineers Canada served as host of the Committee on Engineering and the Environment (CEE), for a four year term from November 2007 to September 2011. In March 2011, Engineers Canada informed the World Federation of Engineering Organizations of its willingness to continue to host this committee for a second term from September 2011 to the WFEO General Assembly in December 2015. The Chair and Secretariat from Engineers Canada prepared this strategic plan, which was formally approved by CEE members in September 2012. The strategic plan is a living document that will evolve as the work evolves. From time to time the plan may be amended as the work of the various themes progresses and future opportunities arise.

Engineers Canada prepared and oversaw the implementation of a four-year, theme-based strategic plan (2008-2011) that concluded at the WFEO General Assembly in September 2011. This second plan builds on the outcomes of the first one by continuing some themes and commencing work on new themes that were proposed by WFEO member countries.

This plan includes an important task to identify and secure the commitment of a new host country for the committee starting in January 2016, subject to the approval of the WFEO General Assembly.

This committee shall assume its responsibilities and operate in accordance with Annex C – Standing Committees that is included as part of the WFEO Constitution which took effect following the WFEO General Assembly in September 2011. Sections of that Annex were incorporated in this plan under operations and finances.

2.0 WFEO Vision

WFEO is the worldwide leader of the engineering profession and cooperates with national and other international professional institutions in developing and applying engineering to the benefit of humanity.

2.1 WFEO Mission Statement

WFEO encourages all of its international and national members to contribute to global efforts to establish a sustainable, equitable and peaceful world by providing an international perspective and enabling mechanisms:

- To provide information and leadership to the engineering profession on issues of concern to the public or the profession.
- To serve society and to be recognized, by national and international organisations and the public, as a respected and valuable source of advice and guidance on the policies, interests and concerns that relate engineering and technology to the human and natural environment.
- To make information on engineering available to the countries of the world and to facilitate communication between its member nations.
- To foster peace, socio-economic security and sustainable development among all countries of the world, through the proper application of technology.
- To facilitate relationships between governments, business and people by contributing an engineering perspective to discussions on policies and investment.

3.0 Vision for WFEO-CEE

The Committee on Engineering and the Environment enables WFEO and the global engineering profession to support the achievement of the UN Millennium Development Goals through the development, application, promotion and communication of:

1. environmentally sustainable engineering practices and technologies;
2. the adaptation of infrastructures to the impacts of a changing climate;
3. assessing and promoting clean technologies and engineering practices to mitigate climate change;
4. engineering perspectives on the international elements of the agricultural supply chain to United Nations agencies and commissions, national members of the Federation and other international non-government organizations; and,
5. developing guidelines for practicing engineers on responsible environmental stewardship and sustainable practices in various areas of practice including mining.

3.1 Mission Statement for WFEO-CEE

In partnership with its national members and other WFEO standing committees, the WFEO-CEE will execute a thematic, results-oriented program for 2011-2015 that:

- Increases the understanding of the global, regional, engineering and policy issues and solutions for the environmentally sustainable development of civil infrastructure and vital services;
- Gathers and disseminates information and provides recommendations on the adaptation of civil infrastructures to the impacts and risks of climate change;
- Develops and promulgates appropriate environmental and sustainable engineering practices in the least developed, developing and developed countries in mining and related industries;
- Engages with the appropriate United Nations agencies, international non-government organizations and national members of World Federation of Engineering Organizations to provide engineering advice and strategies related to the international agriculture and food security.
- Further increase the profile and participation of the WFEO in the UN Framework Convention for Climate Change (UNFCCC) related to climate change adaptation and infrastructure vulnerability as well as advocating the application of clean technologies and energy conservation within national and international strategies to mitigate climate change ;
- Achieves recognition of the role and contributions of WFEO and the worldwide engineering profession towards the environment and sustainability elements of the UN Millennium Development Goals;
- Supports the WFEO's United Nations Relations Committee to engage with the United Nations Commission on Sustainable Development and other related UN bodies to provide the engineering perspective on the current issues;
- Supports and raises WFEO's profile and participation in the work of UNESCO and OECD as it relates to engineering and the environment;
- Engages with other international bodies such as the World Meteorological Organization, FIDIC, International Water Association on projects that support the practice of engineering.

4.0 Mandate of CEE

The WFEO–CEE shall support the WFEO and the engineering profession worldwide by:

- Encouraging and supporting CEE theme leaders to organize international webinars, workshops and seminars related to their work within the strategic plan.
- Developing and promoting environmentally sustainable policies, strategies and practices to adapt engineering infrastructure to climate change impacts as well as for mitigating climate change.
- Drafting and promoting practice guidelines and policies related to engineering and the environment to WFEO national and international members for the consideration and approval of the WFEO Executive Council and WFEO members.
- Participating as the WFEO representative in the UNFCCC Nairobi Work Program on Impacts, Vulnerabilities and Adaptation to Climate Change and representing WFEO at meetings of the UNFCCC.
- Representing the CEE as one of the WFEO delegates on the Scientific and Technological Major Group that participates on the UN Commission on Sustainable Development as well as the WFEO UN Relations Committee (WURC).
- Representing WFEO on the Farming First organization to provide engineering advice and review of reports, proposed policies and strategies related to agricultural production, storage and transportation and other issues as appropriate.
- Providing the engineering perspective on agricultural supply chain and food security to the international agricultural community including the UN.
- Communicating to the WFEO and the international community on the work of the CEE.

Undertaking tasks at the request of the President, Executive Board or Executive Council related to environment, sustainability and climate change issues. **5.0 Operating Principles**

The WFEO–CEE shall engage in a facilitating role among its members and the WFEO community. Where necessary, this role may include leadership and coordination among members and other committees of the WFEO.

The WFEO-CEE will conduct its business in a transparent, inclusive and consultative manner among its members as well as the other committees and structures within the WFEO by:

- Working with local organizers to organize projects and advance progress on the themes
- Inspiring and empowering our theme leaders and project participants, treating each other fairly and respectfully and fostering teamwork and collaboration
- Encouraging collaboration among committee members as well as other standing committees of the WFEO as appropriate
- Focusing on concrete and measurable deliverables and tracking progress
- Communicating in an open, forthright and timely manner
- Reporting to, and liaising with, the WFEO Executive Board and Council

The WFEO-CEE 2011-2015 Strategic Plan focuses on themes focused to improve the utilization of limited financial and volunteer resources to enable more progress. One project from the 2008-2011 plan (Theme 5 - Environment and Sustainability Practice Guideline, now re-named as the WFEO Model Code of Practice for Sustainable Development and Environmental Stewardship) has been carried over to allow completion of the consultation process within WFEO and its publication as an official guideline.

The plan is a "living" document evolves as the work progresses. It is reviewed annually, and adjustments reported to the WFEO Executive Board and Council. The plan and its updates will be used by the committee to track progress and report to the WFEO Executive Board, Council and General Assembly.

6.0 Membership and Organization

The WFEO – CEE 2011-2015 is hosted by Engineers Canada and chaired by Mr. Darrel Danyluk, FEC, P.Eng. a Past President of Engineers Canada. He served as Chair for 2007-2011. Regional Vice-Chairs have been confirmed in most regions of the world and the last region (Asia) will be confirmed by early 2014. The Secretariat for the committee is provided by staff at Engineers Canada – Mr. David Lapp, FEC, P.Eng. and Ms. Lynn Tremblay. Contact information is provided at the end of this document.

There are two categories of committee membership: Full Member and Corresponding Member. A Full Member is an active participant on one or more projects or initiatives of the committee, and likely to attend the annual meetings of the Committee. If the Full Member is nominated and sanctioned by the WFEO Member Organization for their country, then this member has voting privileges for any motions put forward at CEE meetings. If the Full Member is not the official representative of the WFEO Member Country, they may participate in all activities and meetings of the CEE, but cannot vote. Recruitment of members is an on-going effort.

A Corresponding Member is copied on such items as minutes, the newsletter, reports and so forth, participates in a supportive role but would not be leading a project and may or may not attend the annual face-to-face meetings of the CEE.

7.0 Themes

The Strategic Plan is organized into themes, using the mission and objectives of the WFEO and the WFEO-CEE as the context for the work. The following are the themes for 2011-2015.

Theme	Leader	Objectives	Goals
1. Engineering and Climate Change Adaptation	Mr. D. (Darrel) Danyluk, P.Eng Engineers Canada (darrel.danyluk@engineerscanada.ca)	<p>To understand the risks of a changing climate on existing and planned infrastructures.</p> <p>To develop and demonstrate application of tools for engineers to use in assessing the impacts.</p> <p>To train engineers and other professionals in the assessment of climate impacts on civil infrastructure and developing engineering solutions</p> <p>To input the engineering perspective on adaptation into the UN process through the UNFCCC and the Nairobi Work Program</p>	<p>To develop presentation and training materials on adaptation of civil infrastructure for use and delivery by CEE members and WFEO member countries to inform and educate policy and decision-makers.</p> <p>To influence the United Nations and WFEO member countries in policy development on matters related to adaptation of infrastructure to climate change.</p> <p>To work closely with UNESCO, OECD, and WMO on projects of mutual interest.</p>

Theme	Leader	Objectives	Goals
2. Climate change mitigation and engineering	<p>Dr. P.(Paul) Jowitt, C. Eng., Institute of Civil Engineers, United Kingdom (p.w.jowitt@hw.ac.uk)</p> <p>Eur Ing D. (Daniel) Kenning, C. Eng., Institute of Mechanical Engineers, United Kingdom (dkenning@spendidengineering.co.uk)</p> <p>Co-Chairs</p>	<p>To produce additional country reports for the Future Climate - Engineering Solutions Project</p> <p>To advocate engineering solutions for climate change mitigation to the United Nations and WFEO member countries</p> <p>To inform and educate policy and decision-makers</p>	<p>Facilitate the engagement of WFEO member countries to participate in the Future Climate Engineering Solutions project.</p> <p>Develop presentation and training materials for use and delivery by CEE members and WFEO national and international members to inform and educate policy and decision-makers.</p>

Theme	Leader	Objectives	Goals
3. Engineering and Agriculture	Engineer F. (Fethi) Thabet, (Tunisia) (fethithabet53@gmail.com)	<p>Develop an understanding, knowledge and capacity to address selected key problems within the agricultural supply chain at a regional or country level that would benefit from engineering.</p> <p>To foster cooperation between the engineering and agricultural communities.</p> <p>To provide on-going engineering advice to the Farming First organization.</p> <p>To provide the engineering perspective on agricultural supply issues internationally at the UNFCCC and UN-CSD.</p>	<p>Develop a working relationship with the UN Food and Agriculture Organization (FAO).</p> <p>Develop a methodology to assess technical risks to the reliability of agricultural supply chain.</p> <p>Increase awareness of the benefits of maintaining genetic variability and traditional crop varieties.</p> <p>Promote efficient and effective water-use and delivery through workshops and presentations at international or national meetings or conferences.</p> <p>Increase awareness of the role of biotechnology and its contribution to crops, food preservation and storage. Examine the influence of climate change on agriculture.</p>

Theme	Leader	Objectives	Goals
4. Engineering and Mining	Dr. Nikhil Trivedi IDEKIN International Society of Mining Engineers United States (nikihl.trivedi@idekin.com)	<p>To raise global understanding and application of engineering approaches and technologies</p> <p>Increase the contributions of the mining and minerals industries to economic, social and environmental wellbeing, and sustainable development.</p>	<p>To advocate for an engineering perspective regarding minerals issues internationally in the UN-CSD.</p> <p>To share information on culturally appropriate technologies in developing nations and among SMEs and artisanal miners.</p> <p>To identify geographic and sectoral areas of greatest need for capacity building on engineering practices and technologies within the minerals sector, and among affected stakeholders, including authorities, civil society, and non-governmental organizations.</p> <p>To increase understanding of existing and new engineering practices and technologies and their appropriate application in the minerals industry.</p> <p>To advocate for the use of best engineering practices to increase worker and affected community health and safety, to minimize environmental impacts, and to increase eco-efficiency.</p> <p>To share engineering perspectives and approaches regarding reuse, repurposing, and recycling of mineral materials.</p> <p>To promote the application of risk assessment, mitigation and management within the minerals sector.</p>

Theme	Leader	Objectives	Goals
5. Environmental and Sustainable Engineering Practices for Engineers	Mr. D. Lapp, P.Eng. Engineers Canada (david.lapp@engineerscanada.ca)	<p>To publish a WFEO Model Code of Practice for Sustainable Development and Environmental Stewardship for Engineers</p> <p>To monitor and report on emerging policies, strategies and practices at national and international levels</p> <p>To inform and educate the appropriate United Nations agencies</p>	<p>To promote high standards of practice for engineers in the member countries of the WFEO and inform the international community.</p> <p>Develop presentation and training materials on the WFEO Model Code of Practice for use and delivery by CEE members and WFEO member countries to inform and educate policy and decision-makers</p>

8.0 Operations and Budget

8.1 Meetings

The CEE holds one face-to-face meeting each year, normally between September and December. This meeting will be held in conjunction with the bi-yearly WFEO General Assembly, and with the WFEO Executive Council Fall meeting in the alternate years. The meeting is normally one day and all theme leaders are asked to attend. The Chair and Secretariat prepare the agenda and meeting materials for distribution to all CEE members at least 10 days before the date of the meeting. The Secretariat prepares a detailed meeting summary that includes action items and decisions made at these meetings.

In addition, the Chair and Secretary will meet with theme leaders and regional vice-chairs once yearly by teleconference, normally in late June or early July. The objective of this meeting is to get an update on the progress made in all themes as well as anticipated results for the face-to-face meeting later in the year. This teleconference is organized and facilitated by the Chair and Secretariat.

8.2 Newsletter

The CEE produces two newsletters each year. The newsletter normally focuses on one of the themes in the strategic plan. The theme leader is asked to assist in the coordination of articles for the publication. The newsletter includes a message from the Chair as well as a list of upcoming meetings, workshops and events that are related to the themes in the strategic plan. A portion of the budget for the CEE received from WFEO is used to engage a professional editor to assist in the preparation of the newsletter.

8.3 WFEO Website

The Secretariat will have responsibility for the transmission of files to be placed on the CEE portion of WFEO's website – www.wfeo.net.

8.4 Membership

The Secretariat will maintain a current list of members and their contact information. Periodically CEE members are polled to ensure their contact information and membership is accurate.

8.5 Budget

The CEE receives a budget from the WFEO that is allocated on a year-by-year basis. This budget is used primarily for communications and cannot be used to cover travel expenses. The typical allocation is in the order of 5-6,000 Euros/year. The Chair and Secretariat manage and approve expenses for this budget once received.

Engineers Canada as host country is providing funding support for a modest Secretariat and travel expenses for the Chair. The Secretariat consists of a senior engineer (D. Lapp, P.Eng.) working approximately half-time with administrative support from L. Tremblay (10-15% of time). The Chair (D. Danyluk, FEC, P.Eng.) volunteers his time.

Each theme is expected to provide volunteer resources that include a Chair and a committee of volunteers secured from the CEE membership as well as subject matter experts and other professionals engaged in the work. The Secretariat, through the WFEO-allocated budget, can support certain expenses as well as limited secretariat services for themes. These must be applied for and approved in advance. No budget is available to themes for travel support.

8.6 Other Sources of Funding

The Secretariat and Chair will support efforts towards securing funding from external sources e.g. International Financial Institutions, United Nations and other international donor agencies e.g. Rockefeller Foundation to support individual events, activities or projects for the themes. These will be pursued on a case-by-case basis and limited to supporting the theme areas. The lead country for each theme will be responsible to secure its own funding and volunteers for its activities. The Chair and Secretariat will provide assistance as time and resources permit.

8.7 Reporting

The Chair and Secretariat prepare and submit annual and bi-annual written progress reports on CEE's work to the WFEO. As well, the Chair attends meetings of the WFEO Executive Council in his capacity as a Vice-President of WFEO as well as representing the CEE as Chair. He presents verbal progress reports on the CEE's work.

9.0 Succession Planning

2011-2015 will be the second and final term for Engineers Canada as host country. Over the next two years, the Chair and Secretariat will pursue discussions with countries who express an interest in assuming the host from 2016 onwards. The preferred approach is to find a country which is or will become actively engaged in the work of the committee over the next two years by leading a theme. An effort to identify and recommend one country which is willing and financially capable to assume this leadership role will be undertaken in 2014. The goal is to provide a recommendation by the November 2014 meeting of the Executive Council. The Chair and Secretariat will work with the recommended member country in 2014-2015 to affect a smooth transition to the new host at the WFEO General Assembly in December 2015.

10.0 Contact Information

Questions or inquiries about this strategic plan or the work of the themes may be directed to the Chair or the Secretariat. The following is the list of contacts:

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