



Engineers Canada
Women in Engineering Committee 2014-2015

Charge Report and Action Plan

Kim Allen, FEC, P.Eng.
Chief Executive Officer
Engineers Canada
180 Elgin St., Suite 1100
Ottawa, ON K2P 2K3

May 22nd, 2015

Dear Kim:

Subject: 2014-2015 Women in Engineering Committee Charge Report

On behalf of the Women in Engineering Committee, I am pleased to submit our annual report and proposed action plan regarding the Charges assigned to the committee for the 2014-2015 year. We would be happy to discuss this plan with you and our proposed timeline to work together to accomplish the actions outlined.

If you have any questions or comments, please contact me by email (abigailsteel@gov.nl.ca) or phone (709-729-6449).

Sincerely,

A handwritten signature in black ink, appearing to read 'A. Steel', with a long horizontal flourish extending to the right.

Abigail Steel, Ph.D., FEC, P.Eng.
Chair, Women in Engineering Committee

Executive Summary

In September, 2014, the Women in Engineering Committee was provided with a list of 2014-2015 Charges by the CEO of Engineers Canada to provide focus for the Women in Engineering Committee (WIEC), and for Engineers Canada staff.. A subcommittee was assigned to each Charge to develop actionable initiatives for increasing the participation of women in engineering.

The 2014-2015 Charge Report of the Women in Engineering Committee addresses the following six charges:

1. Developing an action and promotional plan for the 30 by 2030 goal.
2. Making recommendations regarding the diversity and demographics of the research plan of the research plan.
3. Identifying and connecting with Women in Engineering (WIE) groups that may assist in the marketing of Career Focus.
4. Suggesting a protocol and action plan for regulator engagement with Canadian Engineering Memorial Foundation (CEMF).
5. Implementing of a repository for information and presentations.
6. Implementation of the Welcoming Workplace Award.

A summary of the committee mandate, membership, charges, meeting schedule and proposed charges is provided in Table 1. The subcommittees for each Charge prepared individual reports with recommendations, which are included in this report. The subcommittee reports were reviewed and consolidated by the committee and the resulting recommendations were summarized as an action plan (Table 2) to address these Charges. The action plan identifies the responsible party or parties for each recommendation as well as a timeline. The recommendations are numbered for each charge and numbering does not necessarily reflect priorities.

**Table 1: WOMEN IN ENGINEERING COMMITTEE
2014 - 2015 REPORT**

Mandate	<ul style="list-style-type: none"> To provide advice and recommendations to Engineers Canada's Chief Executive Officer on matters relating to the participation of women in the engineering field, with the goal of attracting, promoting, and retaining more women in the profession, and achieving equity and diversity in the profession. To oversee the implementation of Engineers Canada's approved Women in Engineering polices and strategies, and support the development of tools and activities that: improve public image, visibility, and understanding of engineering; encourage more female students to pursue an engineering education; and enable more female engineers to remain in the profession throughout their careers.
Goal	E-3.1 Sustainable membership of the engineering regulatory bodies that is reflective of Canadian demographics.
Composition	Appointed by the Engineers Canada CEO
Chair	Abigail Steel, FEC, P.Eng.
Vice-Chair	Sarah Devereaux, FEC, P.Eng.
Members	<p>Past-Chair: Lindsay Melvin, FEC, P.Eng. Christine Plourde, FEC, P.Eng. Catherine Mavriplis, P.Eng. Anja Lanz, EIT Dena McMartin, FEC, P.Eng. Lorna Harron, FEC, P.Eng. Valerie Davidson, P.Eng. Glenda MacKinnon-Peters, FEC, P.Eng. Suzelle Barrington, FIC, ing. Catherine Karakatsanis, FEC, P.Eng.</p>
Regulator Staff	Len White, FEC, P.Eng. (CEO Group Representative)
Engineers Canada Staff	Christina Comeau Julia Semenchenko
2014-2015 Charges	<ol style="list-style-type: none"> Developing an action and promotional plan for the 30 by 30 goal Making recommendations regarding the diversity and demographics of the research plan Identifying and connecting with WIE groups that may assist in the marketing of Career Focus Suggesting a protocol and action plan for engineering regulatory bodies' engagement with CEMF Implementing of a repository for information and presentations Implementation of the Welcoming Workplace Award

COMMITTEE SCHEDULE:

Women in Engineering Committee (WIEC) meetings for the 2014-2015 year included:

- September 5, 2014 Receive 2014-2015 Charges
- September 22, 2014 Executive Teleconference
- October 9, 2014 Full Committee Teleconference
- October 22-23, 2014 SWE Conference (member Suzelle Barrington attended)
- October, 2014 Charge Team Teleconferences
- November 18, 2014 Full Committee Teleconference
- December, 2014 - January, 2015 Charge Team Teleconferences
- January 6th, 2015 Executive Teleconference
- January 18th, 2015 Executive In-Person Meeting, Ottawa, ON
- January 19, 2015 In-Person Meeting, Ottawa, ON
- February 5, 2015 Executive Teleconference
- February, 2015 Charge Team Teleconferences if required
- March 10, 2015 Full Committee Teleconference
- April 22, 2015 Executive Teleconference
- May 14, 2015 Full Committee Teleconference
- May 22, 2015 Submission of committee report

A subcommittee was formed to work on each charge. Each subcommittee provided individual reports, which were compiled into one final charge report submitted in May 2015.

PROPOSED 2015 – 2016 CHARGES:

The committee is currently proposing to keep charges, that have not been completed, the same for 2015-2016. There is also interest in working on the retention issue of women in engineering. A few committee members recommend the committee have fewer charges and others suggest that the regulatory bodies be asked to ask the regulators what their information needs are in relation to Women in Engineering. Finally, it was felt that it would be worthwhile for the WIE committee to have a direction/strategy session to help the committee work most effectively in the short and long-term. Charge #4 (CEMF protocol for regulator engagement) and Charge #6 (Welcoming Workplace Award) are complete.

2015-2016 Charge		Charge Team Leader
1	30 by 30 Goal	Not determined
2	EC Research Plan	Not determined
3	Career Action Program	Not determined
4	Information Repository	Not determined
5	2015/16 Charges	Chair

After feedback and direction on the charge reports and the action plan has been received from Engineers Canada, each charge team will pursue next steps as identified in the 2015-16 Action Plan.

COMMITTEE STRUCTURE AND LEADERSHIP RECOMMENDATION:

The 2014-2015 Chair (A. Steel) makes the following recommendations:

- Regional representation should be considered when appointing committee members.
- The executive should rotate such that the 2015-2016 Committee Chair becomes Sarah Devereaux (current Vice-Chair) and Abigail Steel becomes Past-Chair.
- A new Vice-Chair should be appointed. The committee has been polled for those interested in the position and names have been forwarded to Engineers Canada's CEO.
- Committee members should be required to be active participants on charge teams.

- The 2015-2016 executive should be announced at a committee teleconference in June, 2015.
- Anne Baril is invited to join the committee for 2015-2016. Ms. Baril was instrumental in OIQ's endorsement of the 30 by 30 goal and will be in charge of her association achieving this objective.
- All active members are invited to join the committee for 2015-2016. Members at the May 14, 2015 meeting were polled for their interest in remaining on the committee.

As per the Committee's Terms of Reference, members and the executive are appointed by Engineers Canada's Chief Executive Officer.

Table 2: Women in Engineering Committee – 2015-2016 Action Plan*

Item	Recommended Future Actions	Responsible Party	Timeline
Charge #1: Action and Promotional Plan for 30 by 30 Goal			
1	Engineers Canada to track the formal endorsement of the goal by the regulatory bodies and report that tracking back to them, the Women in Engineering Committee (WIEC) and the Engineers Canada Board.	Regulators/Engineers Canada	Complete - May, 2015
2	WIEC support is available to Engineers Canada as required in their response to requests for information from the regulatory bodies.	Engineers Canada/ WIEC	February 2015 – ongoing
3	WIEC to work with Engineers Canada to further develop and make available the WIE Promising Practices document as resource for the regulatory bodies. The resource will remain open for ongoing input of promising initiatives supported by the regulatory bodies in each province.	Engineers Canada/WIEC/Regulators	Ongoing - beginning with receipt of feedback from Regulators. Can be distributed anytime.
4	WIEC to provide ongoing advice and guidance to Engineers Canada in their development of a promotional plan for the 30 by 30 initiative	Engineers Canada/ WIEC	Ongoing
Charge #2 : Demographics and Diversity Components of the Research Plan			
5	Review the 12 recommendations outlined in this 2014-2015 report of the Charge 2 Subcommittee and develop an action plan for implementation over the short and long-term as appropriate.	Engineers Canada	September, 2015
Charge #3 : Identify and Connect with WIE Groups to Assist in Marketing Career Focus			
6	Review recommendations and feedback regarding Career Focus/Awareness Program. Incorporate feedback into future development of program and provide update to WIEC.	Engineers Canada	May 2015
Charge #4: Suggest a protocol and action plan for regulator engagement with CEMF			
7	Review recommendations regarding the collaboration protocol between CEMF and regulatory bodies. Communicate Protocol recommendations to regulatory bodies through appropriate methods.	Engineers Canada	September, 2015
Charge #5: Information and Presentation Repository			
8	Update presentation template with current data and speaking notes	Engineers Canada	Draft complete March 2015
9	Fact Sheets related to annual research reports, including links to graphs and interpretative notes	Engineers Canada	May 2015
10	Provide access to WIEC members for finding and making use of internal Engineers Canada annual research reports	Engineers Canada	June 2015
11	Decision regarding need for and usefulness of implementing a repository	WIEC	June 2015
12	Decision regarding need for and creation of national listserv	WIEC and Engineers Canada	June 2015
13	Ensure that Fact Sheets are linked to Career	Engineers Canada	September 2015

	Action Program		
14	Set a meeting or teleconference with WEPAN leadership about opportunities to collaborate or share programming	WIEC Chair and Engineers Canada	September 2015
15	Short video or video series profiling real women in engineering	Engineers Canada	2017
16	Animated video promoting women in engineering and the variety of careers and lifestyles	Engineers Canada	December 2015
17	Ensure that videos are linked to the Career Action Program	Engineers Canada	As available
Charge #6 : Implementation of Welcoming Workplace Award			
18	Community Engagement Practice Lead to develop a draft Terms of Reference for the Welcoming Workplace Award for review by the WIEC	Engineers Canada	Feb to March 2015
19	Provide the final Terms of reference to the Engineers Canada Awards Committee and the regulatory bodies for recommendations of award recipients.	Engineers Canada	April 2015

Note: * Based on 2014/15 WIE committee work

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Introduction

The following provides a report on each of the following six charges assigned to the Women in Engineering Committee for the year ending June 30th, 2015.

1. Developing an action and promotional plan for the 30 by 30 goal
2. Making recommendations regarding the diversity and demographics of the research plan
3. Identifying and connecting with WIE groups that may assist in the marketing of Career Focus
4. Suggesting a protocol and action plan for engineering regulatory bodies' engagement with CEMF
5. Implementing of a repository for information and presentations
6. Implementation of the Welcoming Workplace Award

Each charge contributes to the accomplishment of one or more of Engineers Canada's goals. The work for each charge was completed by a team led by a WIEC member and consisting of WIEC members and additional volunteers or resources as required or available. Charge Teams provided progress reports and solicited input from the committee at teleconferences throughout the year and at our in-person meeting held in January 2015.

This report consists of a report from each Charge Team, the team members and final recommendations.

The recommendations provided herein contain considerable action for Engineers Canada's consideration. As such the committee request a response from Engineers Canada regarding the recommendations by August 1st, 2015 to enable planning for the next year's committee work.

Charge #1: 30 by 2030 Goal

Charge	30 by 2030 Goal - 30% of Newly Licensed Engineers are Women by 2030
Proposed Deliverables	Advice and Guidance on an Action and Promotional Plan for the 30 by 30 goal
Team Lead	Christine Plourde
Team Members	Len White, Catherine Mavriplis, Suzelle Barrington
Status Update	<ul style="list-style-type: none"> • The subcommittee's review and input into a letter from the Engineers Canada CEO requesting formal endorsement of the goal from the regulatory bodies was completed. Engineers Canada issued a formal request for endorsement of the goal to the regulators on January 19, 2015. • As of February 26, 2015, the following regulatory bodies have endorsed the goal: <ul style="list-style-type: none"> • Alberta - APEGA (they have set their own similar goal) • Manitoba - APEGM • Quebec - OIQ • New Brunswick – Engineers and Geoscientists New Brunswick • Nova Scotia – Engineers Nova Scotia • Prince Edward Island – Engineers PEI • Newfoundland and Labrador - PEGNL • The subcommittee is developing a “<i>Women in Engineering Activities Menu - Promising Practices to Increase Diversity and Inclusion in Engineering</i>” document, which is intended to be an evolving resource to those regulators and other organizations searching to adopt promising practices and/or share their own promising initiatives with others across the country. • The subcommittee will continue to provide advice and guidance to Engineers Canada, as needed, as they develop a promotional plan for the 30 by 30 goal.

Background

In response to recommendations made in the 2013-2014 charge report, Engineers Canada staff agreed at the February 2014 WIEC meeting, to develop an immediate action plan to obtain formal support from regulatory bodies for the revised “30 by 30” goal. Engineers Canada also agreed to track the formal approvals of the goal by the regulatory body and report that tracking back to them and the Engineers Canada Board.

The purpose of this 2014-2015 Charge is for the Women in Engineering Committee to provide advice and guidance to Engineers Canada in its efforts to promote and gain endorsement of the goal at the regulator level, to track progress toward the goal at the national and provincial or territorial level and to encourage adoption of promising practices by various stakeholders across the country.

Subcommittee Work

Following some discussion among the Committee Members and Glenn Martin from Engineers Canada during a November 17, 2014 conference call, Engineers Canada agreed to draft a letter to the regulatory bodies, referencing background information previously provided in the 2013-2014 Charges Report, to formally request endorsement of the goal by each of the regulatory bodies. The draft letter was reviewed, revised by sub-committee members and was issued to Glenn Martin on December 1, 2014. Glenn Martin indicated on December 2nd that the letter was delivered to the Engineers Canada CEO, suggesting that he email it to his colleagues across Canada. Following additional discussion during the January 19, 2015 in-person committee meeting, the Engineers Canada CEO issued a letter requesting endorsement of the goal, by email, to each of the regulatory bodies (with the exception of those who had already done so). The letter included a list of those that had to date endorsed the goal (APEGA, APEGNB, Engineers Nova Scotia and Engineers PEI) and offered to have a Committee member visit the remainder to provide additional information if needed. Almost immediately, the Engineers Canada CEO received a request for additional information and, as of February 26, 2015, a total of 7 regulatory bodies (APEGA, APEGM, OIQ, APEGNB, Engineers Nova Scotia and Engineers PEI) and PEGNL) have endorsed the goal and are exploring ways to help reach the goal in their respective provinces and territories. Other regulators have also requested additional information from Engineers Canada.

The subcommittee will continue to provide advice and guidance Engineers Canada as needed to respond to requests from the regulatory bodies for additional information, or offer to share examples of the various initiatives they may be involved with in their regions. Engineers Canada could also offer to highlight any efforts that are seen as promising practices through their various communication networks.

With regards to the 2013-2014 list of recommendations related to gathering statistical data and completing research studies, it was felt that many of these items are being further addressed through Charge 2 – Support EC Research Plan.

Recommendations/Conclusions/Deliverables

As a starting point for development of a list of promising practices, the subcommittee has drafted a “*Women in Engineering Activities Menu - Promising Practices to Increase Diversity and Inclusion in Engineering*”, which is largely based on “Activities Menu for Women in Engineering” activities originally developed by the Women in Engineering Advisory Group in 2012.

Action Plan

Item	Recommended Future Actions	Responsible Party	Timeline
1	Engineers Canada to track the formal approvals of the goal by the regulatory bodies and report that tracking back to them, the Women in Engineering Committee and the Engineers Canada Board.	Regulators/Engineers Canada	February/March 2015
2	WIEC to support Engineers Canada in their response to requests for information from the regulatory bodies.	Engineers Canada/ WIEC	February 2015 – ongoing
3	WIEC to work with Engineers Canada to develop and publish the WIE Promising Practices document as resource for the regulatory bodies. The resource will remain open for ongoing input of promising initiatives supported by the regulator in each province and territory.	Engineers Canada/WIEC/Regulators	On-going beginning upon receipt of feedback from regulators
4	WIEC to provide ongoing advice and guidance to Engineers Canada in their development of a promotional plan for the 30 by 30 initiative	Engineers Canada/ WIEC	Ongoing

Women in Engineering Activities Menu - Promising Practices to Increase Diversity and Inclusion in Engineering - A Resource Document for Constituent Associations

Activity	Information / Example	Resource
Internal		
Appoint a Women in Engineering champion	Example - A portion of staff's time is dedicated to the support of women in engineering activities, such as sponsoring or partnering with other organizations, outreach events, research, organizing events that build community and support retention.	
Create and support a Women in Engineering or Diversity and Inclusion Committee to support staff efforts	Potential purpose: To provide advice and guidance on WIE, with dedicated budget to help support/work with staff and/or other organizations on initiatives to help move toward and track progress toward the 30 by 30 goal in the CA's province. Committee may report to CEO or to Council.	
Track progress toward 30 by 2030 in your jurisdiction	Track # and % of female and male members achieving licensure each year. Consider tracking # and % of female and male members at various career stages - 5 year, 10 year, 20 year, etc., after licensure. Is there a point where women leave at a higher rate than men?	
Create and/or support/ promote an award for companies who promote women in engineering	Engineers Canada is currently developing a program to recognize engineering workplaces that value and promote gender diversity and inclusion. They are also developing an award for Post Secondary Engineering Institutions that are demonstrating leadership in reaching and surpassing the 30 by 30 goal.	
Create and/or support/ encourage scholarships for female engineering students who promote engineering to	Work with CEMF to promote existing scholarships or create additional ones. Create a provincial scholarship that encourages female students to act as role models to girls in middle and highschool	
Women in engineering magazine/newsletter/ newspaper article	Showcase a Welcoming Workplace Profile/ celebrate women engineers in articles Re-print articles written by others (WinSETT) Canada wide initiatives (publish and adapt) Diversity column	
Women in Engineering webpage section	WIE/Diversity focused Link to Engineers Canada documents and other women in engineering websites/ resources Invite companies to share best practices, success etc on diversity and inclusion efforts Post diversity documents Profile women engineers (members) on website Communication/ promote the 30 by 30 goal - why you support it and what you are doing to help Promote Canadian Science and Technology Museum- Women of Innovation	
Support for Members (young people/women/diversity - improving retention affects attraction)	Host networking events that celebrate diversity and inclusion - lunch, evening, etc - with or without a speaker/ speed networking Trivia night (example WISE Sudbury) Support family activities and encourage members to bring a neighbour Assist with development and communication of CA guidelines for return to work from leave Promote LinkedIn accounts, networks and groups promoting diversity and inclusion Encourage women to volunteer on committees (track volunteers: balance of female/ male) Support members attendance at biennial CCWESTT conference Support regionable conference in non-CCWESTT years (participate, support members' attendance, sponsor) Promote groups such as EWB, WISE, WISE-up and WISE-grad and their activities as well as activities of NSERC chairs	
Visibility in Community	Encourage women to volunteer as judges at science fairs, robotics competitions, career symposiums, etc. (track volunteers: high % female) Nominate women to positions on the board Promote WISE-up, WISE-grad and NSERC chairs work and activities Promote math competitions Buy a table/sponsor dinner at events and send women reps. Help to promote university societies/groups like WISE and EWB - encourage member attendance at join events Target Engineering month activities - organize activities that demonstrate unexpected aspects of engineering - more than just popsicle stick bridges Host a social/fundraiser for CEMF: ticket- 1/2 to support CEMF, 1/2 to cost Consider women members when nominating for awards	

Women in Engineering Activities Menu - Promising Practices to Increase Diversity and Inclusion in Engineering - A Resource Document for Constituent Associations

Activity	Information / Example	Resource
In Partnership with External Organizations		
Host a WinSETT Women in SETT Leadership Program Workshop	Module 1: Becoming Leaders: An Introduction to Leadership Skills and Strategies	http://www.winsett.ca/prgrams/leadership-program/leadership-program-promo-final-oct-2014-pdf
	Module 2: Effective Communication for Women in SETT	
	Module 3: Negotiating for Success	
	Module 4: WinSETT Leaders in Networks and Mentorship	
	Module 5: WinSETT Leadership and Change	
	Module 6: Leadership and 21st Century Challenges	
	Module 7: Women in SETT Leadership	
Partner with WinSETT on other initiatives	Employers' Modules: Towards a Respectful and Inclusive Workplace Other ongoing initiatives developed by WinSETT and its partners include - Retaining and Advancing Women Scientists and Engineering in the Oil and Gas Sector in AB; Gender Diversity and Inclusion - WinSETT/ WorleyParsons Partnership; Recruitment, Retention and Advancement of Women - WinSETT/ Suncor Partnership; Developing Women's Leadership in Engineering - WinSETT/ APEGA Partnership; Diversity Awareness and Career Development in the Mining Sector - WinSETT/ BC Mining HR Task Force partnership; Engendering Engineering Success - WinSETT/ NSERC partnership research project; Welcoming Women into Science, Engineering, Trades and Technology Workplaces: A Checklist of Strategies	http://www.winsett.ca/prgrams/other-initiatives
Host workshops on diversity for members	Include evaluation of own company, showcase a company and provide information on actions to take	See above WinSETT Employer's Modules as an
Partner with other organizations on outreach efforts	Partner with local groups with similar goals - Science Centres, Girl Guides, Etc.	
In collaboration with university	Present salary survey seminar such as that developed by Dr. Elizabeth Croft (UBC)	
	Support/ collaborate with university in outreach efforts - Host a Go Eng Girl or similar event/ create and support a Girl Guides Engineering badge day	
	Demonstrate engineering at teacher/ guidance counsellor meetings	
	Support university based Women in Engineering/ WISE groups - hold joint networking events	
	Hold an Engineering Day with activities for parents and children with promotion by Constituent Association	

Charge #2: EC Research Plan

Charge	Support EC Research Plan
Proposed Deliverables	Advice and Guidance on demographics and diversity components of research plan
Team Lead	Valerie Davidson
Team Members	Lorna Harron, Glenda MacKinnon-Peters, Abigail Steel
Status Update	<ul style="list-style-type: none"> The Charge 2 team has developed a set of recommendations related to demographics and diversity components in the Engineers Canada research plan. The recommendations in this report reflect feedback provided by WIEC members and Engineers Canada staff following discussion of draft Charge 2 recommendations on the November 18, 2014 teleconference call and at the face-to-face meeting on January 19, 2015. Recommendations include enhancement of current survey tools used by Engineers Canada to monitor progress towards the “30 by 30” goal as well as the broader mandate of the WIEC which includes the recruitment, retention and engagement of more women as students and professionals in engineering.

Background

This was a new charge for the WIEC in 2014-2015. However a number of recommended actions in the Final Status Report of WIE 2013-2014 Charges were referred to this Charge:

Item	Recommended actions	Responsible Party	Timeline	2013-2014 Charge	Status
3	Engineers Canada to create a statistical document, both by regulatory body and nationally, to track movement towards the 30 by 2030 goal. It is understood that the data is readily available through Engineers Canada documents, including the annual membership surveys and university enrolment surveys.	Engineers Canada (WIEC can provide additional advice, if required.)	Sept 2014	1 and 5	PL Research evaluated all research requests. See 2015 Charge #2
7	Obtain data from provincial ministries of education in each province or territory on the numbers of male and female students enrolled in high school courses leading to the pre-requisite courses required to enter engineering programs.	Engineers Canada	Nov 2014	1	Same as Item 3
8	Complete a research study to identify successful provincial/territorial associations and the specific actions those associations have taken to achieve higher female participation rates. Profile and promote the success of those associations.	Engineers Canada	Dec 2014	5	Same as item 3

Currently Engineers Canada gathers gender disaggregated data related to enrolments (undergraduate and graduate), faculty, engineers-in-training and licenced professionals across Canada. In order to monitor progress towards the “30 by 30” goal (i.e. 30% of newly licenced engineers are female by 2030) and to understand current issues that limit the participation of women in engineering as students and professionals, Engineers Canada will consider adding new components to existing annual surveys based on recommendations from the Women in Engineering Committee (WIEC). The WIEC also identified additional sources of information and research that is relevant to increasing research related to recruitment, retention and engagement of women in the engineering profession

The Charge 2 subcommittee recognizes that gender is only one aspect of diversity and supports the need to gather information that is relevant to broader aspects of diversity (e.g. international graduates) as well as the intersection with gender (i.e. international graduates who are female). In some cases there are challenges in gathering information, particularly if current representation is very low (e.g. aboriginal students and professionals). Engineers Canada should work with its partners (the engineering regulators and Deans of Engineering) to explore the feasibility of gathering more information about diversity in the student population and the profession.

Subcommittee Work

The subcommittee held a teleconference call on October 24, 2014 to discuss Charge 2, which focuses on advice and guidance on demographics and diversity components of Engineers Canada's research plan. Engineers Canada staff Glenn Martin and Jamie Ricci (newly appointed Practice Lead, Research) also joined the call. Jamie presented an overview of her preliminary ideas for expanding the EC research plan to support the recommendations of the Women in Engineering Committee. The subcommittee discussed research that is relevant to the goal of "30 by 30" as well as broader issues that are related to recruitment, retention and engagement of women in the engineering profession.

Based on the discussion (on the call and email follow-up), the subcommittee identified 13 recommendations related to research and communication of findings to the engineering community. These were presented to the WIEC during the committee's teleconference call on November 18, 2014. Since there was limited time for discussion, the Chair requested that committee members provide feedback to the Charge leads by early December. The Charge 2 subcommittee had a teleconference call on January 12, 2015 to discuss the feedback it received and revised its 2014-2015 recommendations. A draft report of the Charge 2 subcommittee was discussed at the January 19th meeting of the WIEC and a teleconference meeting of the subcommittee (February 4, 2015). Based on this feedback and discussion, the subcommittee has prepared this final report for Charge #2.

Recommendations/Conclusions/Deliverables

To assess progress for the "30 by 30" goal, there is a need to obtain additional information from the engineering regulators about the registered engineers-in-training (EIT) who become licensed engineers. It is also important to communicate these research findings to stakeholders and highlight examples of success. The 2014-2015 recommendations build on the 2013-2014 recommended actions under items 3 and 8 (see Background section):

1. Ask the engineering regulators to report the number of men and women who obtain engineering licenses each year. Ask the engineering regulators to provide this information for the past 5 years (if possible) and to provide updates on an annual basis. (related to Item 3 – 2013-2014 Charges)
2. Ask the engineering regulators to provide the number of EITs and newly licensed engineers who obtained their academic training in the province or territory of registration, in Canada but in another province or territory, and outside of Canada. Provide breakdown for each group by gender.
3. Summarize the findings and progress towards the "30 by 30" goal at a national level and distribute to all stakeholders (e.g. engineering regulators, Faculties of Engineering, CEMF) (related to Item 3 – 2013-2014 Charges)
4. Work with the engineering regulators who have above average results or who have made recent progress in terms of % of women who are newly licensed to identify best practices that encourage women to pursue licensing. Create communication tools (1-pagers, PowerPoint slides) to share best practices for increasing participation of women in the licensing process. (related to Item 8 – 2013-2014 Charges)

To address the broader areas of recruitment, retention and engagement of women at any point in training and professional career, the subcommittee has a number of recommendations. Each recommendation is presented as a first step(s) towards a broad research question that is relevant to the WIEC mandate. However the Charge 2 subcommittee is not suggesting that Engineers Canada would be trying to answer the entire research question on its own. Several recommendations suggest that the first step is discussion with Engineers Canada's partners (i.e. regulators and Deans of engineering) to explore the feasibility of gathering evidence and data to address the research question.

5. Research Question: Are high academic averages for admission to engineering programs a barrier to female applicants?

2014-2015 Recommendations: Work with the Sustainable Membership Committee to obtain and analyze data from the Ontario University Application Centre in relation to admission averages for female and male applicants to engineering programs. The gender representation in the applicant pool should be compared to the actual gender representation in first year engineering programs in Ontario for the same application year. Although this is not national-level data, Ontario engineering programs represent a significant portion of undergraduate students across Canada.

6. Research Question – how does the representation of women and international students vary across Canada?

2014-2015 Recommendations: Use data in EC enrolment reports to analyze representation of women (Canadian and international students) in engineering programs by province or territory. Use this analysis in communication materials as an indicator of diversity.

7. Research Question – are there differences by gender in the experiences of undergraduate students in engineering (e.g. time to completion, attrition rate, satisfaction with program, etc.)?

2014-2015 Recommendation: Determine the feasibility of collecting enhanced information related to undergraduate experiences from Schools/Faculties of Engineering.

8. Research Question – what workplace practices are known to improve retention of skilled workers?

2014-2015 Recommendations: Electricity Human Resources Canada has an initiative – Bridging the Gap - to identify best practices for recruitment and retention of skilled women in the electricity sector (<http://electricityhr.ca/our-work/projects-programmes/bridging-the-gap/>). Review findings in the 2014 report on this project ([http://electricityhr.ca/wp-content/uploads/2014/05/BTG%20Project%20English%20Report%20\(Low%20Res\).pdf](http://electricityhr.ca/wp-content/uploads/2014/05/BTG%20Project%20English%20Report%20(Low%20Res).pdf)) and identify recommendations and/or examples that align with criteria for Welcoming Workplaces for women. Use these examples (with permission) to update communications materials and to identify potential nominees for the Welcoming Workplace award (Charge #6).

9. Raise awareness of the need to include gender-based analysis across all areas of research that Engineers Canada undertakes.

2014-2015 Recommendation: Explore the potential to add a gender-based lens to the Engineers Canada Labour Market Study. For example, data from Statistics Canada on the engineering labour market should be broken down by gender.

10. Research Question: Why do female engineers leave the profession?

2014-2015 Recommendation: Initiate discussions with representatives of the engineering regulators to ask for their observations about why women (EITs and licensed professionals) leave the profession and how to improve retention.

11. Research Question: Are there additional areas of diversity (beyond gender) that should be incorporated in Engineers Canada's research plan?

2014-2015 Recommendations: Ensure that there is good communication between the Women in Engineering Committee and other relevant EC committees and subcommittees (e.g. International Engineering Graduate, International and Indigenous People) to understand what data is available and where the gaps are. Need to define which aspects of diversity are important and how this information would be used. Discuss current surveys with Deans of Engineering and the engineering regulators to determine feasibility of obtaining information about additional aspects of diversity (e.g. aboriginals or those with disabilities). It may be necessary to start with qualitative or semi-quantitative estimates of representation (e.g. < 5%, 1 in 100) and build quantitative estimates over time.

12. Item #7 Recommended Actions for 2013-2014 Charges - Obtain data from provincial ministries of education in each province on the numbers of male and female students enrolled in high school courses leading to the pre-requisite courses required to enter engineering programs.

2014-2015 Recommendation – This action is important because it considers whether female students have completed the pre-requisite courses to apply for engineering and identify which course or group of courses is a barrier to recruiting more women into engineering programs. The subcommittee is aware that a few stakeholders in different provinces have conducted this type of analysis. It recommends that Engineers Canada contact these stakeholders to see if there are ways to collaborate on the data gathering and analysis.

Action Plan

The Charge 2 subcommittee has outlined 12 recommendations as advice and guidance to Engineers Canada in terms of demographics and diversity components of the research plan. The subcommittee has not ranked the recommendations in terms of priority. It thinks that all of the recommendations are important and advises Engineers Canada staff to review the recommendations and develop an appropriate action plan.

Item	Recommended Future Actions	Responsible Party	Timeline
1	Review the 12 recommendations outlined in this 2014-2015 report of the Charge 2 Subcommittee and develop an action plan for implementation over the short (i.e. year ahead) and longer term as appropriate.	Engineers Canada	As appropriate

Charge #3: Marketing of Career Focus

Charge	Identifying and connecting with Women in Engineering (WIE) groups that may assist in the marketing of Career Focus.
Proposed Deliverables	See Appendix. 1. University Contacts 2. General Groups and Potential Partner Program Contacts 3. Regulator Contacts 4. Upcoming Events (to promote and gather feedback for the Career Action Program) 5. Links to Resources that showcase the profession well 6. Strategies for Developing the Career Action Program 7. Discussion Regarding the Career Action Program 8. Recommendations for the Career Action Program
Team Lead	Lindsay Melvin
Team Members	Christine Plourde Glenn Martin Glenda MacKinnon-Peters
Status Update	Complete. All deliverables are included.

Background

This charge is in support of End 3.1 Sustainable membership of the engineering regulatory bodies that is reflective of Canadian demographics. This charge follows a small pilot project, in which WIEC members participated in testing the CareerFocus tool.

Subcommittee Work

The team met to learn how Engineers Canada has progressed from the CareerFocus tool to developing the Career Action Program, and the vision for the program. This allowed the team to identify the types of contacts, groups, and information that may assist in marketing the Career Action Program. The team developed a report outline and then solicited WIEC for contacts and input. Given feedback from WIEC, the team has included a discussion and recommendations regarding the Career Action Program in the deliverables.

Recommendations/Conclusions/Deliverables

All recommendations, conclusions and deliverables are included in the appendix.

Contacts are grouped by: university contacts, general groups, regulators, and upcoming events.

Additional information to provide inspiration and background for the program are general strategies and links to resources that show the engineering profession well.

Lastly, a discussion regarding the Career Action Program including anticipated challenges such as competing programs, feedback from the initial launch of the Career Action Program website, and recommendations are provided.

The WIEC provides the following recommendations:

- i. Continue developing and expanding content of the Career Action Program. The WIEC supports the development and implementation of a national resource for engineering and engineering careers.
- ii. Revise the definition of engineering currently included on the Career Action Program site, as per the above discussion. Include descriptions of engineering careers as well as engineering.
- iii. Consult the WIEC for future content development of the Career Action Program.
- iv. Do not include the CareerFocus Tool in the Career Action Program.

Action Plan

Item	Recommended Future Actions	Responsible Party	Timeline
1	Review recommendations and feedback regarding Career Action Program. Incorporate feedback into future development of program and provide update to WIEC.	Engineers Canada	May 2015

Charge Objective

WIEC will assist Engineers Canada with marketing the Career Action Program, and the CareerFocus Assessment Tool by providing contacts that may champion promotion of the website and tool, and by providing recommendations for reaching a broad target audience, with a particular focus on women in engineering.

Response

The Women in Engineering Committee provides the following contacts that may assist in championing the Career Action Program. Contacts are organized by universities, general groups and programs, and by regulatory bodies. The contacts included in this report are provided by WIEC members, with the understanding that Engineers Canada will use these contacts with discretion, once the Career Action Program is further developed. The number of contacts provided was low, due to WIEC's generally low level of confidence in the program. It is anticipated that as the program improves and confidence in the program increases, a better response may be garnered, if solicitation for contacts is attempted again.

Upcoming WIE events that Engineers Canada may wish to attend or distribute pamphlets regarding the program are also provided, as well as links to existing resources which may provide inspiration for presenting the engineering profession.

In addition, the Women in Engineering Committee identified strategies that Engineers Canada may wish to pursue to enhance the marketability of the Career Action Program to under-represented groups, including women, and to increase the audience size of the Career Action Program. Lastly, some comments regarding considerations and potential challenges for Engineers Canada gaining support for the program are discussed, and recommendations for the Career Action Program are provided.

2. University Contacts

Province/ Territory	University	Name & Title	WIEC Contact
Manitoba	University of Manitoba	Amber Skrabek, External Communications Coordinator, Faculty of Engineering	Lindsay Melvin
Manitoba	University of Manitoba	Annemieke Farenhorst, Professor, Soil Science, NSERC WISE - Prairies	Lindsay Melvin
New Brunswick	University of New Brunswick	Chris Diduch, Interim Dean of Engineering Katie Skead, Engineering Outreach Coordinator	Christine Plourde
New Brunswick	Universite de Moncton	Gilles Roy, Associate Dean of Engineering	Christine Plourde
Newfoundland and Labrador	Memorial University	Andrew Fisher, Associate Dean Engineering	Abigail Steel
Newfoundland and Labrador	Memorial University	Geoff Rideout, First- year Engineering director (?)	Abigail Steel
Ontario	CODE (Council of Ontario Deans of Engineering)	Andy Hrymak, Chair, CODE Dean of Engineering, University of Western Ontario	Valerie Davidson

3. General Groups and Potential Partner Program Contacts

Province/ Territory	Affiliation & Website	Name & Title	WIEC Contact
Manitoba	WISE Kid-Netic Energy www.wisekidneticenergy.ca/	Nusraat Masood WISE Program Administrator	Lindsay Melvin
Atlantic	WISE Atlantic	Tamara Franz-Odendaal, NSERC Chair for Women in Science and Engineering, Atlantic Region Sally Burke, WISE Program Coordinator, Mount Saint Vincent University, Halifax, NS	Christine Plourde
Newfoundland and Labrador	WISE NL	Gloria Montano 2014 President, WISE NL	Christine Plourde and Abigail Steel
Newfoundland and Labrador	WINSETT http://www.winsett.ca/	Carolyn Emerson, WinSETT Consultant	Abigail Steel
Ontario	ONWiE (Ontario Network of Women in Engineering)	Prof. Mary Wells Chair of ONWiE	Valerie Davidson

4. Regulator Contacts

Association	Name & Title	WIEC Contact
APEGM	Chantelle Cabral, Member-in-Training Coordinator	Lindsay Melvin
APEGNB	Andrew McLeod, CEO Melissa Mertz, Director of Communications	Christine Plourde
PEO	Jeanette Chau Manager, Student and Government Liaison Programs (staff support for Education Committee)	Valerie Davidson
OSPE	Baijul Shukla Manager, Membership and Corporate Development	Valerie Davidson
PEG-NL	Kevina Wilmot (compliance officer) Goeff Emberley (CEO and registrar)	Abigail Steel

5. Upcoming Events

Province/Territory	Event	Date(s)	Location	Website
Manitoba	MCWESTT 2015 Biennial Conference	May 8, 2015	Hotel Fort Garry, Winnipeg, MB	www.mcwestt.com
British Columbia	Creating Connections	May 22-23, 2015	Vancouver, BC	http://www.sfu.ca/sfuwest/cc-2015.html
New Brunswick	Atlantic NSERC Chair – Regional Connections Conference	June 4-5, 2015	Mount Allison University, Sackville, NB	
Newfoundland and Labrador	WISE – NL Statoil Speaker Series	Monthly	St. John's	http://wisnl.ca/speaker.series@wisnl.ca

6. Links to Resources that Show the Engineering Profession Well

www.engineeryourlife.org

www.engineeringsights.org

www.nem-mng.ca

www.wemadeit.ca

www.futuresinengineering.com

www.engineergirl.org

<http://www.engenious.ca/>

www.engineeringmessages.org

7. Strategies

The WIEC recommends the following strategies for further promoting and marketing the Career Action Program:

- Partner with all NSERC Chairs for Women in Science and Engineering to help identify and garner support from various WIE groups in different regions
- Develop a program or support to encourage qualified students from under-represented groups to complete the Career Focus Assessment (rather than self-select)
 - Explore whether regulators and/or other groups could provide funding to high schools, so that promising students identified by teachers, could be encouraged to complete Career Focus tool
 - Garner promotion and support from school boards, provincial government career action or counselling programs
 - Perhaps the Engineering Dean would recommend prospective students do the assessment.
 - Provide to university Academic Advising Centres. They provide information and advice to students on potential programs.
- Create and/or help promote existing video/tools, etc. that relate to school curriculums and demonstrate engineering. Have these resources accessible for teachers at the Career Action Program website.
- Partner with WISE groups at universities

8. Discussion Regarding the Career Action Program

Engineers Canada is advised that anticipated challenges in promoting the career action program will include competing websites, and the currently low level information disseminated about the Career Action Program.

An example of competing program is significant project underway for career pathways and decision making across Saskatchewan, and therefore APEGS will not support the Career Action Program. It is anticipated that this program will be extended across Alberta and potentially throughout the west. The Career Action Program and the <https://saskcareers.ca/> program are in direct competition for funds and support. The Saskatchewan project was initiated well in advance of the CareerFocus project and is a career exploration website that was built to complement the provincial high school curriculum. Development was cofounded by a number of government departments and education focused groups. Engineers and geoscientists are in the STEM category. They are moving to a soft launch trial with a small number of school divisions and APEGS anticipates not only being able to sponsor that STEM category, but also to achieve significant visibility through the system. Within this system, students will be able to have an account, compare various professions, map their interests to various jobs, and connect the dots for high school curriculum and how it maps to engineering or geosciences. It will be the provincial go-to spot for teachers and students to fulfill the new requirements in the provincial curriculum for career exploration. There are approximately 28 school districts. While the first priority is high school, the end goal is for it to be available to any resident in Saskatchewan (with the next focus on those in post-secondary or making choices about post-secondary), and your profile stays active over the years, so as your careers evolve, you can use this site to help.

The University of Regina is also unlikely to participate. They access several programs and options that are similar and free. There's very little interest in adding a program and particularly one that may cost students and potential students.

An additional challenge in obtaining suggested contacts is the level of comfort of some WIEC members have with the national marketing of the Career Action Plan, as envisaged by Charge #3. Experience with the CareerFocus Program has left stakeholders without confidence in the program. Therefore, many WIEC members chose not provide potential contacts to assist in marketing the program, at this time. Additional conversation and communication to determine both the reasons for a lack of support and suggestions for improvements is recommended.

It is recommended that Engineers Canada communicate to regulatory bodies and committees regarding the purpose and scope of the Career Action Program. It should be communicated that the program is assisting in the End to sustain the profession and to provide a national perspective in educating the public about engineering careers.

Some initial and specific feedback following the December 2014 launch of the Career Action Program website is:

- The video is fairly good; however, the rural road with extensive cracks is not the best image to represent the work of civil engineers.
- The website itself has potential and the general framework is there; however, WIEC recommends additional work to improve it. We believe the public will be seeking something more attractive than just words on a page. The site could use a lot more photos illustrating the variety and breadth of engineering disciplines. The current photos on the site give the impression that Engineering is very manufacturing oriented. In order to improve the public's understanding of engineering, it is important to use examples that clearly differentiate engineering from trades.
- In regards to the section on "What Is Engineering", the definition of Engineering (or the "in other words") is not very helpful to a lay person. If you didn't know what engineering was, would you get a clear understanding from reading the definition? We describe an engineer as doing "Engineering works", but don't clearly define "Engineering". There are websites out there that do a good job of explaining what engineers do in simple, broad terms— including some of those listed in the links section of this report.

9. Recommendations

The WIEC provides the following recommendations for Engineers Canada regarding the Career Action Program:

- Continue developing and expanding content of the Career Action Program. The WIEC supports the development and implementation of a national resource for engineering and engineering careers.
- Revise the definition of engineering currently included on the Career Action Program site, as per the above discussion. Include descriptions of engineering careers as well as engineering.
- Consult the WIEC for future content development of the Career Action Program.
- Do not include the CareerFocus Tool in the Career Action Program.

Charge 3 Team: Lindsay Melvin, Christine Plourde, Glenda MacKinnon-Peters

Charge #4: CEMF – Regulator Association Collaboration

Charge	Canadian Engineering Memorial Foundation and Regulator Protocol for Collaboration
Proposed Deliverables	Attached
Team Lead	Suzelle Barrington
Team Members	Valerie Davidson Sarah Devereaux Lorna Harron
Status Update	Complete. Deliverables are included.

Canadian Engineering Memorial Foundation and Regulator Protocol for Collaboration

1. Executive summary
2. Background on CEMF (objectives and scholarships offered)
3. Applicant requirements and recipient expectations
4. Potential for collaboration between CEMF and regulators
5. Recipient presentation to promote engineering to women

1. Executive Summary

The engineering regulatory bodies and Engineers Canada recognise the need for diversity in the profession to increase innovation and thus give Canadian engineering a competitive edge. Thus, Engineers Canada and regulators have proposed to achieve the 30 by 30 goal. The Canadian Engineering Memorial Foundation (CEMF) is an organization that promotes the engineering profession to women in Canada by offering scholarships to Canadian women registered at accredited Canadian engineering programs in exchange for a presentation on engineering to high school students. Regulators and CEMF have a common objective - the sustainability of the engineering profession by, in part, encouraging high school girls to considering engineering as a career.

Regulatory bodies could greatly benefit from collaborating with CEMF as their scholarship competition recruits enthusiastic candidates who are passionate about the engineering profession and they can be excellent ambassadors for high school presentations. Since 2004, CEMF has awarded its scholarships at a luncheon held during the Annual Meeting of Engineers Canada. Among other activities, this luncheon is an excellent opportunity for regulator representatives to meet these ambassadors to engage them in regulator outreach activities. In exchange, CEMF would greatly appreciate financial support to pay the travel expenses of these recipients, as this travel generally represents a significant expense.

The following document further explains the mission and scholarship award procedure of CEMF and the opportunities which regulators can gain from partnering with CEMF. It is hoped, through this document, that regulators will better understand the opportunity offered by CEMF, contribute to meeting these recipients and use their enthusiasm to promote the profession in their own province.

2. Background on the Canadian Engineering Memorial Foundation

Together with Engineers Canada, the regulators recognise that diversity of the profession increases innovation and thus the competitive capabilities of the organizations served. Thus, an important objective recognized by Engineers Canada and regulators is that of achieving the 30 by 30 goal. Several activities are necessary to achieve this goal, among which is the promotion of engineering to female high school students and such is the goal of the Canadian Engineering Memorial Foundation (CEMF).

The Canadian Engineering Memorial Foundation was created in 1990 by visionary and well-known engineer Claudette MacKay-Lassonde, P.Eng., and several colleagues, in response to the tragedy at École Polytechnique on December 6, 1989. The Canadian Engineering Memorial Foundation is committed to creating a world where engineering meets the needs and challenges of society by engaging the skills and talents of both women and men alike. To that end, CEMF is dedicated to attracting women to the engineering profession so they may fully contribute to the development of society. In doing so, they also honour the memory of the 14 women from École Polytechnique whose contributions to Canada ended on December 6, 1989.

Because of Claudette MacKay-Lassonde, P.Eng., and her involvement with the profession, CEMF has historically been supported mainly by PEO (Professional Engineers of Ontario) and Engineers Canada. As of 2004, to give more visibility to CEMF and its recipients, the scholarship luncheon has been held in conjunction with the Engineers Canada Annual General Meeting . It is also an occasion for recipients to meet members of the engineering regulatory body of their province.

Over the years, CEMF has built an interesting array of scholarships covering all levels of university education, from the undergraduate to the the Ph. D. level. Several of the scholarships are sponsored by a private partner, whether a company or an engineering consulting firm. Every year, some 20 Faculties of Engineering across Canada provide support to CEMF and some 60 to 70 women enrolled in Canadian accredited engineering programs apply for the scholarships.

3. Applicant requirements and recipient expectations

The scholarships awarded by CEMF have to be earned, and are based on extra-curricular activities rather than scholastic achievement. This selection criterion is specifically designed to select a recipient who will actively promote the engineering profession.

Most importantly, to qualify, an applicant must be a woman and must either hold the P. Eng. Designation, be enrolled in or have completed a bachelor's of engineering at a Canadian Faculty of Engineering accredited by Engineers Canada. The applicant must also be completing a program at a Canadian Faculty of Engineering accredited by Engineers Canada.

The application requires among, other things, the presentation of a Power Point which can be used to promote engineering at the high school or College level, and the listing of past and present participation in extra-curricular activities.

The application process requires a fair amount of time and is therefore quite selective in itself. CEMF will get from 3 to 10 applications per scholarship, depending on the year and the type of scholarship. The basic CEMF undergraduate scholarships cover each of 5 regions in Canada, and thus the recipients come from all parts of Canada.

4. Potential for CEMF and regulator collaboration

There is an opportunity for collaboration between CEMF and the regulators because recipients receiving CEMF scholarships come from all over Canada.

It has been a priority for most if not all regulators to promote engineering, especially to women. The Labour Market study conducted by Engineers Canada has indicated, for at least 10 years, that Canadian universities only produce 50% of qualified and experienced engineers. This percentage is relatively low compared to other countries training 85% of their engineering work force. The attraction into and retention of women in engineering, among other factors, could contribute to increasing this low percentage of 50%.

Regulatory bodies could therefore greatly benefit from a closer collaboration with their respective CEMF recipients to help promote the profession to women. Thanks to a suggestion by an Engineers Canada Board member, CEMF recipients will be making presentations at junior high schools. Students of that age make more definite career choices and select their courses accordingly. The scholarship recipients are selected by judges well known by CEMF for their interest in promoting engineering to women. Accordingly, scholarship recipients are selected based on their capability to promote engineering to female high school students, as well as the general student population. Additional selection criteria includes being an excellent role model for the profession and for young women.

One form of collaboration for the regional scholarships could be for regulator representatives to assist in proposing, training and even selecting recipients during the annual competition. The selection of recipients is discussed via a teleconference which takes place between the end of February to the end of March every year.

On the other hand, CEMF is a non-profit organization managing itself and providing scholarships from the revenues produced by its investments. Since the early 21st century, CEMF reserves have been dropping because of very low interest rates.

Accordingly, CEMF could greatly benefit from financial help from the regulators to cover the travel cost of each recipient affiliated with their province. Such donations would assist with recipients' travel to the Engineers Canada Annual General Meeting, which varies in location, and allow regulators to meet these potential ambassadors.

5. Recipient presentation to promote engineering to women

The CEMF annual scholarship competition recruits young women which are passionate about becoming or being an engineer. For several regulatory bodies, this recruitment process is extremely valuable in identifying excellent ambassadors to promote the engineering profession.

Accordingly, regulators would greatly benefit from being involved in the process of selecting, supporting and working with the CEMF recipients of their own province. The regulator contribution towards CEMF would be minimal as compared to the value of gaining them as role models.

6. Proposed action for collaboration between CEMF and regulators

To enhance collaboration, it would be interesting to hold a discussion between CEMF and the regulators, as several of them already have school outreach programs. Nevertheless, CEMF recipients are young and can inspire high school girls to join the profession. Furthermore, by meeting representatives of regulators at the Engineers Canada luncheon, CEMF recipients can better understand and thus represent the interest of the regulator.

Document prepared by Suzelle Barrington, and reviewed by Valerie Davidson, Sarah Devereaux, and Lorna Harron. January 12th 2015.

Charge #5: WIE Information Repository

Charge	Implementation of a repository of information and presentations
Proposed Deliverables	<ol style="list-style-type: none"> 1. Updated presentation template with current data and speaking notes 2. Support development of 1-page fact sheets based on the key research report findings 3. Include data and reports (“behind the factsheets”) in WIEC DropBox folder 4. Ensure that links are created with the Career Action Program 5. Investigate opportunities/synergies to more closely align with WEPAN’s “Women in STEM Knowledge Centre” 6. Support creation of time-independent video or animation or both that describe engineering for generic audiences, focusing on women in the profession 7. Re-evaluate the current title and narrow focus of Charge #5 and how it pertains to the advancement of women in engineering 8. Support development of a national listserv and/or network for sharing information, presentations, and other opportunities
Team Lead	Dena McMartin
Team Members	Anja Lanz
Status Update	<ul style="list-style-type: none"> • Revising of goals and deliverables per face-to-face meeting in Ottawa (Jan 2015) • Setting of quick wins opportunities to be communicated to Engineers Canada in early February • Need for clearly outlining steps, needs, and functions of an online repository for information and presentations, if that remains a desired deliverable for the committee and Engineers Canada <p>This charge is incomplete.</p>

Background

Charge #5 is envisioned to support the work of communicating, engaging, and celebrating women in engineering by supporting access to appropriate, well-designed and annotated materials, and high quality visuals that tell the stories of women in the profession. This charge links closely with the 30 by 30 goal in supporting the recruitment and retention of women in engineering, working centrally to support regulatory bodies in the development of programming, services, and recognition that work toward achieving the 30 by 30 goal.

This charge was previously identified as part of the Charge #3 “Awareness” charge (2013-2014 WIEC Annual Report). In the 2013-2014 report, awareness recommendations included development of secure online storage of materials (presentations, charts, data, notes and highlights) in support of the charge, along with a spreadsheet to track the use of information and the venue/audience involved. Further, development of publically accessible resources, publications and presentations was recommended, along with a similar method for tracking access to and use of these materials. To support implementation of the repositories, information is required about the planned venues and expected users (presenters) and audiences at which the materials are most likely to be shared.

Subcommittee Work

The subcommittee reviewed the 2013-2014 plans, evaluated that work completed to date and expanded upon the intent and plans to ensure that the goals are achieved within the context initially envisioned.

The originally-stated Charge #5 “Implementation of a repository for information and presentations” may not be the appropriate approach to achieving the intended goals in support of the 30 by 30 goal as well as retention measures and programs. It is understood that this approach would constitute an IT project for which (a) IT Functionality, (b) Content, and (c) Content Management questions must be answered. Rather, the subcommittee chooses to focus on access to high quality and timely research results, presentation information, and fact sheets that support activities toward the 30 by 30 goal.

Recommendations, Conclusions, and Deliverables

All materials, templates and presentations will adhere to Engineers Canada's brand requirements and be developed, supported, and focused on achievement of the 30 by 30 goal.

1. *Updated presentation template with current data and speaking notes (language guidelines)*
 - a. Provide access to the graphs that are presented in Engineers Canada research reports
 - b. Have accessible a template with standard introduction slides for all audiences
 - c. Per Action Item #14 in 2013-2014 Charges report: "Develop example presentation slides with key messages for regulators to consider incorporating into presentations/communications regarding the engineering profession."
2. *Support development of 1-page fact sheets based on the key research report findings*
 - a. Include a factsheet that lists all research reports available and links to these (better information about what data is available as related to women in engineering and the 30 by 30 campaign)
 - b. Include information about maintenance of material and currency of data (set an internal Engineers Canada timeline for how often updates to / release of databases and fact sheets should be completed)
3. *Make use of the WIEC DropBox folders to store relevant data and reports*
 - a. Give access, if possible or relevant, to the raw data and/or raw graphs used in research reports and fact sheets
4. *Ensure that links to the Career Action Program are created*
 - a. Ensure that links to the "Welcoming Workplaces", "Good for Business", Fact Sheets, and similar documents, support materials, and 30 by 30 goals information are provided on the program's site
 - b. Consider a web-link to the WEPAN Knowledge Centre: <http://www.wskc.org/>
5. *Identify opportunities/synergies to share programming with WEPAN's Women in STEM Knowledge Center*
 - a. Set a teleconference or meeting with WEPAN leadership about opportunities to collaborate or share programming
 - b. Recognizing the resources required to develop a similar program in Canada, leverage the resources, webinars, and connections available at WEPAN
6. *Collect (and create web-links to) videos about and by women in engineering*
 - a. Environmental scan for accessing and directing people to a series of short (3-5 minutes) videos that highlight women in engineering, and the diversity or variety of women and careers
7. *Re-evaluate the current title and narrow focus of Charge #5 and how it pertains to the advancement of women in engineering*
 - a. As currently envisioned, the "Implementation of Repository of Information and Presentations" is an IT development project, however, the WIEC membership is not fully in agreement of this as a worthwhile activity
 - b. As outlined with Christina Comeau during the January face-to-face meeting, a process for development of a repository might include:
 - i. IT functionality (aka the software requirements)
 - ii. Content
 - Identification of a specific list of information and presentations to be included
 - What/Who is the source of the content
 - Who is the audience
 - How is the material prepared (template(s) creation)
 - iii. Content Management
 - Access (who sees the information and presentations)
 - Currency (how often are information and presentations updated and by whom)

8. *Support development of a national listserv and/or network for sharing information, presentations, and other opportunities*
 - a. Identify potential existing listserv and networks to leverage
 - b. Create an Engineers Canada listserv focused on women in engineering

Action Plan

Item	Recommended Future Actions	Responsible Party	Timeline
1	Update presentation template with current data and speaking notes	Engineers Canada	March 2015
2	Fact Sheets related to annual research reports, including links to graphs and interpretative notes	Engineers Canada	May 2015
3	Provide access to WIEC members for finding and making use of internal Engineers Canada annual research reports	Engineers Canada	June 2015
7	Decision to be made regarding need for and usefulness of implementing a repository	WIEC	June 2015
8	Decision to be made regarding needs for and creation of national listserv	WIEC and Engineers Canada	June 2015
4	Ensure that Fact Sheets are linked to Career Action Program	Engineers Canada	September 2015
5	Set a meeting or teleconference with WEPAN leadership about opportunities to collaborate or share programming	WIEC Chair and Engineers Canada	September 2015
6	Short video or video series profiling real women in engineering	Engineers Canada	Long-term
6	Animated video promoting women in engineering and the variety of careers and lifestyles	Engineers Canada	December 2015
4	Ensure that videos are linked to the Career Action Program	Engineers Canada	As available

Charge #6: Welcoming Workplace Award

Charge	Implementation of the Welcoming Workplace Award
Proposed Deliverables	Provide advice on the implementation of a Welcoming Workplaces Award to be awarded by Engineers Canada.
Team Lead	Sarah Devereaux
Team Members	Len White, Lorna Harron, Anja Lanz
Status Update	Initial advice provided, the Committee will be working with the new Community Engagement Practice Lead to assist in providing advice with the implementation.

Background

Last year the Engineers Canada Women in Engineering Committee was charged with establishing the criteria for an Engineers Canada Award for *Welcoming Workplaces*, to recognize work places that have programs in place to attract/retain women engineers or other under-represented groups.

Based on the work of the committee last year the recommendation was developed:

- 1. We recommend that a “Welcoming Workplace Recognition Program” be developed as a first priority. The recognition certificate would be treated similar to the Engineers Canada Fellowship. Regulators would be responsible for forwarding the list of recipients to Engineers Canada and Engineers Canada would issue the recognition certificates as an indication that a company met minimum requirements.*
- 2. We recommend that the following be considered as threshold requirements for receiving the certificate recognition: (1) the percentage of female engineers on staff, (2) the percentage of females in top management or on the Board, (3) the availability of policies for flexible working hours, equal opportunities for promotion and reintegration after leave, (4) the availability of leave top-up benefits, and (5) a minimum score on an employee satisfaction survey. Additional credit could also be given for other items supportive of the welcoming workplace goals, such as for giving strong corporate support to the CEMF program. We also recommend that there be several levels for the certificate based on the number of thresholds met (i.e. meet 3 items for a Certificate, 4 for a Gold Certificate and 5 for a Platinum Certificate).*

Subcommittee Work

The Charge 6 subcommittee met to review and discuss the recommendation developed last year, suggest improvements and determine what was required from our committee to move the recommendation forward.

The committee recognized that significant effort and thought was given to this recognition program under last year's charge and it is unclear exactly what is required as part of this year's charge. In the absence of any specific proposal or response from Engineers Canada regarding the previous recommendation the committee simply reviewed and reaffirmed the recommendations from last year, with several additional comments or clarifications. The committee agreed with the recognition format similar to the fellowship program where multiple firms could be recognized in one year. Unlike the fellowship, the committee agreed that the award would not be something that is a lifetime achievement. The recognition would only be provided for a limited time. Companies change policies and procedures as time and circumstances change and therefore they may not be considered a welcoming workplace over time.

Some potential suggestions for implementation include:

- Require companies to re-apply every three years.
- Consider multiple levels of award (silver, gold, platinum).
- Consider having the availability of policies for flexible working hours and equal opportunities for promotion and reintegration after leave as two separate criteria.
- Add that companies should demonstrate support of more women in engineering programs/industry organizations and not just CEMF.
- Add an “other category” so companies could suggest another way that they are supportive to their employees e.g. winning awards like the top 50 employers.

There was some discussion on what would be considered an “engineering workplace”. It was suggested that similar to the fellowship program, regulatory bodies could recommend companies. The definition of what constitutes a company (i.e. whether each branch could receive a certificate, for example) would be done at the regulator level. It is presumed that when the term “engineer” is used in last year’s recommendation that we mean “registered engineers”. The wording should be clarified to reflect that fact.

Recommendations/Conclusions/Deliverables

1. *We recommend that a “Welcoming Workplace Recognition Program” be developed. The recognition certificate would be treated similar to the Engineers Canada Fellowship. Regulators would be responsible for forwarding the list of recipients to Engineers Canada and Engineers Canada would issue the recognition certificates as an indication that a company met minimum requirements.*

2. *We recommend that the following be considered as threshold requirements for receiving the certificate recognition: (1) the percentage of female registered engineers on staff, (2) the percentage of females in top management or on the Board, (3) the availability of policies for flexible working hours, (4) equal opportunities for promotion and reintegration after leave, (5) the availability of leave top-up benefits, and (6) a minimum score on an employee satisfaction survey. Additional credit could also be given for other items supportive of the welcoming workplace goals, such as for giving strong corporate support to women in engineering/industry programs and/or CEMF program and winning awards such as top 100 workplaces. We also recommend that there be several levels for the certificate based on the number of thresholds met (i.e. meet 3 items for a Certificate, 4 for a Gold Certificate and 5 for a Platinum Certificate). It is suggested that companies should only hold a certificate for three years.*

Action Plan

Revision of Protocol

Item	Recommended Future Actions	Responsible Party	Timeline
1	Community Engagement Practice Lead to develop a draft Terms of Reference for the Welcoming Work place Award for review by the Committee	Engineers Canada	Feb to March 2015
2	Provide the final Terms of reference to the Engineers Canada Awards Committee and regulators for recommendations of award recipients.	Engineers Canada	April 2015

Women in Engineering Committee – 2014-2015 Action Plan

The next steps involve reviewing the action plan shown in Table 2 with the CEO of Engineers Canada to confirm the responsible party and the proposed timeline. Adjustments will be made as necessary. It is proposed that this action plan be reviewed at each WIEC meeting to assess progress.

Table 2: Women in Engineering Committee – 2015-2016 Action Plan

Item	Recommended Future Actions	Responsible Party	Timeline
Charge #1: Action and Promotional Plan for 30 by 30 Goal			
1	Engineers Canada to track the formal endorsement of the goal by the regulatory bodies and report that tracking back to them, the Women in Engineering Committee (WIEC) and the Engineers Canada Board.	Regulators/Engineers Canada	Complete - May, 2015
2	WIEC support is available to Engineers Canada as required in their response to requests for information from the regulatory bodies.	Engineers Canada/ WIEC	February 2015 – ongoing
3	WIEC to work with Engineers Canada to further develop and make available the WIE Promising Practices document as resource for the regulatory bodies. The resource will remain open for ongoing input of promising initiatives supported by the regulatory bodies in each province.	Engineers Canada/WIEC/Regulators	On-going beginning upon receipt of feedback from Regulators. Can distribute anytime.
4	WIEC to provide ongoing advice and guidance to Engineers Canada in their development of a promotional plan for the 30 by 30 initiative	Engineers Canada/ WIEC	Ongoing
Charge #2 : Demographics and Diversity Components of the Research Plan			
5	Review the 12 recommendations outlined in this 2014-2015 report of the Charge 2 Subcommittee and develop an action plan for implementation over the short and long-term as appropriate.	Engineers Canada	September, 2015
Charge #3 : Identify and Connect with WIE Groups to Assist in Marketing Career Focus			
6	Review recommendations and feedback regarding Career Focus/Awareness Program. Incorporate feedback into future development of program and provide update to WIEC.	Engineers Canada	May 2015
Charge #4: Suggest a protocol and action plan for regulator engagement with CEMF			
7	Review recommendations regarding the collaboration protocol between CEMF and regulatory bodies. Communicate Protocol recommendations to regulatory bodies through appropriate methods.	Engineers Canada	September, 2015
Charge #5: Information and Presentation Repository			
8	Update presentation template with current data and speaking notes	Engineers Canada	Draft complete March 2015
9	Fact Sheets related to annual research reports, including links to graphs and interpretative notes	Engineers Canada	May 2015
10	Provide access to WIEC members for finding and making use of internal Engineers Canada annual research reports	Engineers Canada	June 2015
11	Decision regarding need for and usefulness of implementing a repository	WIEC	June 2015

12	Decision regarding need for and creation of national listserv	WIEC and Engineers Canada	June 2015
13	Ensure that Fact Sheets are linked to Career Action Program	Engineers Canada	September 2015
14	Set a meeting or teleconference with WEPAN leadership about opportunities to collaborate or share programming	WIEC Chair and Engineers Canada	September 2015
15	Short video or video series profiling real women in engineering	Engineers Canada	2017
16	Animated video promoting women in engineering and the variety of careers and lifestyles	Engineers Canada	December 2015
17	Ensure that videos are linked to the Career Action Program	Engineers Canada	As available
Charge #6 : Implementation of Welcoming Workplace Award			
18	Community Engagement Practice Lead to develop a draft Terms of Reference for the Welcoming Workplace Award for review by the WIEC	Engineers Canada	Feb to March 2015
19	Provide the final Terms of reference to the Engineers Canada Awards Committee and the regulatory bodies for recommendations of award recipients.	Engineers Canada	April 2015

Note: *Based on 2014-2015 WIE Committee work*

Appendix: 2014-2015 Women in Engineering Committee

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