



World Federation of Engineering Organizations
Fédération Mondiale des Organisations d'Ingénieurs
Federación Mundial de Organizaciones de Ingeniería
Всемирной федерации инженерных организаций
الإتحاد العالمي للمنظمات الهندسية
世界工程组织联合会

Biennial Report 2013 - 2015



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On 4 March 1968, representatives of 50 scientific and technical associations from all over the world met under the auspices of the United Nations Educational, Scientific and Cultural Organization (UNESCO) in Paris to establish the World Federation of Engineering Organizations whose charter as an international, non-governmental organization is to unite multidisciplinary engineering associations throughout the world.

WFEO at a Glance












WFEO is a leading international NGO and a world class source of information and advice to national and international organizations.

It is active across all engineering disciplines and is steadily deploying a strategy to achieve its goal of providing engineering related solutions to the challenges of the 21st century.

WFEO in Brief

WFEO was founded in 1968 under the auspices of UNESCO

-  Headquarters at UNESCO in Paris
-  Acts through ten Standing Technical Committees addressing such issues as engineering and the environment, disaster risk management, engineering capacity building, energy, education, engineering for innovative technologies and other
-  Brings together national engineering organizations from over 90 nations
-  Represents some 20 million engineers from around the world
-  Aims at enhancing the practice of engineering
-  Makes information on engineering available to the countries of the world
-  Fosters socio-economic security and sustainable development through the proper application of technology
-  Cooperates with UN bodies and other international sister organizations: UNFCCC, UNEP, UNISDR, UNCSD, UNESCO, OECD, World Energy Council, WMO
-  Encourages public private partnerships by including the engineering dimension

Report of President Marwan Abdelhamid - Palestine



Eng. Marwan Abdelhamid
WFE0 President

“ My mandate as President of the World Federation of Engineering Organizations from 2013 to 2015 was full of meaningful actions, events and programs. I did my best to implement the targets I had fixed. The presidency of WFE0 involves considerable responsibilities which I assumed to the best of my ability.

As the only international platform that represents engineers and the engineering profession worldwide, I was conscious of the fact that WFE0 had an extremely important role to play. I therefore tried during my mandate to have the Federation attempt to influence international institutions and decision-makers. We provided input to the means of facing the current engineering, technical and specific challenges in the world such as climate change, natural and man-induced disasters. We disseminated information of interest to engineers and engineering to our national members.

I took note of the importance of relations that WFE0 has established over the years with UN bodies and followed up the work of the WFE0-UN Relations Committee whose president, Reginald Vachon is accounting for its activities in this report.

WFE0 also developed a detailed concept note for a capacity building programme in Africa. This concept note is collaboration between WFE0, its International Member, the Federation of African Engineering Organisations and the International Engineering Alliance (the global accreditation body for engineers).

Another very important WFE0 project was the “International Engineering Forum” that has now been presented to the UAE government. All required documents and information were sent to UAE and chances are that they will host the Forum that will gather the private and public sectors.

WFE0 is the only international platform that represents engineers and the engineering profession worldwide, I was conscious of the fact that WFE0 had an extremely important role to play.

We have started working on the WFE0 celebration of its 50th anniversary in 2018.

Concerning the governance of WFE0, task forces were established to review our constitution and rules of procedure to meet the requirements that appeared over the years; the work of the standing technical committees was reviewed and advice was given to their chairmen when necessary; the strategic plan is being updated; more work was done in the field of communication to enhance the visibility of the Federation.

I visited several countries that were not represented in WFE0 and managed to have Croatia, Former Yugoslav Republic of Macedonia, Montenegro and Serbia join our Federation.

And during my participation in a number of national members' events, I made sure to meet with as many representatives of our national members as possible to discuss WFE0 affairs and consolidate our relationship with them. I also gave a WFE0 medal to leading personalities during these events and meetings.

In December 2014 while I was in Abuja, I encouraged the Federation of African Engineering Organizations (FAEO) and other WFE0 African national members to sign the Abuja declaration that aims at joining forces to assist in

improving the performance of professional engineering organizations in Africa and to establish engineering institutions in African countries that do not yet have them. As a result, the above concept note was developed.

Relations with Members and other International Organizations

WFEO being located in the premises of UNESCO in Paris, we continue our fruitful collaboration with this organization in many fields. I met twice the Assistant Director General for Science. I also discussed WFEO activities with the UNESCO Director of the Science Policy and Capacity Building Division.

My participation as WFEO President in national and international events included:

1. **8 to 10 May 2014 – Lecce, Italy**
1st Conference of the Mediterranean Engineering Organizations "Research on Education and Professional Regulations in the Mediterranean Area" organized by the Italian national member, Consiglio Nazionale degli Ingegneri.
2. **2 to 4 June 2014 – Beijing, China**
Chinese Academy of Engineering
International Conference on Engineering Science and Technology (ICEST2014) under the theme "Engineering and the Future of Humankind".
Council Meeting of the International Council of Academies of Engineering and Technological Sciences (CAETS).
3. **13 to 14 June 2014 – Cairo, Egypt**
Meeting of heads of Arab engineering institutions and the Permanent Bureau meeting of the Federation of Arab Engineers.
4. **11 to 16 August 2014 – Teresina, Brazil**
71st Official Week Engineering and Agronomy – SOEA "Technological Innovation for the National Development" organized by CONFEA.
5. **10 to 12 September 2014 – Caserta, Italy**
59th National Congress of the Consiglio Nazionale degli Ingegneri.
6. **8 to 9 October 2014 – Gdańsk, Poland**
International Conference on "Education of Engineers" organized by the Polish Federation of Engineering Associations.
7. **9 to 10 October 2014 – Gdańsk, Poland**
European Federation of National Engineering Associations (FEANI) General Assembly.
8. **25 to 26 October 2014 – Cairo, Egypt**
Seminar organized by the Federation of Arab Engineers on the Ethiopian Renaissance Dam and its adverse effects on river Nile countries.
9. **2 to 7 November 2014 – Abuja, Nigeria**
World Engineering Conference on Sustainable Infrastructure (WECSI) on "Development of Sustainable Infrastructure in Africa" in Abuja, Nigeria organized by the Nigerian Society of Engineers.
10. **19 November 2014 – Brussels, Belgium**
European Council of Engineers Chambers (ECEC) General Assembly.
11. **20 November 2014 – Brussels, Belgium**
2nd European Engineers Day on "Mobile Engineers build an Innovative Europe" organized by FEANI.
12. **24 to 28 November 2014 – Melbourne, Australia**
National Convention and Conference on "International Engineering Leadership" organized by Engineers Australia.
13. **25 January to 5 February 2015 – Kyoto, Japan**
Meeting of the International Advisory Board of WECC 2015.
14. **17 to 20 February 2015 – Moscow, Russia**
Meetings with the leadership of the Union of Scientific and Engineering Associations of Russia.
15. **20 to 21 February 2015 – Beirut, Lebanon**
Federation of Arab Engineers Executive Board Meetings.

16. **15 April 2015 – Paris, France**
French National Engineer's Day organized by Ingénieurs et Scientifiques de France (IESF).
17. **6 to 12 May 2015 – Beijing, China**
Meetings with several Chinese engineering institutions.
18. **19 May 2015 – Dusseldorf, Germany**
Meeting with Verein Deutscher Ingenieure (VDI) on the occasion of the national day of German engineers.
19. **27 to 29 May 2015 – Prague, Czech Republic**
Meeting with officers of CSVTS, national member for Czech Republic.
Receipt of the highest CSVTS award, "The Christian J. Willenberg Medal" during the Ceremonial and Awards meeting held under the auspices of the President of the Czech Republic.
20. **29 to 31 May 2015 – Naples, Italy**
Meeting with Italian National Member Consiglio Nazionale degli Ingegneri.
General Assembly of the European Council of Civil Engineers (ECCE) and Conference on conservation and safeguarding of historical monuments including in the framework of systems of reduction of natural disaster risks.
21. **3 to 4 June 2015 – Athens, Greece**
4th Arab-Hellenic Economic Forum organized by the Arab Hellenic Chamber.
22. **6 June 2015 – Cairo, Egypt**
Participation in the meeting of the Federation of Arab Engineers.
23. **5 to 7 July 2015 – Taipei, Taiwan**
3rd Convention on the Contribution of the Engineering Profession to the Society and Civilization organized by the Chinese Institute of Engineers (CIE), Taiwan.
CIE 23rd General Meeting.
24. **21 to 24 July 2015 – Singapore**
World Engineers Summit on Climate Change (WES) on Sustainable Urban Development for Global Climate Resilience.
Singapore National Engineers Day.
25. **26 September 2015 – Rome, Italy**
ECEC General Assembly.
26. **2 October 2015 – Dusseldorf, Germany**
Meeting with VDI.
27. **29 to 30 October 2015 – Beirut, Lebanon**
10th World Congress on Engineering Education organized by WFEO Committee on Engineering in Education.



Marwan Abdelhamid at the 71st Official Week Engineering and Agronomy at Teresina, Brazil

Acknowledgment

My sincere thanks go to former presidents Adel Al-Kharafi and Maria Prieto Laffargue, to the members of the executive board and council, the executive director and the headquarters staff on whom I was able to rely for advice and assistance. I wish Jorge Spitalnik success in his endeavors to further develop WFEO.

Condolences

My truthful thoughts go to the family of José Medem from Spain who was president of WFEO from 1999 to 2003 and who never stopped his support to WFEO.

Message from the President-Elect



Eng. Jorge Spitalnik
WFE0 President-Elect

“ *In the years to come, it is my aim to maintain and enhance the WFE0 current international status upon which it will be recognized by governments, intergovernmental organizations, international NGOs and the public in general as a respected and reliable source of advice and guidance on policies, interests and concerns that relate engineering and technology to human wellbeing and natural environment management.*

WFE0 will continue to contribute in providing the engineering dimension to discussions on policies and investment and will offer engineering information, perspective, advice and review on issues of concern to the public or the profession. WFE0 will speak with one voice for the worldwide engineering community and be the worldwide reference body on Engineering and Technological matters.

To achieve these goals, I will strongly back the implementation of a Strategic Plan, prepared during my predecessor's administration, from which WFE0 will develop its policies and address the issues requiring highest dedication and priority. This implementation will also introduce strategies for WFE0 developing, identifying and applying engineering and technology for sustainable development and poverty alleviation, particularly in underdeveloped countries.

This topic will include education and training, capacity building, codes of practice, such as for risk management, environmental protection, climate change mitigation and sustainability, particularly of energy and water supplies, and codes of professional practice ethics.

I will seek to expand alliances of WFE0 with specialized UN agencies and intergovernmental organizations in projects on such activities that would encourage financial resourcing by these partners.

A great effort is to be given to promoting and establishing conditions for mobility of National Members' engineers, particularly in some regions of the world. This will enhance our National Members' relevance as the vectors through which professional engineers of their countries will expand their working range of action.

WFE0 will be the worldwide reference body on Engineering and Technological matters.

It will be a priority to secure on-going support of the work and improvement of the quality of Standing Technical Committees (STCs) deliverables. The quality of their activities and products substantiate the global recognition of WFE0's worth and reputation. Disseminating internally and externally STCs activities and the latest innovations in Engineering and Technology will be a major responsibility of WFE0. STCs should include in their activities the discussion of regional issues that comprise situations in non-member countries, inviting engineering organizations of these countries to take part in such regional events.

For more than 18 years, Eng. Jorge Spitalnik has contributed with his efforts and experience to the development of WFE0 programmes, acting initially as Vice-Chair of the former Standing Technical Committee of Technology (COMTECH). After this position, he was nominated Chair of the Standing Technical Committee on Energy and took over the tasks of representing the Engineering Community at the civil society Scientific and Technological Communities Major Group of the UN Commission of Sustainable Development. In this function, he helped establishing WFE0's reputation as a source of reliable and unbiased input towards feasible programs for global sustainable development. Eng. Spitalnik was also for many years a Vice-President of WFE0 and Chair of the WFE0-UN Relations Committee (WURC).

Report of the Executive Director



Mrs. Tahani Youssef
WFE0 Executive Director



Our Federation has achieved further progress during the period 2013 - 2015.

As you will read in the articles of this publication, WFE0 has published reports and articles and disseminated guidelines of great importance to engineers and the engineering profession. It has enhanced its collaboration with the UN bodies and has become a trusted source of information not only for its members but also for many international organizations.

Headquarters' activities

Headquarters staff continues to make great efforts to meet the requirements of the Federation's leadership and members in addition to the normal regular administrative tasks that they carry out.

A completely revamped and restructured website is on line. It includes important information of interest to member engineers and to the public as acknowledged by the numerous messages expressing interest and satisfaction.

The e-newsletters continued to be published.

I was involved in the work of such committees and task groups as the Nominations Committee, the Awards Committee, the STCs Review and Support Group and the Governing Documents Task Force.

I continued to work closely with STCs to follow up their work, coordinate their collaboration with international organizations and highlight their actions to enhance the visibility of WFE0.

I also maintained relations with our membership and continued to be involved in the organization of WFE0 and members' events.

In 2013, I travelled twice to Singapore, once to follow up the preparations for the WFE0 general assembly meetings and the World Engineers Summit on Innovative and Sustainable Solutions to Climate Change and once to participate in these events.

In 2014, I travelled to Abuja, Nigeria to follow up the preparations of the World Engineering Conference on Infrastructure with focus on Africa.

I was heavily involved in the preparation of the Mediterranean Cooperation Conference that was held in Lecce, Italy in May 2014.

I attended the VDI-FEANI evening debate in March 2014 in Brussels on the theme of Mobility for Engineers.

I organized the December 2014 executive council meetings at UNESCO in Paris.

I travelled to Kyoto, Japan in January 2015 and attended several meetings in Paris with our Japanese colleagues and UNESCO officials to promote and supervise the organization of the 2015 World Engineering Conference and Convention (WECC 2015) and the WFE0 general assembly meetings in Kyoto.

WFE0 has become a trusted source of information not only for its members but also for many international organizations.

I also travelled to Naples, Italy in June to attend the 2015 general assembly of the European Council of Civil Engineers (ECCE) and a conference on the restoration and preservation of national and world heritage sites.

In July 2015 I attended the 43rd Annual Conference of the European Society for Engineering Education (SEFI) in Orléans, France, under the theme "Diversity in Engineering Education: An opportunity to face new trends in Engineering".

I collaborated with President Marwan Abdelhamid in his efforts to cooperate with national members, to bring new members to the Federation and to make WFEO more visible at international level.

Financial Situation

Most of our members, if not all, continued to pay their subscriptions on time. And we had the pleasure of welcoming new members. Most of our Standing Technical Committees managed to receive funding from outside sources.

We explored ways of receiving sponsorships and were successful in receiving financial support for specific WFEO actions. We still expect and hope that our most affluent members will follow the example of those who have increased the number of their shares.



Cooperation with UNESCO

During the last two years, UNESCO has significantly increased its activities with NGOs in particular those that are located within its premises like WFEO.

The External Relations and Cooperation Sector (ERC) calls regularly and actively on NGOs to involve them in its priority fields and as identified during the UNESCO NGOs general conference that took place last December in Paris.

In this context, I participated in the Forum "Which Education Goals for Citizens of the World" with input from Martin Manuhwa at UNESCO HQ, Paris.

I liaised with FAEO president, Martin Van Veelen and with Mr. Oblé from our NM for Ivory Coast to participate in the Yamoussoukro (Ivory Coast) Forum on "Access to Water for all in Africa" and present papers. These papers are on the WFEO website.

I asked our Bulgarian National Member to participate and represent WFEO in the 2014 Forum on "The Role of Youth in the Safeguarding of Tangible and Intangible Cultural Heritage" that took place in Sofia, Bulgaria, which they did.

Concerning COP21, there will be a UNESCO NGOs Action Day on Climate Change beginning of October 2015. I attended several preparatory meetings and Darrel Danyluk, chair of the committee on engineering and the environment sent me input for this Action Day.

I met with the new ADG for Natural Sciences, Mrs. Schlegel on 6 February 2015 in presence of Mr Nalecz, UNESCO Director Science Policy / Capacity Building Division, and organized several meetings for the President and for our Japanese national member with UNESCO high officials.

As UNESCO did for the four first WECs, it is partner in the fifth World Engineers' Convention in Kyoto, Japan and will sponsor the sixth edition of the convention in Australia in 2019.

Appreciation

I am particularly grateful to the President as well as the members of the Executive Board whose support and assistance made me able to carry out all of my tasks efficiently.

My special thanks also go to my assistant, Jennifer Matelo and our webmaster Ivan Juiz for their support and efficiency.

Marwan Abdelhamid
President

Jorge Spitalnik
President-Elect

Adel Al-Kharafi
Past President

Peter Greenwood
Executive Vice President

Haro Bedelian
Executive Vice President

Reginald Vachon
Treasurer

Pierre de Boigne
Deputy Treasurer

Tahani Youssef
Executive Director

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Kostas Alexopoulos
Vice President

Abdul M. Alameddine
Education in Engineering

Darrel Danyluk
Engineering & the Environment

S.S. Rathore
Eng. Innovative Technologies

Ke Gong
Information & Communication

Zainab Garashi
Young Eng. / Future Leaders

Samuel Grossman
Energy

Bashayer Al Awwad
Women in Engineering

Martin Manuhwa
Anti-corruption

Toshimitsu Komatsu
Disaster Risk Management

Yashin Brijmohan
Engineering Capacity Building

José Tadeu Da Silva
Brazil

Marie Hélène Therre
France

Daniel Favrat
Switzerland

Vilas Mujumdar
USA

Gunda Prabhakar
India

Marlene Kanga
Australia

Xila Liu
China

Paul Jowitt

Commonwealth Engineers Council
(CEC)

Adil Al Hadithi

Federation of Arab Engineers
(FAE)

M. Van Veelen - M. Shehu
Federation of African Engineering
Organizations (FAEO)

José Vieira

European Federation of National
Engineering Associations (FEANI)

John Li

Federation of Engineering Institutions
of Asia and the Pacific (FEIAP)

Edemar Amorim

Pan American Federation of Engineering Societies (UPADI)

WFEO Standing Technical Committees (STCs)

Committee on Engineering and the Environment (CEE)

Committee on Anti-Corruption (CAC)

Committee on Information and Communication (CIC)

Committee on Engineering for Innovative Technologies (CEIT)

Committee on Energy (CE)

Committee on Disaster Risk Management (CDRM)

Committee on Engineering Capacity Building (CECB)

Committee on Education in Engineering (CEIE)

Committee on Young Engineers / Future Leaders (YE/FL)

Committee on Women in Engineering (WIE)

Committee on Engineering and the Environment (CEE)

The CEE enables WFEO and the global engineering profession to engage with UN entities such as UNFCCC, UNEP, UNDP and the WMO and other international NGOs such as Farming First to present engineering perspectives. It builds awareness and develops capacity among engineers, other professionals, policy and decision-makers in areas that include climate change, agriculture, mining, sustainability and environmental stewardship. A focus between 2013 and 2015 has been the development and promotion of WFEO-approved model codes of practice on sustainable development, responsible environmental stewardship and sustainable practices for all engineers.

This report covers the final two years of Engineers Canada's second term hosting and chairing the Committee on Engineering and the Environment. It has been an honour to serve in this role and to contribute to the work of WFEO.

The CEE conducted its 2013-2015 activities through a four-year strategic plan first developed in 2011 and updated annually as work progressed. The 2011-2015 Strategic Plan focused on five themes, with the theme hosts shown in brackets:



Engineering is essential if we wish to achieve a world with a sustainable and healthy environment.

Over the last eight years CEE has strived to put our Words into Action by producing knowledge, delivering key messages, and by representing engineers in our Global Society. We have made much progress, much remains to be done.

Darrel Danyluk,
Chairman of CEE (Canada)

1. Engineering and Climate Change Adaptation (Canada)

The work under this theme focused on the relationship of a changing climate and existing infrastructures and to implement tools for engineers to use in assessing impacts from an engineering perspective. As the WFEO focal point at the UNFCCC Climate negotiations, CEE raised the profile and importance of engineering to the addressing the impacts of the changing climate.

2. Climate Change Mitigation and Engineering (United Kingdom)

This theme focused on the application of existing technologies and engineering practices towards the mitigation of climate change through Greenhouse Gas (GHG) reduction.

3. Engineering and Agriculture (Tunisia)

This theme focused on issues related to elements of the agricultural supply chain in selected regions of the world (focusing on Africa) that can benefit from engineering.



WFEO CEE Canadian Delegation to UNFCCC SB 42 – Bonn Germany June 2015. L to R: Jorge Zapote, Andrea Orellana, Arman Hemmati, David Lapp, FEC, P.Eng., Darrel Danyluk FEC P.Eng. and Connor Scheu

4. Engineering and Sustainable Mining (United States)

This theme focused on five subject areas including environmentally sound engineering practices and technology, best practices in social sustainability and responsibility, best practices in eco-efficient use of resources, engineering solutions to reuse, recycle and repurpose minerals, and risk analysis, mitigation, and management techniques through capacity-building for small and medium sized mineral producers.

5. Environmental and Sustainable Engineering Practice (Canada)

This theme focused on documenting sustainable development and environmental stewardship principles and application to engineering practice as well as principles of climate change adaptation for engineers through the development and dissemination of the Model Codes of Practice for sustainable development and environmental stewardship.

Each theme was led by a CEE committee member "the Theme Chair", whose volunteer activities for the CEE was supported by their national member. In turn, the Theme Chair created an international task group of advisers to execute an action plan embedded in the CEE Strategic Plan.

Updates on progress were reported at the annual face-to-face meetings of the CEE. The following lists accomplishments at the CEE followed by achievements and progress in each of the five themes.

WFEO-CEE

1. Updated four-year strategic plan (2011-2015) to be current as of 2013 for remainder of term.
2. Published four newsletters as follows:
 - Newsletter #10 – September 2013 – Engineering practice to achieve sustainable development and environmental stewardship
 - Newsletter #11 – April 2014 – Climate change mitigation and engineering
 - Newsletter #12 – June 2015 – UN Sustainable Development Goals and Engineering
 - Newsletter #13 – December 2015 – The CEE - A Review and The Way Forward
3. Invitations from, and attendance at, several meetings of the WMO as part of the execution of WFEO's Memorandum of Understanding signed in 2012. The focus is on defining engineering's needs for climate data and information. The following table summarizes the meetings attended.

Date/Location	Meeting/Activity	Attended
April 10-15, 2014 Antalaya, Turkey	16th Session – WMO Commission for Agricultural Meteorology	F. Thabet (Tunisia) Engineering and Agriculture Theme Leader
September 15-20, 2014 Asuncion, Paraguay	WMO 16th Session of Regional Association III	S. Fernandez (Argentina)
November 10-14, 2014 Geneva, Switzerland	2nd WMO Intergovernmental Board on Climate Services	D. Favrat (Switzerland)
February 10-12, 2015 Bonn, Germany	WMO Global Climate Observation Services (GCOS) Workshop: "Enhancing observations to support preparedness and adaptation in a changing climate - Learning from the IPCC 5th Assessment Report"	D. Danyluk (Canada)
May 25-June 12, 2015 Geneva, Switzerland	WMO Congress – 17th Session	Y. Ramos (Switzerland)



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4. Completion of term of D. Danyluk as initial chair of Standing Committee Chairs Committee (April 2012 to April 2014) and continuing participation in semi-annual meetings through December 2015.
5. Continued participation in meetings of the informal WFEO UN Relations Committee (WURC) to finalize a Terms of Reference to become an STC at the 2015 General Assembly. Contribution to the strategies and positioning for engineering input to the post 2015 Sustainable Development Goals. The CEE Secretariat also provided Recording Secretariat services for WURC.
6. Led the team that organized and delivered the WFEO "Engineers Climate Change Summit – Turning Words Into Action" at the UNFCCC COP-21 conference in Paris France.
7. Secured a new host and chair for CEE post-2015 (Institution of Civil Engineers (ICE) – United Kingdom) and provided ongoing advice and information to prepare their application to assume hosting after the 2015 General Assembly.

Responsibility & Sustainability

The World Federation of Engineering Organizations - Model Code of Practice for Sustainable Development and Environmental Stewardship as well as the Model Code of Practice on Climate Change adaptation Principles for Engineers both contribute to attaining responsible and sustainable engineering practice. These documents provide guidance to individual engineers as well as inform policy and decision-makers about the role and responsibilities of engineers in sustainable development, protection of our environment and dealing with the impacts of climate change.

Theme 1 – Engineering and Climate Change Adaptation

1. Participated in UNFCCC Bonn Meetings in June 2014 and June 2015 and delivered two side events/workshops:

- June 6, 2014 – Helping countries deal with Climate Adaptation - Adapting Physical Infrastructures to the Impacts of Climate Change. Co-organized and delivered with WMO and the Global Water Network.
- June 10, 2015 – Climate Vulnerability and Risk Assessment of Infrastructure: Implications for Adaptation Policy, Planning and Implementation.
- Participated in the 3rd Durban Forum on Capacity Building as part of the June 2014 UNFCCC Bonn meeting.
- Contributed two case studies (Costa Rica and Honduras Infrastructure Vulnerability Assessments) to the UNFCCC Secretariat for their 2015 Adaptation Knowledge Products Publication being submitted to COP-21.

2. Co-hosted and co-delivered a capacity-building workshop on vulnerability assessment and adaptation planning in partnership with ICLEI International at Resilient Cities Forum in Bonn, Germany – June 9, 2015.



UNFCCC SB 40 General Session – June 2014

3. Attendance and representation of WFEO at UN Conference of the Parties COP-19 (Warsaw, Poland- November 2013), COP-20 (Lima, Peru – December 2014) and COP-21 (Paris, France – December 2015).

4. A two day workshop on the application of the PIEVC Protocol for climate risk assessment was held on September 25-26, 2014 in Victoria, British Columbia (BC), Canada in partnership with the BC Ministry of Transportation and Infrastructure. Five engineers from the Ghana Ministry of Roads and Highways attended (funded by the World Bank). Several members of the delegation had attended the PIEVC workshop at WES 2013 in Singapore as part of the 2013 WFEO General Assembly.

5. A half day workshop on the PIEVC Protocol and its international application in Costa Rica and Honduras was delivered on November 13, 2014 in San Jose Costa Rica.

It was organized under the auspices of the WFEO-CEE as a partnership between Engineers Canada, the Colegio Federado de Ingenieros y de Arquitectos de Costa Rica (CFIA) and the Honduras CICH as part of a three day conference organized by the Costa Rica national water agency AyA and El Foro Centroamericano y Rep. Dominicana de Agua Potable y Saneamiento (FOCARD-APS).

6. Drafted new WFEO Model Code of Practice – Principles of Climate Change Adaptation for Engineers for approval by national and international members at the December 2015 General Assembly.

7. For more information or to participate contact Theme Chair Darrel Danyluk (Canada) ddanyluk@shaw.ca

Theme 2 – Climate Change Mitigation

1. Contributed in several articles for two issues of the CEE newsletter focusing on technologies and practices and their application towards GHG reductions.

Energy & Climate Change

The Future Climate Engineering Solutions project aims at offering and documenting engineering solutions to significantly reduce GHG emissions using existing technologies. Further information is available at www.fc-es.net.



2. Continued WFEO linkage to the Future Climate Engineering Solutions Project through co-chairing of Phase III activities by ICE and IMECHE. This includes development and promotion of a framework for preparing national energy plans to achieve significant GHG reductions.

3. For more information or to participate contact Theme Chair Dr. Paul Jowitt (United Kingdom) p.w.jowitt@hw.ac.uk

Theme 3 – Engineering and Agriculture

1. Formation of task group continued. Action plan completed for implementation by the task group once a viable number of volunteers is secured.
2. Concept note and draft agenda completed for a 1-2 day workshop in Africa entitled "Engineering and Agriculture: Towards Food and Associated Water Security in Africa". Working on securing sufficient sponsorship to hold this event in the fall of 2015 or the first half of 2016 as part of the next strategic plan of the CEE.
3. This theme managed the ongoing relationship between WFEO-CEE and the Farming First organization, providing advice and the engineering input into their documentation. Farming First is a virtual international collective of 131 organizations representing the world's farmers, scientists, engineers and industry as well as agricultural development organizations. Articles completed include a May 2015 blog on how engineers can contribute to the world's food security – one of the proposed Sustainable Development Goals of the United Nations.
4. Collaborated with Farming First on a blog entitled "Engineers Contribute to Reducing World Hunger – One of the post-2015 Sustainable Development Goals", published in May 2015 on the WFEO and Farming First websites.
5. For more information or to participate contact Theme Chair Fethi Thabet (Tunisia) fethithabet53@gmail.com

Water and Food Security

The proposed workshop on The Role Engineers in Water and Food Security will inform policy and decision-makers on how engineers can contribute to solutions to these issues.



Esther Nduku in Embu, Kenya, stores clean, dry maize in a metal silo. Photo credit: CIMMYT

Theme 4 – Engineering and Sustainable Mining

1. The Society of Mining Engineers, part of the American Association of Engineering Societies, leads this theme and led a working group that has wide geographical and regional representation. Current at-large membership is at 32 members from 19 countries. The group is undertaking a number of organizational changes which include a new membership category "Industry Practitioners" to be in place by September 2015. In February 2015, Ms. Jessica Kogel assumed the position of Theme Chair taking over from Dr. N. Trivedi.
2. Work continued on an action plan covering five theme areas that include: Environmentally Sound Engineering Practices and Technology; Best Practices in Social Sustainability and Responsibility; Best Practices in Eco-Efficient Use of Resources; Engineering Solutions to Reuse, Recycle and Repurpose Minerals; and Risk Analysis, Mitigation, and Management Techniques.
3. Developed an on-line tool box for managing risks in the minerals sector that is a compendium of best practices and case studies, including experiences and lessons with examples of problems, solutions and recommendations.
4. In March 2015, the group started work on creating a website for launch by the end of the year.
5. One of the committee's work products was the development of a one-day module-based seminar on sustainable mining practices, the target audience for which is small and medium-sized mining companies, government regulators, NGOs and representatives of civil society in developing nations. The seminar was designed to comprise a core curriculum easily customized to be relevant and culturally adaptable to the geographic region where it will be held.

A pilot capacity building workshop was completed in Johannesburg, South Africa in June 2014. The purpose of this workshop was to solicit from participants their thoughts and recommendations on how best to develop a proposed module-based seminar.



Organization of CEE Task Force on Mining and Sustainability



Future Climate - Engineering Solutions, Copenhagen Conference

6. This was followed by the outreach seminar in Saigon, Vietnam in October 2014 in which the goal was to provide mine operators, non-governmental organizations, local and regional government officials, regulators and other industry stakeholders a common platform for exploring critical issues around mining, sustainable development and water resources in Southeast Asia.

7. A moderated panel was organized as part of the July 2015 SDIMI meeting in Vancouver BC Canada with CEE Chair D. Danyluk as one of the panelists. The panel focused on the contribution of engineering to sustainable mining practices.

The goal was to examine some of the key social, economic and environmental challenges that the mining industry faces along with engineering solutions to address these challenges. A report is expected in the fall of 2015.

8. For more information or to participate, contact Theme Chair Jessica Kogel (United States) at jekogel@gmail.com

Theme 5 - Environmental and Sustainable Engineering Practice

1. The WFEO September 2013 General Assembly approved the WFEO Model Code of Practice for Sustainable Development and Environmental Stewardship for Engineers. This approval culminated six years of work to develop the Model Code. It was placed on the WFEO website in November 2013. The document has now been translated into French, Spanish, Arabic and Chinese. It is freely available for download from the website www.wfeo.org

2. An English training presentation on the Model Code of Practice was completed in June 2014 and has been placed on the website for use by national and international members.

3. In 2015 a series of train the presenter webinars were completed in different regions, including Africa, Arabia, Asia, Latin and South America and the United States, to train a cohort of engineers who could present the Model Code at events and professional development events in their country.

A newsletter article was prepared and was published by several national members including Canada, Costa Rica and Nigeria. Other national members have been approached but have not yet committed to publishing (as of June 2015).



Corporate Social Responsibility

Milestones for the committee have been reported above. With this report Engineers Canada has completed its final two years of our eight year commitment, as host and chair of the committee. The search for a new national member to host and chair the committee has been successful, and fulfills a major objective of the 2011-2015 strategic plan. This transfer is critical to sustain and to broaden the work of the Committee.

Lessons learned over the past two years include:

1. Responsive and sustainable support from the WFEO HQ is required to support communication and outreach efforts of the Committee. The website has improved markedly over the past two years in content and timeliness as well as having a much more professional look. The HQ Secretariat was very responsive to our requests to add content we provided.

HQ provided promotion of our material and effective links for users. This service for CEE and other STC's work is essential and must be continued as a high priority for WFEO.

2. In the past two years, our partnerships with other STCs have declined despite the introduction and conduct of STC Chairs meetings. These meetings made certain there was communication between each group but did not lead to increased collaboration to support progress in the work of STCs except in rare instances. The need for increased collaboration extends to outside organizations but must be project or task based to achieve success. In these cases such partnerships can lead to additional financial support and sponsorship as relationships and trust evolve.

3. Volunteers are the backbone for achieving progress in the task groups of our Committee. There is need to secure support for out-of-pocket expenses such as travel. Opportunities to secure external sponsorship, particularly for projects or capacity-building workshops or conferences should be part of the mandate of every STC.

4. Limited financial and human resources impacted the breadth and the scope of work in most themes of our Committee. This limited our task groups to capacity-building in its many forms e.g. workshops, publications, website material creation with timely updates, linking, networking and information transfers. External resources were not secured to undertake knowledge development work. These resources require proposals that must be generated by the STCs and for which the time and human resources were limited.

5. Our substantive engagement and participation in UN bodies such as UNFCCC and WMO has considerably improved the profile of WFEO and the importance of engineering within these bodies. These relationships must be part of the long term strategy for CEE, and requires dedicated effort. Focus and long term commitment by all STCs is essential for WFEO to achieve the levels of recognition desired.



WFEO Information Booth - UNFCCC SB 40 – Bonn Germany – June 2014. L to R: D. Lapp and D. Danyluk



UN Photo / Albert González Ferran

6. The increased UN profile of WFEO has been noticed by other international organizations such as UNESCO, OECD and the International Financial Institutions. With these bodies the level of engagement has been slow to develop and is due to lack of resources and commitment. Setbacks have occurred where promises were made but not kept. Efforts to enhance our profile with these bodies should continue on a technical and capacity-building level by individual STCs with WFEO HQ support. Commitment, follow-through and delivery are essential to increase our credibility and profile with these bodies.

The CEE focused most of its climate change adaptation work in Central and South America. The region is supported by UPADI, and Engineers Canada has strong historical links with the Colegio of Engineers and Architects of Costa Rica.

The Engineering and Agriculture group is focused on agricultural issues in Africa. The theme leader is located in Tunisia and his network is centered in the African countries.

The other themes do not have a specific geographic focus except through the participation of the working group members who are located across most regions of the world.



UN Millennium Goals

Some of the work of the CEE contributes to UN Millennium Goal #7 – Ensure Environmental Sustainability. It directly supports Target 7A – Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources. Engineers following the WFEO Model Code of Practice for Sustainable Development and Environmental Stewardship will contribute to reversing the loss of environmental resources by following the tenets of the Code of Practice. Engineers applying the Model Code of Practice also supports Target 7C – Halve the proportion of people without access to safe drinking water and sanitation through sustainable engineering practices focused on providing reliable and sustainable water supply and wastewater treatment infrastructure that minimizes environmental impact.

Since May 2014 the CEE has focused its efforts on communication and outreach of the Model Code of Practice to individual engineers by developing a standardized training presentation on the Model Code with engineers as the target audience. Further outreach has been undertaken by delivering train the presenter webinars in different regions to further extend awareness and uptake of the Code. National members are encouraged to use the Code and deliver the presentation to their engineering members. They are encouraged to forward the Code of Practice to their national governments to make them aware of the role and responsibilities of engineers. It can be used to argue for adjustments to government policies and practices to account for engagement of engineers in infrastructure design, operation and maintenance.



Engineers Canada wishes to acknowledge and express its gratitude to TD Meloche Monnex for their sponsorship over the past eight years we have hosted and chaired the committee. Thanks also to the Association of Professional Engineers and Geoscientists of Alberta (APEGA) for their continuing financial contribution over the same time period.

Committee on Anti-Corruption (CAC)

Driving the Ethics and Transparency Agenda for WFEO through establishing Anti-corruption Standards and Systems

The WFEO CAC has five major themes that were used to organize its activities:

1. Partnerships, Co-operations, Global Alliances and Networking
2. Ethics, Transparency and Anti-Corruption Capacity Building
3. Ethics, Transparency and Anti-Corruption Awareness, Training and Development of Preventive Systems in Infrastructure Development
4. Ethics, Transparency and Anti-Corruption Projects and co-operative initiatives
5. Ethics, Transparency and Anti-Corruption Publications (webinars, newsletters, magazines)

The Engineering Council of Zimbabwe is the host of the CAC for the review period. The Ordre des Ingénieurs Tunisiens served as host of the CAC, for a four-year term from November 2007 to September 2011. In March 2011, the Engineering Council of Zimbabwe (ECZ) informed the WFEO of its willingness to host this committee from September 2011 to the WFEO General Assembly in December 2015.

During the Singapore General Assembly in September 2013, Eng. Martin Manuhwa was proposed and approved as Chairman of the Committee. Martin has officially taken over as Chairman from Kamel Ayadi of Tunisia since 2013. Zimbabwe has submitted a proposal to continue to chair and host the Committee for the next term.

“Over the years, our Committee observed that Corruption is one of the greatest obstacles to the development of safe and adequate infrastructure due to the diversion of project funds to corrupt officials, funders, contractors, consultants, suppliers and agents leading to huge human and economic costs. Ethics and Transparency and embracing anti-corruption systems and standards in our practice as engineers and enforcing this with all stakeholders will promote zero tolerance and put the management of corruption to same level as quality!

**Martin Manuhwa,
Chairman of CAC (Zimbabwe)**

The Committee has resolved to change its name to (Engineering) Ethics and Transparency. This new name will be tabled for approval at the 2015 WFEO General Assembly in Kyoto, Japan.

Executed and planned activities

- Ethics and Anti-Corruption workshops have been done in Nigeria (WECSI 2014), Portugal (Anti-Corruption training and Workshop December 2015), Tunisia, South Africa, Zambia and Zimbabwe. The Committee held meetings and training sessions at all the WFEO Exco meetings in Paris in March 2013, 2014 and 2015. Neill Stansbury, Emilio Colon, Kamel Ayadi and Eng. Martin Manuhwa presented the workshop material on ISO37001 and Ethics and Transparency Prevention in Infrastructure in the Workshops.
- The Committee Website was designed and is now on the WFEO main Website since April 2014. The website is dynamic and is continuously being updated by the interactions of the Committee and the WFEO Secretariat in Paris.
- The Committee in collaboration with WFEO Capacity Building was involved in the hosting of the UNESCO Africa Engineering Week in various parts of Africa. The Committee Chair and secretary took part in the launch of activities in Johannesburg, South Africa from 1-5 September 2014. The Committee together with the Engineering Council of Zimbabwe, the Zimbabwe Institution of Engineers and the WFEO Capacity Building Committee will also be hosting this year's edition of the UNESCO Africa Engineering Week in Victoria Falls from 14-19 September 2015.



WFEO Exco led by the President Marwan Abdelhamid and CAC Members at the UNESCO HQ in Paris in December 2014

Corruption kills as it depletes resources meant for economic development. It occurs throughout the project life cycle and can affect all the listed topics; our committee proposes the use of anti-corruption systems in projects to combat corruption. The proposed projects below, if adopted by the General Assembly will go a long way to add to the ethics and transparency agenda of WFEO.

Anti-Bribery Certification for WFEO and its National Members - ISO 37001

Dealing with corruption and bribery should be WFEO's top priority. In the new age of tougher enforcement and peer-centred lack of tolerance of corruption and bribery, WFEO has the opportunity to show leadership. WFEO could be the first of the engineering organisations to have certified Anti-bribery Management System in place for its operations. This would demonstrate its commitment to good governance and business ethics.

Steps for WFEO to follow:

1. WFEO adopts an Anti-Corruption and bribery policy at the next General Assembly.
2. WFEO becomes certified under ISO 37001 once it is approved. ISO 37001 is based on BS 10500
3. WFEO promote that all of its members become certified under ISO 37001.

Creation of a guide code of best practice of procurement systems for WFEO National Members.

A sub-committee has been set up and will present a report by next WFEO GA Members are required to send the procurement systems in place in their countries. This will be used as a basis for the proposed guide code of best practice of procurement systems for WFEO.

WFEO Reporting and Investigation Procedure

The committee has drafted a document on investigation procedures whose purpose and scope is to ensure that:

- Any person standing for or holding any executive office within WFEO is a suitable person for such office, and acts in accordance with the highest standards,
- WFEO correctly follows its Constitution and Rules of Procedure i.e. any complaints against any such person, or any breach of the Constitution and Rules of Procedure, can be appropriately reported, investigated and dealt with.

- ISO 37001: WFEO through CAC has been granted liaison status by ISO to participate in the development of the proposed new anti-bribery standard ISO 37001. Martin and Kamel are WFEO's representatives on the ISO committee, and Kamel has been attending all ISO 37001 meetings held in Spain, USA and France. The intention is that ISO 37001 will be a management system standard and will be used alongside other quality, environmental and safety standards (e.g. 9001, 14001, 18001).
 - The third ISO working group meeting was held in Miami in September 2014. 65 people attended it from 17 countries. The draft standard was debated over four days, and amendments were agreed.
 - The fourth ISO working group took place over five days in Paris at the end of March 2015. The purpose was to debate the revised draft taking into account the Miami discussions. 80 people from 22 countries attended.
 - Assuming that a consensus is successfully achieved on the wording of the standard and all related issues, then it is hoped that the standard will be published during 2016.
- A meeting was held in Harare in 2013 with CoST - Construction Sector Transparency Initiative to discuss their intention to join the WFEO as a member of the CAC Committee. This is still work in progress.
- In collaboration with WFEO CAC, the Southern African Federation of Engineering Organisation (SAFEEO) and the Engineering Institution of Zambia (EIZ) organised the Engineers Without Borders (EWB) Conference (29 April to 2 May 2015). The Conference was officially opened by the Vice President of Zambia, Hon. Inonge Wina (who was Acting President). In his speech, His Excellency Edgar Lungu, President of Zambia challenged engineers to take a leading role in driving the development agenda of the nation. The theme of the conference is "engineering knowledge creation, sharing and collaboration".
 - The Royal Academy of Engineering's Enriching Engineering Education in Africa held their Steering Committee Meeting at the Conference and its participants resolved to work as a region to create proposal to continue with the project.
 - WFEO CAC presented a workshop papers on ISO37001, Prevention of Corruption in Infrastructure and on High Quality Engineering Curricula for a SADC Qualification Framework to improve Mobility and Ethics training in Engineering.
- WORLD JUSTICE PROJECT - The World Justice Forum V has been rescheduled for summer 2016, in collaboration with The Dickson Poon School of Law at King's College London. During the Forum, over 500 leaders from business, civil society, government, academia, the media, and more will gather to explore and share strategies for advancing the rule of law worldwide. Participants from more than 100 countries are expected to incubate new programs, exchange insights, collaborate on innovative rule of law scholarship and activities, and expand their global networks. The WFEO CAC is a partner of the WJP and has participated in all their events including in the launches of the Rule of Law Index – the 2015 ROL index was launched in June in Washington DC.

- The Global Infrastructure Anti-corruption Centre (GIACC) has been our WFEO CAC Committee training flagship and they have continued to develop training materials and resources, provide anti-corruption training workshops internationally, and make their training materials and resources available for use by WFEO.

International Alliances and Presence

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 this end our committee is in contact with national members and other international organizations. Several anti-corruption initiatives have been established in the international construction and engineering industry namely:

- ACET - Global Anti-Corruption Education & Training Project
- CIECI - Construction Industry Ethics & Compliance Initiative
- CoST - Construction Sector Transparency Initiative
- FIDIC - International Federation of Consulting Engineers
- GIACC - Global Infrastructure Anti-Corruption Centre
- UK Anti-Corruption Forum
- WEF PACI - World Economic Forum – Partnering against Corruption Initiative.
- UNESCO – Africa Engineering Week and Ethics in Education ETICO program has agreed to work with the Committee on Ethics Curricula in Engineering and other activities.
- ISO – ISO37001 Anti-bribery Standard



Neill Stansbury (right), presenting his paper on the ISO37001 formulation process at the CAC Workshop in Dec. 2014, Paris

Good partnerships have been developed with the World Justice project, UNDP, Foundation for the Future, and Ministry of Foreign Affairs of the Netherlands, World Bank, GIACC, ISO and ACET. These partnerships are effective and have led to on the ground programs. Alliances and partnership are crucial in addressing corruption. The committee has joined a large number of initiatives initiated by international organisations to address corruption.

CAC Strategy, Performance measurement for monitoring and evaluation of progress

Our vision is to promote zero tolerance to corruption and to advocate for the eradication of corrupt practices in engineering projects and practice through the enforcement of sound management systems and ethical professional practice.

Our Mission Statement is to execute a thematic, results-oriented program for 2014-2017 that raises ethics and corruption prevention awareness and increases the understanding of the global, regional, engineering and policy issues and solutions for the combating of corruption in infrastructure and other vital services.

The STC Activities as based on the themes indicated earlier in the Strategic Plan are as follows:

- Encouraging and supporting CAC theme leaders to organize international webinars, workshops and seminars related to their work within the strategic plan.
- Developing and promoting Anti-corruption policies, strategies and practices to combat corruption.
- Drafting practice guidelines and policies related to Anti-Corruption for the consideration and approval of the WFEO Executive Council and WFEO members. The Committee has developed WFEO suite of Anti-Corruption policies that have been adopted by the last General Assembly and is now part of the ISO Anti-Bribery Standard ISO 37001 development team.
- Participating as the WFEO representative in the UN System and representing WFEO at meetings relating to corruption and professional practices.
- Representing the CAC as one of the WFEO delegates on issues to do with ethics, professional practice and anticorruption. Several meetings are lined up for anti-corruption awareness at WFEO Executive Committee and other gatherings.
- Communicating to the WFEO and the international community on the work of the CAC. This is done through various media including WFEO and GIACC websites and articles in various WFEO member newsletters about our activities are being published online.

We have learnt a lot of lessons on how to handle apathy by National Members one key one being that we must always ensure there are Ethics and Transparency Workshops and Presentations at every National Member's Annual Event or Conference.

Our overall framework of strategic monitoring and evaluation will be based on the criteria given in next page.



Figure 1: Key Milestones 2013-2015

Zimbabwe is eligible to host the Committee for the next 4 year period and we have forwarded our proposal and strategic plan to this effect. The Committee has been active and has the full support of the Engineering Council of Zimbabwe and its partners. World regional structures have been formed and are now being operationalized.

The Committee has put in place the following Structure with Regional Sub-Committees so as to effectively spread its activities across the globe to reflect WFEO's Vision of Zero Tolerance to Corruption in Infrastructure Development:

The regions are:

- Europe,
- North and South America,
- Asia,
- Australia and New Zealand,
- Africa and Middle East.

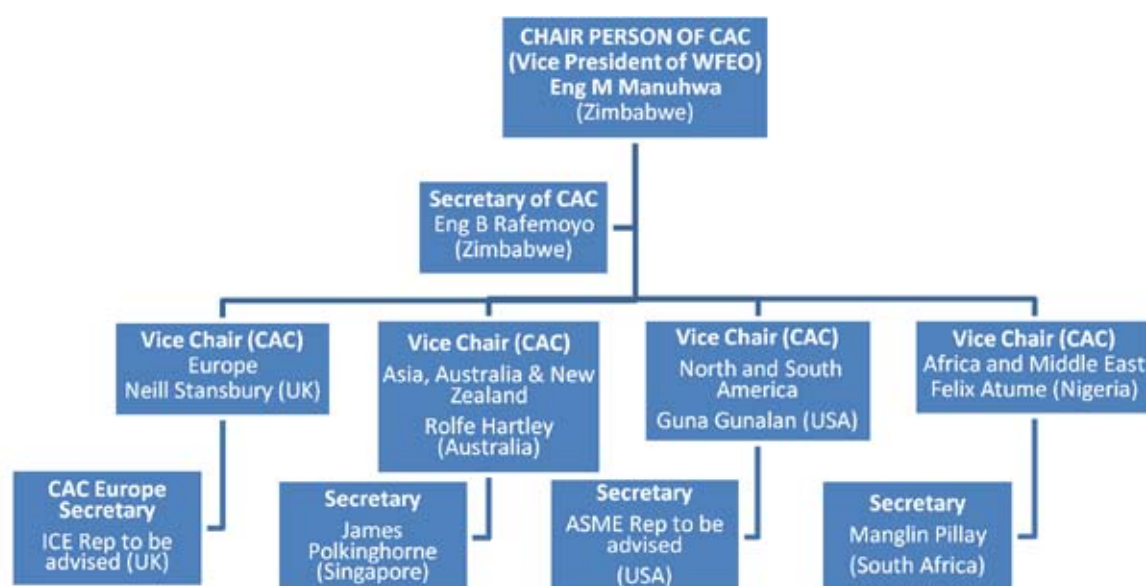


Fig. 2 The organigram of CAC

Committee on Information and Communication(CIC)

The WFEO-CIC holds it as a duty to promote the Information and Communication Technology (ICT) in order for it to be applied globally. It focuses on developing countries where narrowing the gap between North and South has become essential.

In the past two years and in accordance with its mission, CIC has made continuous efforts to organize its activities to promote ICT for development especially in African countries.

The Open Data for Science and Sustainability in Developing Countries (ODSSDC) is the most important project CIC made during these two years. In fact, CIC was co-organizer of ODSSDC that was successfully held in Nairobi at UN office (conference room 2), Kenya, from Aug. 6-8, 2014. CIC chair Prof Gong co-chaired the workshop and gave an address at the opening session. The workshop was a wide international cooperation in which WFEO-CIC played a significant role.

“ To promote ICT development especially in developing countries, more attention should be given to (1) green ICT development and application; (2) the IP and security/ privacy in internet society; (3) equitable data sharing and effective data use and (4) improve/facilitate engineering education in ICT especially to promote e-learning in engineering.

Ke Gong,
Chairman of CIC (China)

The purpose of the workshop was to review the advances achieved and to share the good practices related to open data issue in the past 10 years since the first meeting of the World Summit of Information Society (WSIS, Geneva 2003), and to discuss important further actions, especially international collaboration to boost universal and equitable access and effective use of data in developing countries.

The co-organizers of the workshop, included the international bodies active in open data research and application and policy programs like UNESCO, the International Council for Sciences Regional Office for Africa (ICSU), the World Data System of the International Council for Sciences (ICSU-WDS), The Group on Earth Observations (GEO), the International Cartographic Association (ICA), the International Society for Photogrammetry and Remote Sensing (ISPRS), the International Society of Digital Earth (ISDE), and the Research Data Alliance (RDA).

ODSSDC workshop was the first ever activity of WFEO-CIC held in Africa since the China Council for Science and Technology hosted the Committee.

Due to the worldwide recognition of the importance of data in this digital era, this workshop attracted great attention and support, especially from the UNESCO office in Nairobi, the Ministry of education and research and the Ministry of Information Communication Technology of Kenya, the Jumo Kenyatta University for Agriculture and Technology and many other institutions such as ICSU, WFEO, GEO, ICA, ISDE ISPRS, RDA, etc.

The workshop participants were mainly from African countries such as Kenya, Rwanda, South Africa, Uganda, Tanzania, and Madagascar. Others came from China, Japan, Pakistan, Malaysia, US, UK, Germany, France, Netherland, Russia, etc.



UN Millennium Goals

The MDGs, constitute a call for international cooperation to mitigate poverty. ICT is a powerful tool for development. CIC continues to work to promote ICT in developing countries and to break down its barriers.

In previous years, CIC shared good practices of using ICT to increase the sale of agricultural products and in the long run increase the income of farmers in less developed regions of China during the WFEO organized conferences.



Prof. Gong giving a speech at the ODSSDC 2014



ODSSDC Group photo around Ke Gong

At the opening session, a keynote speech was given by Engineer Fred Matiang'i, Cabinet Secretary for Information Communication Technology of Kenya who presented an inspiring vision of a "people-centric, inclusive, open and development-oriented information society" and the challenges of realizing this vision.

Dr. Matiang'i argued that there is a need to develop policies, both at international and national levels that deal with development and implementation of data and information, including issues around Open Access, Access to Information and Data protection legislation, and on charging and reuse of public sector information. To this end, he suggested that specific strategies for ensuring scientific knowledge placed in machine searchable repositories be developed and implemented by public agencies and universities as drivers. Furthermore, information, research and content funded by governments should be made freely available on the internet as part of the global public commons, to the maximum extent possible.

This work and the training course for Open data accessing and application skills that was organized before the workshop, to which WFEO-CIC was a technical co-sponsor, was widely reported in many African media.

WFEO-CIC was actively involved in preparing the workshop's output documents as well as in input into the UN related programs like CODATA, etc.

WFEO-CIC chair, Prof. GONG Ke, was co-chair of the workshop and gave a speech at the opening session together with representatives from UNESCO, CODATA/ICSU, and the Ministry of education and research of Kenya. In his speech, he stated the mission, function and organization structure of WFEO, as well as its role in the international engineering society.

A set of documents, "the Nairobi Data Sharing Principles and The Guidelines of Implementation of Data Sharing Principles for Sciences and Sustainability in Developing Countries" were drafted and discussed during the workshop. General agreement was achieved and the final documents will be finalized soon.

CIC was also actively involved in other WFEO activities, such as Internet Governance Forum (IGF) as well as the workshop of the WFEO Energy Committee in 2013 on sustainable energy. CIC gave its view on green ICT.

Information Technology

CIC has made full use of the internet to share data and cases of good practices in using ICT for development. All workshop documents were uploaded on the website to share them openly and allow access to as many people as possible.

CIC collaborated with International Geographical Union (IGU) to establish the digital geomuseum which is openly accessible.

Responsibility & Sustainability

All CIC activities are focused on the theme of ICT for development.

CIC tries very hard to take the interests of developing countries into account. Achieving the emerging data revolution this year would give the essential impact on sustainable development but may also cause larger data gap between developed and developing countries.

Committee on Engineering for Innovative Technologies
(CEIT)

The WFEO Committee on Engineering for Innovative Technologies (WFEO-CEIT), presently hosted by the Institution of Engineers India - Indian National Member of WFEO - has set its objectives in the area of technological evolutions, in order to identify suitable technologies for sustainable development, especially in the context of the UN Millennium Development Goals and the Bali Action Plan.

WFOE-CEIT focusses on recognizing new innovative technologies and in promoting the worldwide contributions of high level research through Nodal Centers to focus mainly on technology transfer in the spirit of the United Nations Framework Convention on Climate Change (UNFCCC) by approaching WFOE member countries in different regions and by organizing regional meetings and conferences as per WFOE charter.

“ The CEIT focuses on integrating interdisciplinary technological advances to develop sustainable products and solutions to achieve specific targets leading to inclusive societal development using outcome-based approaches.

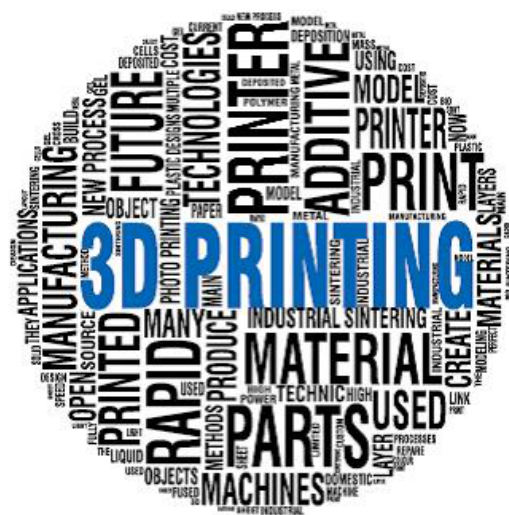
**S.S. Rathore,
Chairman of CEIT (India)**

The Committee aims at facilitating technology adaption, mainly nanotechnology, smart materials, sensor networks, convergence of micro and nano bio info, virtual reality, and bio engineering in the developing and under developed countries through the promotion of planning and execution of innovative technologies for sustainable product development, productive innovation in industry and innovation for sustainable development. CEIT has formulated a strategic action plan which includes Nodal Centers and redefines its objectives based on the following themes:

1. Innovation in Nanotechnology,
2. Innovation for Sustainable Development,
3. Sensor Network - virtual Reality,
4. Innovation in Smart Materials,
5. Innovation in Public Systems,
6. Innovation in Bio Engineering.

Activities

The main activities of the CEIT have focused around International Seminars on related topics, publication of monographs / paper and dissemination to large audiences and student chapters and discussions with National and International members and at multilateral & bilateral fora so as to achieve goals set out by the STC.



Seminars

An International seminar was held at the University of Technology, Malaysia on the subject of "Research & Innovations in the field of Engineering and Technology" in lieu of Regional Seminar of FEISCA on "Regional Co-operation on knowledge Management for Innovation" at Kathmandu, Nepal, which had to be postponed due to the earthquake. So as to obtain a captive audience of representatives of as many countries as possible, the focus is on linking seminars with FEISCA, FEIAP, IE(I) annual Engineering Congresses etc meetings. Accordingly seminars were held as follows:

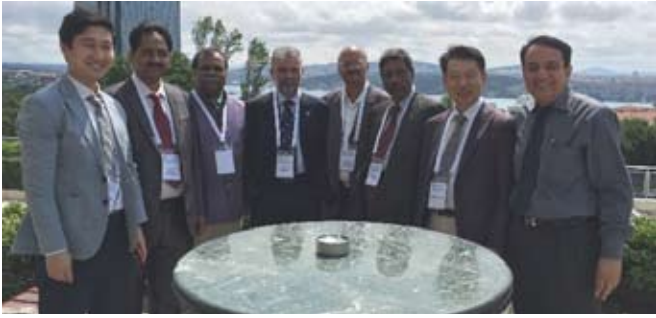
- The 2nd FEIAP Convention and International Conference on “Engineering Initiative for Sustainable Development – Integrating Innovation and Ethics” at Hyderabad
- Seminar on “Innovations in Affordable Housing in Developing Countries” at Ahmedabad during FEISCA meet
- Session on “WFEO – Engineering Innovations for Societal Needs” at Indian Technology Congress, Bangalore.
- On “Innovative Technologies for Safety Management, Fire Protection and Disaster Mitigation” at New Delhi.

Monographs / Publications

WFEO-CEIT along with National Design and Research Forum (NDRF), IET published monograph/publications on (i) "Sensor Networks and Air Pollution" (ii) "Bio-Printing" (iii) "3-D Printing" (iv) "Innovative Practices in Road Construction / Repair / Retrofitting" and two more jointly with National Design & Research Forum, Bangalore are under printing on "Handbook of Biotechnology, Bioengineering and Biomedical Applications" & "Harnessing Small Satellites for Societal Applications".

e-Newsletters

The WFEO Standing Committee on Engineering for Innovative Technologies (WFEO-CEIT) is regularly publishing an online e-Newsletter of the Committee.



President (IEI) Mr Murlikrishna Reddy leading the Indian delegation at the IEA Meetings in Istanbul

Nodal Centers for Innovative Technologies

The WFEO-CEIT had established the Central Nodal Centre for Innovative Technologies at Jaipur, India and the First Regional Nodal Centre was launched at Hyderabad, India with a view to promote participation of young engineers and women engineers in innovative technologies. Subsequently a New Regional Nodal Centre for innovative technology was established in Bangalore.

Involvement of NGO's / Multilateral Lending Agencies

The CEIT has also discussed with Institutional experts means to explore co-operation with multilateral lending agencies and other NGO's, so as to achieve its objectives. Since this would involve use of WFEO logo and possible funding by these agencies, permission of WFEO was requested and has been obtained recently. Accordingly, CEIT is now in the process of approaching World Bank, Asian Development Bank, EU, Universitas-21, Bloomberg Foundation, FIA Foundation etc.

Bilateral Exchanges

Bilateral and Multilateral exchanges provide an opportunity for the host to discuss activities of the committee with other National member / International member / other organizations and solicit their co-operation in CEIT activities. The exchanges included:

- 55th Convention of Institute of Engineers Bangladesh held concurrently with seminar on "Engineers' Role in Ensuring Safety"
- 108th Annual Session of Institution of Engineers (India) at Colombo (Sri Lanka)
- Global Engineering Conference of the American Society of Civil Engineers at Charlotte, USA and at Panama.
- Annual Convention of the Korean Society of Civil Engineers at Daegu, Korea.
- RUSEA (Russian Union of Scientific and Engineering Associations) at Moscow.
- Engineers Australia at Sydney, Australia

Multilateral Exchanges

- Regional Seminar of Federation of Engineering Institutions of South and Central Asia (FEISCA) on the theme "Engineering, Technology and Environment" was held at Chittagong (Bangladesh).
- "Culminating Engineers' Vision and Wisdom for Connecting Transition to the Prosperous Future" held at Kathmandu (Nepal).
- The 22nd World Energy Congress on the theme "Securing Tomorrow's Energy Today" held at Daegu (Korea).
- The 22nd General Assembly of the Federation of Engineering Institutions of Asia and the Pacific (FEIAP) held at Beijing (China) and at Taipei (Taiwan).
- The 8th JFES-JSCE-AIJ-WFEO Joint International Symposium on Disaster Risk Management held at Kobe, Japan.
- The 32nd Conference of ASEAN Federation of Engineering Organizations (CAFE0-32) and the 6th FEIAP Executive Committee Meeting held at Yangon, Myanmar.

Indian Engineering Congresses

- The 28th Indian Engineering Congress of IEI on the theme "Engineering Advancements and Accelerated Nation-building" held at Chennai, India and inaugurated by Mr. Pranab Mukherjee, Hon'ble President of India, as the Chief Guest.
- The 29th Indian Engineering Congress of IEI was held at Hyderabad wherein one session was allotted to WFEO-CEIT.

The first International Seminar of the CEIT outside the host country was held at the University of Technology, Kuala Lumpur, Malaysia. An International Seminar scheduled in May 2015 at Kathmandu, Nepal had to be postponed due to the earthquake and new dates will be finalized shortly.

After focus on Asia, CEIT's next geographical focus is the African continent. The CEIT has also discussed with Institutional experts means to explore co-operation with multilateral lending agencies and other NGO's, so as to achieve its objectives. Since this would involve use of WFEO logo and possible funding by these agencies, permission of WFEO was requested and has been obtained recently. Accordingly CEIT is now in the process of approaching World Bank, Asian Development Bank, EU, Universitas-21, Bloomberg Foundation, FIA Foundation, etc.

Committee on Energy (CE)

Committee on Energy (CE) is a Standing Committee of the WFEO standing committees with the purpose of addressing sustainable development of Energy.

CE consists of a Chairman and six regional Vice-Chairmen representing: North America, Asia/Pacific, Latin America, Europe/Russia, Middle East/South Central Asia, and Africa.

Committee Officers are appointed by their respective National Member organizations.

- Africa - Prof. Abubakar S Sambo, Nigeria
- Asia/Pacific - Ruomei Li, China
- Europe/Russia - Dr. Daniel Favrat, Switzerland
- Latin America - Mr. Mario Wieggers, Argentina
- Middle East/South Central Asia - Mr. Pradeep Chaturvedi, India
- North America - Mr. Kenneth Kok, USA

“ The Committee on Energy's objective is to be the engineering reference for energy sustainable development based on engineering criteria and actively participate in sustainable energy programs around the world by providing subject matter experts.

**Sam Grossman,
Chairman of CE (USA)**

Our members represent Argentina, Australia, Bahrain, Bolivia, Brazil, Canada, China, France, Greece, Ghana, Germany, Japan, India, Ivory Coast, Kenya, Kuwait, Lebanon, Mauritius, Mexico, Morocco, Nigeria, Palestine, Peru, Pakistan, Puerto Rico, Romania, Slovenia, Switzerland, Turkey, United Kingdom, United States, and Zimbabwe.

Including Task Groups our membership is one hundred (100) strong representing 32 different countries.

CE's vision is **“to become the engineering reference for assessing the feasibility of current and cutting edge energy technologies for sustainable development”**.

Our mission is **“to provide the engineer with updated, unbiased and reliable information on the feasibility of the different energy technologies based on scientific principles, engineering criteria and demonstrated technological development”**.

CE has Taskforces on:

- Wind Energy
- Nuclear Energy
- Solar Energy
- BioEnergy
- Sustainable Energy
- Urban Waste
- Hydrogen Utilization

CE has recently updated two reports on Solar Power and Nuclear Power. As these fields are continually changing as new technologies are developed these Task Forces updated their earlier reports to reflect current knowledge. The Solar Energy Task Force is being Chaired by Carsten Ahrens of Germany and the Nuclear Energy Task Force is being Chaired by FC Chan of China.



Heat Recovery Steam Generator Section of Combined Cycle Power Plant

The BioEnergy and Sustainable Energy Task Force are currently finishing their studies and preparing their reports. Pradeep Chaturvedi of India is Chair of the Sustainable Energy Task Force and Dermot Roddy of United Kingdom is Chair of BioEnergy Task Force.



Steam Drums on Heat Recovery Steam Generator

CE is also working on launching studies for Urban Waste, Hydrogen Utilization, Energy Hierarchy (conservation, efficiency, renewable, low carbon technologies), and Carbon Capture Technologies. Other topics being evaluated for studying are Superconductor Technologies for Power Transmission, Energy Storage Devices/Systems, Energy Resource Estimation Methodologies, and Near-Term Energy Demand/Supply.

CE is working with World Energy Council (WEC), under the Cooperation Agreement between WFEO and WEC for energy supply of megacities and urban complexes.

The Committee provided comments on the nuclear power recommendation of Policy Brief #2 Recommendations on Energy for the UN General Assembly Open Working Group on Sustainable Development Goals (OWG on SDGs) by the UN Non-Governmental Liaison Service (NGLS) that prompted the American Nuclear Society to request American Association of Engineering Societies and WFEO to comment on the Brief. These comments were channeled through the WFEO-UN Relations Committee (WURC).

CE hosted the "WFEO Conference on Sustainable Energy" in Guangzhou, China between September 7 and 8, 2013. This conference was attended by appropriately 400 engineers and was supported by Chinese Association of Science and Technology-CAST, the Chinese Society of Electrical Engineers-CSEE, and the Hong Kong Institute of Engineers-HIKIE. Sponsoring organizations included UNESCO, China Light and Power and China Southern Grid. In addition the conference addressed Disaster Risk specifically focusing on energy and a special session addressing the issues of Women in Engineering.

CE is supporting the "2nd Energy Management Conference" in the Kingdom of Bahrain between December 6 and 8, 2015. This conference will focus on Sustainable Energy for Developing Countries. Topics will be Policy Framework, Energy Security, Energy Efficiency, Renewable Energies, Energy & Climate Change, Energy & Environment, and Private Sector and Financing Institutions. This conference is under the patronage of H.E. Dr. Abdul Hussain bin Ali Mirza Minister of Energy for the Kingdom of Bahrain.

Support UNESCO Regional Renewable Energy Boot Camps by providing engineering subject matter experts.



UN Millennium Goals

The Committee on Energy is leading the WFEO's efforts to support this initiative from the UN Secretary General Ban Ki-moon. Sustainable Energy for all seeks to mobilize action from all sectors of society in support of three interlinked objectives to be achieved by 2030: providing universal access to modern energy services; doubling the global rate of improvement in energy efficiency; and doubling the share of renewable energy in the global energy mix.

Through its Taskforces, Conferences and Reports, the Committee on Energy will be supporting SEFA by collecting and disseminating best practices and recommendation.

Committee on Disaster Risk Management (CDRM)

The WFEO-CDRM addresses issues relating to potential damage and risks to human life and livelihood through the proper application of technology and engineering approaches.

CDRM's activities were performed locally, globally, and practically for international collaborations, membership expansion, and awareness campaigns on disaster prevention, reduction, and resilience.

In addition, there were independent activities performed by three subcommittees for water, earthquake-related disaster, and capacity building.



CDRM has currently aimed to introduce, recommend and develop the best practices, lessons, and methods for natural disaster-related damage prevention, reduction, and preparedness as well as adaptation to disaster risks under global climate change. This committee has promoted sustainable and adaptable development based on DRM through scientific and engineering approaches. Its mission involves sharing those practices, lessons and methods with WFEO member countries, engineering societies and leading engineers around the world.

Toshimitsu Komatsu,
Chairman of CDRM (Japan)

CDRM focused on three major goals through practical activities from 2013 April to 2015 March

- First goal is to promote international collaborations. For example, CDRM worked together with a UNESCO Disaster Reduction Group to produce a publication for building seismic- standards-related research during 2014. Additionally, Committee Chair and Secretary participated in one of the preparatory meetings: the Tokyo Conference for Disaster Risk Reduction and Resilience (DRRR) of UN international conference of the World Conference on Disaster Risk Reduction (WCDRR) at Sendai (Japan). Committee members also participated in the January 2015 editions of these meetings. CDRM Chair also participated in several WCDRR side events as WFEO representative to input CDRM knowledge.
- Secondly, CDRM actively recruited new members for membership expansions. To this end, the Committee Chair traveled to East Asian countries to recruit appropriate new members. Two new members joined the Committee during the last two years.
- Finally, holding an international symposium on DRM is one of the important activities to promote awareness campaigns. The DRM Committee held two joint international symposiums on DRM in September 2013 and September 2014, in Japan, during which eight guest speakers were invited. It attracted approximately 50 participants. These symposiums were held in collaboration with different engineering organizations, such as civil engineering and architecture engineering associations to solve Interdisciplinary disaster issues through engineering approaches.



Commemorative photo with committee members and guest speakers in 2014 international symposium on CDRM



Three subcommittees of CDRM performed activities independently

- **The water-related subcommittee** worked for some guidelines on water-related disasters, e.g., floods and droughts under global climate change. It is a still on-going project. The subcommittee also studied how previous severe flood-induced disasters occurred and how the disasters may be prevented by collaborative projects involving experts.
- **The earthquake-related subcommittee** worked on investigating better methods to reinforce buildings to withstand earthquakes. It provided information to the public by using information about past earthquakes. Together with a disaster risk-reduction section of UNESCO, some members of this subcommittee contributed to an investigation into establishing worldwide seismic standards for buildings.
- **The capacity-building subcommittee** was established at the DRM committee face-to-face meeting in Slovenia (September 2012). This subcommittee developed a comprehensive, informative resource web section that deals with natural CDRM. The web section is available at www.wfeo.org/ndrm/. The web-based resource has a corporate sponsor, which will assist with future development and support for at least three years. All WFE0 and DRM Committee members have been requested to contribute to the web resource, which will build capacity for natural DRM among engineers. The capacity-building subcommittee attended regional workshops in Brisbane, Queensland (July 2013) and Hobart, Tasmania (November 2013) in Australia to promote website resources and encourage contributions from around the world.

Host country of CDRM is Japan where severe natural disasters occur occasionally. Therefore, the current host country is the best placed to expand valuable lessons learned from past disasters in Japan to other disaster-related vulnerable countries.

Resilient Infrastructure

CDRM is in the process of preparing flood and earthquake-related disaster guidelines.

Energy and Climate Change

CDRM focuses on awareness campaigns for disaster prevention, reduction, and resilience under future climate change.

Committee on Engineering Capacity Building (CECB)

1. Showcasing Initiatives Developed on Building Engineering Capacity

The Committee on Engineering Capacity Building under the Chairmanship of Mr Chris Campbell has continued with the work initiated during the first reporting cycle. During 2014, due to work commitments, the Chairmanship of the committee was handed over to Mr Yashin Brijmohan.

The original themes which were identified by the South Africa hosts for continuity and enhancement include Engineering Capacity Building for Globalisation and Mobility; Developing Countries; Developed Countries; and New Technologies which has remained consistent throughout the term.

There is a substantial need to mobilise expertise in order to create or develop and maintain a sustainable engineering related work force in all countries, education and training as well as informed decision makers in Governments at all levels and in the private sector.

It is vital that we focus in the present, in building Engineering Capacity to meet our Global aspirations as nations and as a United Global Community in ensuring a better human life for all and a sustainable environment.

**Yashin Brijmohan,
Chairman of CECB (South Africa)**

The Engineering Capacity Building, is dedicating its efforts to assisting countries to engage at all the various levels of capacity building to effectively create sustainability and for developing countries to have an equitable place in the global marketplace, by means of suitable and appropriate capacity building initiatives. New thematic areas were introduced which included school levels, higher education, young professionals, and professional development.

2. Capacity Building Projects

2.1 Compendium

To this end the development of the On-Line Compendium to supplement the original work of the Capacity Building Guidebook in 2010, has been the core focus of the committee until early 2014.

Though the Guideline 2010 was originally published in English as the official version, ongoing work continues to translate in as many languages as possible, as it is indeed a useful and relevant publication for all countries facing the challenge of developing local engineering capacity. The efforts and insights of the Engineering Capacity Building Committee have continued to attract the interests of not only UNESCO but also other international partners, and countries throughout the African continent.

In keeping with the focus on knowledge sharing on the subject of building Engineering Capacity, the Committee have developed an electronic based Capacity Building Compendium, the official launch took place at re-arranged STC meetings in Paris late in 2014. The success of the Compendium is dependent on submissions from the broader WFE0 community to be a truly global tool which will assist all Capacity Building initiatives worldwide.

2.2. Africa Engineering Week

Engineering capacity and competence building activities are critical to ensure an adequate supply of engineers to work on global challenges. Such activities are particularly important in Africa, where the per capita number of engineering professionals is lower than in other regions. Given this engineering deficit, activities that promote awareness of engineering as a career as well as show how youth studying science, technology, engineering and mathematics (STEM) can become part of the solution have high priority.

Many countries, including the United States, Canada, Australia, UK. and Ireland currently hold national engineering weeks, which have been very successful in promoting awareness of engineering as a career among students as well as demonstrating the need for engineering to achieve sustainable development through the three pillars: social, economic, and environmental. Activities that celebrate engineering as well as educational programs that encourage students to pursue engineering studies are held during this week.

In both the United States and Ireland, Engineering Family Days give families the opportunity to see engineering in action through demonstrations and hands-on activities, such as water rockets, LEGO robots, and solar orbiter heat shields. In addition, the UK and Australia have created engineering activity packs, which feature downloadable activities, such as construction of a solar cooker or a straw bridge, to facilitate engineering discovery for primary and secondary students during this week.





Engineers without Borders - Capacity Building Conference - Zambia

The activities during Africa Engineering Week will increase the visibility of engineering and its role in sustainable development, to encourage students to study engineering by supplementing STEM curricula with practical engineering applications, and to incite more African countries to participate ensuring the sustainability of these efforts. Students in some schools in Africa will participate in educational activities.

3. Project Achievements and Future Plans

The Capacity Building Guidebook 2010 was launched in 2011, under the custodianship of the USA with several translations continuing, albeit a slow one as the work is being undertaken by volunteers. The Capacity Building Compendium was launched in December 2014. The plans are to include the compendium on a mobile platform which will have an increased outreach, and accessibility.

The Committee in 2014, decided to expand its projects and in partnership with UNESCO directed the Africa Engineering Week initiative, which has made significant progress during 2014. Given the success of the events in 2014, meetings have been initiated to ensure continuity of the partnership in 2015 and beyond. It is envisaged that international partners, eg. INTEL, AIRBUS, and IEEE will also support the initiative.

The launch event in South Africa towards the end of 2014, was held in Johannesburg and opened by the South African Honourable Minister of Science and Technology, Naledi Pandor. There was extensive media coverage including both televised and radio events. The main event was attended by several delegates from Africa, and well as international partners. The main event for 2015 is planned for Zimbabwe during September 2015, together with other events throughout Africa.

The WFEO Engineering Capacity Building Committee has also supported the Engineers without borders (EWB) conference in Zambia, and provided input into initiatives of collaboration in capacity building at the Southern African Federation of Engineering Organisations General Assembly. This event (EWB) was addressed by the Presidency of the Zambia. President Edgar Lungu said "engineering contributed enormously to every country's economy and hence engineers should come forward and provide leadership in the development agenda." This is a historic event in Zambia, as it is the first time in 50 years that the President of the Republic has accepted to officiate at an Engineering conference. Initiatives like these as well as Africa Engineering week is gaining momentum, and support from governments, which is critical to the Engineering Capacity Building within Africa.

A new project has been initiated with support from UNESCO, and the Federation of African Engineering Organisations to produce a status report of Engineering Education, as well as support the Africa Catalyst Project. These projects are in the elementary stages of development. The Africa catalyst project seeks to address the engineering skills deficit by building engineering capacity by improving engineering education at all levels and enabling degree courses to meet recognised international standards and supporting the development of professional engineering institutions that can effectively support and regulate the profession and promote professionalism.

Project Focus

Capacity building as envisaged by the CECB focuses on strengthening economies, governments, institutions and individuals through education, training, mentoring, orientation and mobilization of resources. It aims at developing secure, stable, appropriate, affordable and sustainable structures, systems and organizations with a particular emphasis on improving the quality of life. The issue of Engineering Capacity Building relates directly to developing skills, capability and sustainable resource bases which are able to contribute to infrastructure development and maintenance with a focus on legacy technologies as well as on new technologies. Furthermore this Capacity will be best positioned to develop systems and methods of addressing food security, water security and similar such global challenges. All of this can only be done if one has developed the requisite Engineering Capacity to ensure that we not only meet the UN Millenium Development Goals but also those goals to which we aspire well into the future.

Committee on Education in Engineering (CEIE)

The aim of CEIE is to work for the development of the profession and the review of the engineering programs through collaboration with different educational establishments and organizations.

Mobility of engineers

The CEIE has been working towards implementing Mobility of Engineers since 2013. Two main activities were achieved in the 2013-2015 period: the first one took place in 2013 and the second will be in October 2015.

In the year 2013, and after the General Assembly of WFEO in Singapore, the 9th World Congress on Engineering Education took place in Beirut, Lebanon on October 24 and 25, with the theme **"Impact of Globalization on Engineering Education"**, sponsored by The World Federation of Engineering Organizations – Committee on Education in Engineering and the Federation of Lebanese Engineers together with the Federation of Arab Engineers. Proceedings were published containing 36 papers of which 27 were presented during the Congress. The Congress was the result of two years of planning.

The conference was a combination of panel discussions and paper presentations created an environment of collegial debate and discussion on matters related to quality assurance and accreditation of engineering programs in Lebanon and elsewhere.

Subjects such as mobility of engineers and accreditation processes in EU and US as well as the Washington Accord were discussed and debated not only in sessions with a sole presenter and all attendees in the audience, but also in small groups during lunch and other breaks.

Keynote addresses were delivered by Dr. Ahmad Jammal, the Director General of the Ministry of Higher Education in Lebanon, Dr. J. P. Mohsen, the Vice Chairman of CEIE, on globalization of ABET accreditation and by his Excellency Dr. Isam Zabalawi, Previous Minister of higher Education in Jordan, on the effect of Bologna process and its impact on engineering education in the Arab world. The most significant and well received keynote, however, was delivered by the Vice President of WFEO, Dr. Peter Greenwood, on the subject of engineering mobility.

A panel discussion was presented the second day between the keynote speakers, His Excellency Dr. Isam Zabalawi, Dr. Peter Greenwood, Dr. J.P. Mohsen and Dr. Makram Suidan the Dean of College of Engineering and Architecture at AUB Beirut.

It should be noted that all sessions were moderated by Deans of Engineering Colleges at various Universities in Lebanon.

A collection of ten papers that relate to the theme of the congress was selected and published in IDEAS publication issue number 18.

“ This year 2015, another congress will take place under the theme *"Engineering Education for Sustainable Development"* in Lebanon. This congress is in collaboration with the WFEO-CEIE, ASEE, ASCE, FEANI, ENAEE, local universities in Lebanon and with the support of FLE and the FAE. The Congress will take place on the 29th and 30th of October 2015 in Beirut.

A. M. Alameddine,
Chairman of CEIE (Lebanon)



2013 World Congress on Engineering Education (WCEE), Lebanon

From the congress outcomes, we will emphasize on the following subjects:

- Industry and universities should establish good relations.
- Engineering innovations should receive important investments to establish an industrialbase. This would move the country towards wealth creation with associated engineering jobs as an alternative to a service-orientated economy.
- An assessment of the need for a regional approach to improve accreditation and the quality assurance of engineering education.

Young Engineers / Future Leaders (YE/FL)

Young Engineers / Future Leaders (YE/FL) gathers together young engineers, students, and council members as official members from national engineering associations representing their country.

In 2014, the YE/FL Committee held its annual meeting at UNESCO in Paris. The committee members worked on the strategic plan for the next four-year term of the YE/FL STC to begin in November 2015 in Kyoto, Japan. Certain topics tended to resurface throughout these on-going discussions, one of which is the committee's goal to bridge gaps left by formal education to help young engineers be successfully employed.



Young Engineers are the leaders of the future. We don't need to find short term solutions only, we also need to plant seeds for long term solutions.

**Zainab Garashi,
Chairwoman of YEFL (Kuwait)**

While discussing the challenges young engineers face in seeking and achieving employment, the idea of "camps" was discussed to examine six regions in the world, note their specific employment challenges, and draw parallels from all six regions. The regions include: Asia Pacific, Europe, Middle East, Africa, Latin America, and North America. The end-goal is to issue a position paper on youth employment challenges in each region and ideas on how these can be met. A workshop was held in March 2015 to meet this objective.

WFEO YE/FL International Strategic Planning Forum "Stakeholder Collaboration for Global Integration of Youth in Industry"

Main Themes covered:

- Objectives When Hiring New Talent
- University & Training Centers Preparation of the Young Engineer for Employment
- Knowledge of Industry Requirements by Job Placement Bodies

This forum truly came about as the result of the outcomes from the first YE/FL Conference in Kuwait in February 2013.

It was in line with the committee's strategic plan and the overall WFEO strategic plan Stakeholders were invited to an open discussion to define their current needs and expectations. The workshop was divided into three themes: what companies need from fresh graduates and young engineers; what universities know about industry expectations; and how third parties are trying to fill the gap between university life and work life by preparing young engineers to work in the private sector.

Striving to identify the gaps between formal education and the capability to function in industry as young engineers, catalyst questions were posed throughout to spark thoughts around specific topics.

The forum was an opportunity of exchange between private industry, government, universities, and young engineers to voice their concerns to better meet each others' expectations.

The December 2015 workshop to be held in Kyoto will be attended by many guests, including representatives from private and governmental sectors, universities, and government ministries associated with helping job seekers find employment.

Each session will deal with specific questions. The following are the key concepts: Perception of Industry Needs (PINs), around which the academic curricula is largely based for preparation of the student to enter industry; the Competence Assessment Packages (CAPs) and finally Reconciling the Grey Areas in Industry Needs (ReGAIN) which goes back to filling the gaps of traditional education to better equip young engineers entering the workforce. It is on this grey area that the committee is interested to focus on.

As the YE/FL STC will enter its second four-year term in Japan in December 2015, committee leadership aims to develop a concrete strategy, objectives, and future outcomes for the WFEO convention meetings in Australia in 2019. The purpose of this workshop is to develop this four-year strategy, with the help of trusted advisors. The strategy note will include proposals for tracking progress on these initiatives, implementation of resolutions, strength of networks, development of people-sized technologies, and the responsive alignment of all stakeholders' (Companies and institutions, universities, human resource organizations, young engineers etc.) needs for the benefit of young engineers.



Committee chair Z. Garashi (center), Kuwaiti young engineer and Dr. J. SATO – President, Japan Federation of Engineering Societies

WFEO events and annual meetings are good opportunities to reach young engineers in all countries. Only gathering national young engineers on one table as well as interested young engineers can foster communication and change.

Women in Engineering (WIE)

The WFEO Committee on Women in Engineering aims at Empowering Women in Engineering and Technology.

WIE acts around three themes that were further developed during the past two years:

- Engineering Workforce Diversity,
- Leadership and Empowerment,
- Engineering Strategic Indicators.



The Women in Engineering (WiE) standing committee gathers 43 full members from over 30 WFEO-FMOI member countries and international organizations. The committee is focused around three themes that have unified the needs of women engineers around the world.

**Bashayer Al-Awwad,
Chairwoman of WIE (Kuwait)**

2015

- WIE meeting on the occasion of WFEO Executive Board - March 2015, Paris
- Participation in the GCC IEEE Women in Engineering Forum - February 2015, Muscat, Oman
- Participation in the International Women's Day Summit - March 2015, Kuwait
- Participation on behalf of WFEO in the International Forum of NGOs in official partnership with UNESCO, The Role of Women in Fighting Poverty - 29-30 June 2015, Paris, France
- WIE event in EXPO MILANO 11-12 Sept. 2015, Italy

WIE Brochure

WIE Brochure was prepared for worldwide circulation to promote the committee internationally.

SHE CAN

In collaboration with the International Women's Peace Group (IWPG), the She Can Project is to instill peace in the hearts and minds of everyone across the globe.

2014

- Celebration of the International Women's Day - March 2014, Kuwait
- Meeting on the occasion of the WFEO Executive Board - 6 April 2014, Paris
- Participation in the 2014 World Peace Summit - September 2014, Seoul, Republic of Korea
- WIE dinner event - 8 December 2014, Paris
- International Workshop on Strategic Planning for Women

2013

- WIE Meeting on the occasion of the WFEO Executive Board - April 2013, Paris
- WIE Workshop during The ITU Forum - May 2013, Geneva
- WIE Meeting on the occasion of WFEO general assembly and the World Engineering Summit (WES) - September 2013, Singapore
- WIE half day panel event and networking lunch during WES
- WIE participation in the IEEE GCC Women in Engineering Forum - November 2013, Qatar



WIE members at the World Engineering Summit (WES) in Singapore

The SmartWoman app: Connect. Share. Empower.

Distance and time are critical when it comes to communication. Technology nowadays plays a very important role in connecting people no matter where and when. This app will be designed and managed by the WFEO Women in Engineering Committee in collaboration with other international women organizations and foundations to be a hub to help women across the world in accessing valuable information about prizes, awards, grants, scholarships, contest, conferences, seminars, workshops, campaigns.

WFEO STC Chairs and Executive Board Members



WFEO-UN Relations Committee (WURC)

WURC's main objective is to put the Engineering contribution at the forefront of the Major Group's international efforts towards fulfilling feasible programs and measures with a focus on sustainable development, climate change, environmental issues, and disaster risk reduction.

The Committee concentrates its activities on actions developed within ECOSOC, UNCSD, UNEP, UNISDR, UNFCCC, UNDP, UNESCO, WMO, OECD, UNISDR, and the World Bank. WURC activities include those related to the Rio+20 Conference and Post Rio+20.

The WFEO-UN Relations Committee (WURC) was created in September 2011 with the mission of acting as the WFEO interface with different UN agencies as well as intergovernmental organizations requiring engineering content, systems, methodologies and analyses.

Until the creation of this Committee, the interface with UNCSD (United Nations Commission on Sustainable Development) and Economic and Social Council (ECOSOC) [CÉSNU] was carried out by the Energy Committee. It involved in particular the participation of WFEO at the UN Commission on Sustainable Development (UNCSD) CSD-14 to CSD-19 meetings.

The Chair of this Committee acts as WFEO liaison with UNCSD and ECOSOC, and leads the WFEO representation at the Scientific and Technological Communities Major Group that takes part in these UN bodies.

As indicated, WURC represents the global engineering community at the UN through the Scientific and Technological Community Major Group (STC MG). This Major Group includes WFEO, the International Council for Science (ICSU) and International Social Science Council (ISSC).

Activities and Meetings

The activities and meetings of WURC demonstrate the health and contributions of WURC and are summarized as follows:

A. Meeting WFEO-UN Relations Committee - Paris, 9 April 2013

The members established WURC Terms of Reference as well as completing a full agenda which included interface with UNDESA, ECOSOC, UNEP and the Sustainable Development Goals e-Inventory.

B. Meeting WFEO-UN Relations Committee - Singapore, 10 September 2013

The members discussed topics which included High Level Political Forum, Regional UN Sustainability Development events, Jakarta Convention and Anti-Corruption request from World Bank.

C. High-level Political Forum (HLPF) on Sustainable Development

WURC interacts with UN as a member of the STC MG by responding to specific requests for input in writing and through personal representation at meetings such as the high-level political forum (HLPF) on sustainable development. WFEO represented the STC MG at the first meeting of the HLPF was in September 2013. WURC was represented at the June 26 to July 8, 2015 HLPF.

D. High-Level Symposium on Sustainable Cities and Sustainable Urbanisation

WURC participated in the High-Level Symposium on Sustainable Cities and Sustainable Urbanisation convened by the United Nations Department of Economic and Social Affairs through its Division for Sustainable Development (DSD/DESA) in collaboration with the Municipal Government of Yangzhou, 16-18 December 2013 in Yangzhou, China. Detailed information of this event is posted on the webpage: <http://sustainabledevelopment.un.org/index.php?page=view&nr=506&type=13&menu=1634>

“ WURC is very active and welcomes participation of all interested members, potential members and potential associates. Join WURC and be a part of a strong and unified voice globally for engineering and engineers to serve society to meet human needs in harmony with the environment.

**Reginald Vachon,
Chairman of WURC (USA)**



E. STD 2013 - 2014 Inter-sessional Panel

WURC participated in the themes discussed at the CSTD 2013-2014 Panel which were:

- Science, Technology and Innovation for the MDGs and the Post-2015 Development Agenda. WURC Chair made a presentation on country cases.
- ICTs for inclusive social and economic development
- WSIS follow-up, including WSIS+10 and preparations for the 17th session of the CSTD
- WSIS+10 preparations and Internet Governance Forum (IGF) stocktaking for the 17th session of the CSTD

F. Sustainable Development Goals for People and the Planet

The Scientific & Technological Major Group's vision & priorities for the Sustainable Development Goals and the post-2015 development agenda. A position paper for the programme: "Post 2015: Enhancing Stakeholder Engagement in the Post-Rio+20/Post-2015 Process".

WURC participated in the position paper on the vision and priorities of the International Council for Science (ICSU), WFEO and the International Social Science Council (ISSC) - including themes, targets and indicators - for the Sustainable Development Goals (SDGs), wider post-2015 development agenda and High Level Political Forum (HLPF).

This paper considers the following:

- Cities
- Health
- Energy
- Oceans and seas
- Forests and biodiversity
- Sustained and inclusive economic growth
- Governance
- Other critical issues like food security, climate change and water.

- WURC has stressed the role of nuclear energy to protect the environment through its statement for NGLS Policy Statement #2
- WURC has established a WFEO process and representation to participate in the UN Summit to Adopt Post-2015 Development Agenda
- WURC is active with UN agencies, World Bank, ICSU and ISSC as a member of the STC Major Group.

G. UN Non-Governmental Liaison Services - Policy Brief #2 Recommendations on Energy

Development Goals (OWG on SDGs) relative to recommendations on energy are the topic of the brief. WURC participated in the UN General Assembly Open Working Group on Sustainable Development relative to energy. The recommendations on energy were compiled from three civil society consultations conducted by UN-NGLS from 2012-2013. It was advocated that governments must promote development and energy generation that does not result in dangerous byproducts with the capacity to trigger global-level destruction. Recommendations are presented below, organized according to the following five objectives:

- Achieving universal energy access;
- Ensuring clean, safe, and locally appropriate energy generation;
- Advancing energy efficiency;
- Enabling effective financing for energy;
- Establishing the roles of stakeholders.

WFEO advocated nuclear energy as clean source of energy for inclusion in Policy Brief #2.



WURC members participating in International Congress on Advances on Nuclear Power Plants in Nice, France, on May 4, 2015

H. WFEO UN Relations Committee (WURC) Meeting #5 - December 8, 2014. UNESCO Headquarters, Paris France

The majority of the Committee and a number of observers were present. 2015 offers tremendous opportunities for WFEO to engage with the UN. The UNFCCC, UNISDR and SDG processes all reach significant milestones in the coming year. WURC will achieve significant WFEO engagement and profile in all three UN initiatives.

I. UN Activities

WURC interacts with United Nations agencies : United Nations Framework Convention on Climate Change (UNFCCC), United Nations Environment Program (UNEP) and United Nations Commission on Sustainable Development (UN-CSD). The focus is discussion and work around engineering, climate change and sustainable development.

- UNFCCC Conference of the Parties Meeting No. 20 (COP-20) – Lima, - Dec 1-12, 2014
Ten participants from the Colegio of Peruvian Engineers organized through the CEE Chair and supported by the CEE Secretary attended on behalf of WFEO and the CEE.
- United Nations Climate Change Conference – Geneva, Switzerland – Feb 8-13, 2015
This meeting of the UNFCCC Ad Hoc Working Group Durban Platform on Capacity-Building was attended by D. Favrat and Y. Ramos of Switzerland. A report is in preparation.
- World Meteorological Organization (WMO) - WFEO Memorandum of Understanding

Reports on these meetings and events are available. Eng. Danyluk, WURC member attended by invitation the WMO Global Climate Observation Services (GCOS) Workshop on February 10-12, 2015, in Bonn, Germany. UNFCCC COP-21 scheduled for Paris, December 2015. WURC will attend and will organize a side event.

J. Monitoring Sustainable Engineering Activities by Others - International Congress on Advances on nuclear Power Plants

WURC participates or monitors sustainable development activities globally. A sustainability declaration signed on May 4, 2015 by 39 nuclear societies (50,000 scientists/36 countries) at ICAPP is presented as follows: "We proudly believe that nuclear energy is a key part of the solution in the fight against climate change".

K. On Going

A WURC representative is currently meeting monthly with the UN Strategic Development Goals plan at UN Headquarters in New York (May through September 2015).

L. Pending Meetings

WURC will participate in two meetings in 2015 as follows:

1. **KYOTO** - November to December 2015, WECC (World Engineering Conference and Convention)
2. **PARIS** - December 2015 in UNFCCC COP 21. The United Nations Framework Convention on Climate Change (UNFCCC) seeks to establish an international environmental treaty under the U.N. sponsorship. It is currently the only international climate policy venue with broad legitimacy, due to its governmental character.



Headquarters of the United Nations, New-York, USA

WURC Role in UN Summit to Adopt the Post-2015 Development Agenda

The United Nations are in the process of defining a Post-2015 development agenda. This agenda will be launched at a Summit in September 2015, which is the target date for realizing the MDGs. It is currently being elaborated through informal consultations of the UN General Assembly. The President of the General Assembly has appointed two Co-facilitators to lead those informal consultations. WURC through the American Association of Engineering Societies International Activities Committee has established an AAES INTAC Sub Task Force on Sustainability to represent WFEO at the UN meetings in New York, monthly from May to September 2015. This provides engineering input on economical and technologically feasible approaches to sustainability.



Singapore Declaration

"Engineering for a Sustainable Future"
September 14, 2013

Background

The World Federation of Engineering Organizations (WFEO) and its national member, The Institution of Engineers, Singapore (IES) believe that emerging global challenges over the last decade, including the financial crisis, population migration, food and energy crises, and natural disasters, have reinforced the need to secure and fulfill internationally agreed commitments to sustainable development.

WFEO and IES also believe that progress toward achieving the UN Millennium Development Goals is necessary to address water and food scarcity. For such commitments to be realized, critical infrastructure must be adapted to the impacts of climate change and resilient to natural and man-made disasters.

The role of engineers

We commit to lead internationally on the delivery of sustainable infrastructure. Engineers of the 21st century are called on to play a critical role in contributing to peace and security in an increasingly challenged world. Engineers have an obligation to protect cultural and natural diversity, and they are central to the planning, design, construction, operation, maintenance and commissioning of systems and infrastructure networks that underpin civil society, economic activity, protect human health and welfare. Emerging challenges have reinforced the key role of these networks in enabling global societal resilience. Innovations by engineers are required in the design and operation of advanced devices and systems that can ensure efficient energy conversion and conservation; provide solutions to the production, storage and distribution of energy, food and water; facilitate human mobility; support trade and economic development; and sustain livable cities of the future.

WFEO and IES are committed to an engineering profession able to address the global challenge of sustainable development arising from the impact of climate change. Action by engineers is essential. Society needs the skills of engineers to attain sustainable development, yet engineers must proactively engage with the global political process to apply their knowledge and expertise. We recognize that engineers cannot deliver this vision on their own. Engineers must develop new skills for a changing world, foster greater collaboration with other professionals, and promote multidisciplinary approaches. Engineers are committed to provide the tools and advice to governments and policymakers at national, regional, and international levels on the skills and infrastructure required for a sustainable future.

Recognizing the central role of their profession in addressing global challenges, regularly reviewing action plans and undertaking a range of activities to advance sustainability in infrastructure WFEO

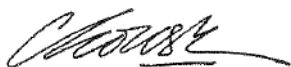
Executive Council have adopted and approved the Model Code of Practice for Sustainable Development and Environmental Stewardship. Details of this priority and action plan are listed in Annex A.

Commitments

Within the following areas of leadership, the WFEO members commit to:

- Developing and collaborating on national sustainable systems and infrastructure and resilient development strategies and action plans in their economic regions;
- Encouraging engineers to engage in building engineering capacity among members through active collaboration with development organizations such as the World Bank and other related assistance organizations in their economic regions;
- Working through representatives of their economic regions to coordinate through WFEO engineering views for the World Federation to effectively influence programs on sustainable infrastructure and communities in UNESCO, the United Nations, the World Bank, international financial institutions and other environmental bodies.

Signed on September 14, 2013 in Singapore:



Professor Chou Siaw Kiang
President
The Institution of Engineers, Singapore



Eng. Adel Al-Kharafi
President
World Federation of Engineering Organizations

Recognizing the central role of their profession in addressing global challenges, members have adopted and regularly reviewed action plans and undertaken a range of activities to advance sustainability of cities and the global economy. Progress in line with commitments is exemplified in adapting critical infrastructure, utilizing environmental accounting tools, addressing the crisis in the energy-food-water nexus and delivering on the proposed UN Sustainable Development Goals, as well as protecting our societies from natural disasters.

Environmental, social and economic impacts and costs-the triple bottom line

WFEO and IES are committed to improving methods for identifying and considering all of a project's environmental, social and economic costs and impacts throughout its life cycle. Practical approaches should be developed that would alter conventional accounting practices to factor in the direct and indirect environmental costs of any system, plant or facility through its life-cycle of operations.

Mitigation and adaptation to climate change

To address climate change the engineering profession is applying the principles of sustainability, energy efficiency and innovation to the design and operation of mitigation technologies. In addition, engineers must develop infrastructure capable of adaptation to the impacts of climate change. Recognizing this responsibility, WFEO and IES members are committed to collecting data on design and infrastructure both nationally and, through collaboration, internationally to providing informed opinion on their experience.

To make our societies resilient to natural disasters

Since antiquity, the world has faced a great number of natural disasters: earthquakes, tsunamis, floods, typhoons, hurricanes, tornados and volcanic eruptions. Recently, we have become aware of rapid climate change that might lead to much larger-scale natural disasters. Engineers are required to play important roles in creating smart technological solutions to enhance personal mobility, communications, security, and developing safe and secure infrastructure, resilient to natural and man-made disasters by sharing and growing knowledge and experience through collaboration.

Sustainable Development Goals

WFEO and IES members support the internationally agreed upon development goals contained in the Millennium Declaration as they apply to improving the quality of people's lives around the world through science and engineering. The engineering societies/institutions will work with each other and with domestic and international organizations to engage engineers in addressing the needs of the poor through capacity building and the development of sustainable and appropriate solutions to poverty.

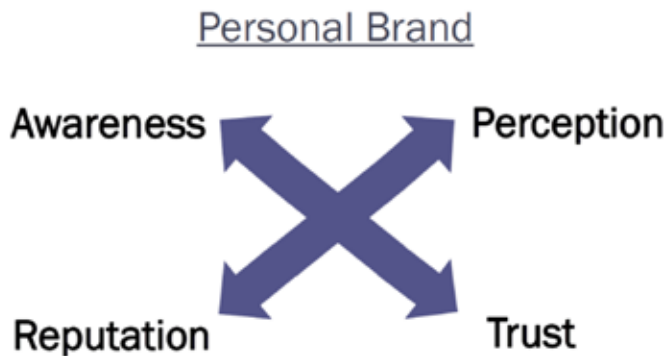
By helping meet the goals of the sustainable development, the engineering profession contributes to a world where all people have access to the knowledge and resources to meet their basic human needs and promote sustainable development. Included are such areas as water supply and sanitation, food production and processing, housing and construction, energy, transportation and communication, income generation, and employment creation.



Building a Personal Brand for Young Engineers

As Ms. Emily Anderson, member of WFEO Committee on Young Engineers/Future Leaders (YE/FL) mentioned during a motivating presentation at YE/FL workshop in Singapore in September 2013, young engineers should develop a personal brand that would allow them to be able to impact the world through their professional environment and network.

WHAT IS A PERSONAL BRAND?

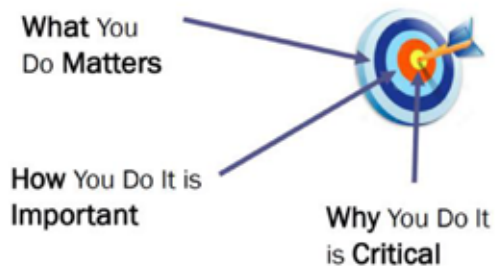


What is a personal brand?

Personal brand is the conjunction of awareness, trust, perception and reputation.

- Awareness helps to build trust
- The perception is the first step to build a reputation

Personal Brand is important because :



WHY IS PERSONAL BRANDING IMPORTANT?

Young engineers learned that:

- They already are a brand
- Strong personal brand identity can advance their career and personal goals
- Branding is not just about self-promotion, it is about differentiation

Personal Brand = { Strengths + Value + Visibility } × Engagement



Methods and main steps to build a personal brand

- Discover
- Create
- Communicate
- Maintain

HOW TO BUILD YOUR PERSONAL BRAND

The Brand's Attributes

To build a personal brand, it is necessary to answer the following questions:

1. What do I Do ?
2. Who do I do it for ?
3. How am I Unique ?
4. Why do I do it ?

All these elements put together make:

YOU, the Brand



BRAND EXPOSURE AND ENHANCEMENT



"A brand's strength is built upon its determination to promote its own distinctive values and mission."
Professor Jean-Noel Kapferer, (Re)Inventing the Brand (2001)

WFEO Members

WFEO has some 90 members from all regions of the world

NATIONAL AND AFFILIATED MEMBERS



Algeria	Union Nationale des Agronomes
Argentina	Union Argentina de Asociaciones de Ingenieros
Australia	Engineers Australia
Bahrain	Bahrain Society of Engineers
Bangladesh	Institution of Engineers, Bangladesh
Belize	Association of Professional Engineers of Belize
Bolivia	Sociedad de Ingenieros de Bolivia
Brazil	Federação Brasileira de Associações de Engenheiros
Bulgaria	Federation of the Scientific – Engineering Unions in Bulgaria
Cameroon	Association Professionnelle des Ingénieurs Conseils et Sociétés d'Ingénierie du Cameroun
Canada	Engineers Canada
Chile	Instituto de Ingenieros de Chile
China	China Association for Science and Technology
Colombia	Sociedad Colombiana de Ingenieros
Congo Democratic Rep.	L'Association Congolaise des Ingénieurs Civils
Costa Rica	Colegio Federado de Ingenieros y de Arquitectos de Costa Rica
Croatia	Croatian Chamber of Civil Engineers
Cyprus	Cyprus Professional Engineers' Association
Czech Republic	Czech Association of Scientific and Technical Societies
Dominican Republic	Colegio Dominicano de Ingenieros; Arquitectos y Agrimensores
Ecuador	Sociedad de Ingenieros del Ecuador
Egypt	Egyptian Engineers Syndicate
Fiji	Fiji Institution of Engineers
France	Ingénieurs et Scientifiques de France
Germany	German Association of Technical and Scientific Organisations
Ghana	Ghana Institution of Engineers
Greece	Technical Chamber of Greece
Honduras	Colegio de Ingenieros Civiles de Honduras
Hong Kong, China	Hong Kong Institution of Engineers
Hungary	Federation of Technical and Scientific Societies
India	Institution of Engineers, India
Iraq	Iraqi Engineers' Union
Italy	Consiglio Nazionale Degli Ingegneri
Ivory Coast	Fédération Nationale des Organisations d'Ingénieurs, Architectes Géomètres et Urbanistes de Côte d'Ivoire
Japan	Science Council of Japan
Jordan	Jordan Engineers' Association
Kenya	Institution of Engineers of Kenya
Korea	Korean Federation of Engineering Organisations
Kuwait	Kuwait Society of Engineers
Lebanon	Ordre des Ingénieurs et Architectes de Beyrouth
Libya	Libyan Syndicate of Engineers
Macedonia (FYROM)	Chamber of Certified Architects and Certified Engineers of Republic of Macedonia
Madagascar	Ordre des Ingénieurs de Madagascar
Malawi	Malawi Institution of Engineers
Malaysia	The Institution of Engineers, Malaysia
Malta	Chamber of Engineers
Mauritius	Institution of Engineers, Mauritius
Mexico	Union Mexicana de Asociaciones de Ingenieros
Moldavia	Engineering Association of Moldova
Mongolia	Mongolian Federation of Engineering Organizations
Montenegro	Engineers Chamber of Montenegro
Morocco	Union Nationale des Ingénieurs Marocains
Nepal	Nepal Engineers' Association
New Zealand	Institution of Professional Engineers
Nigeria	Nigerian Society of Engineers
Pakistan	Institution of Engineers, Pakistan
Palestine	General Union of Palestinian Engineers
Peru	Colegio de Ingenieros del Perú
Philippines	Philippines Technological Council



Poland	Polish Federation of Engineering Associations
Portugal	Ordem dos Engenheiros
Puerto Rico	Colegio de Ingenieros y Agrimensores de Puerto Rico
Romania	General Association of Engineers in Romania
Russia	Union of Scientific and Engineering Associations
Saudi Arabia	Saudi Council of Engineers
Senegal	Union National des Ingénieurs du Sénégal
Serbia	Serbian Chamber of Engineers
Sierra Leone	Sierra Leone Institution of Engineers
Singapore	Institution of Engineers, Singapore
Slovakia	Association of Slovak Scientific & Technological Societies
Slovenia	Slovenian Chamber of Engineers
South Africa	Engineering Council of South Africa
Spain	Instituto de la Ingenieria de Espana
Sri Lanka	Institution of Engineers, Sri Lanka
Sudan	Federation of Sudanese Engineers
Switzerland	Swiss Society of Engineers and Architects
Syria	Order of Syrian Engineers and Architects
Taiwan, China	Chinese Institute of Engineers
Tanzania	Institution of Engineers, Tanzania
Tunisia	Ordre des Ingénieurs Tunisiens
Turkey	Union of Chambers of Turkish Engineers and Architects
Uganda	Uganda Institution of Professional Engineers
Ukraine	Ukrainian Union Scientific and Engineering Associations
United Arab Emirates	Society of Engineers
United Kingdom	Institution of Civil Engineers
United States, America	American Association of Engineering Societies
Uruguay	Asociacion de Ingenieros del Uruguay
Yemen	Syndicate of Yemeni Engineers
Zambia	Engineering Institution of Zambia
Zimbabwe	Engineering Council of Zimbabwe

INTERNATIONAL MEMBERS

ASEAN Federation of Engineering Organisations (AFEO)
 Commonwealth Engineers Council (CEC)
 Federation of Arab Engineers (FAE)
 Federation of African Engineering Organisations (FAEO)
 Federation of Engineering Institutions of South and Central Asia (FEISCA)
 European Federation of National Engineering Associations (FEANI)
 Federation of Engineering Institutions of Asia and the Pacific (FEIAP)
 Union Panamericana de Asociaciones de Ingenieros (UPADI)
 Union of Scientific and Engineering Societies (USEA)
 World Council of Civil Engineers (WCCE)

ASSOCIATE MEMBERS

Distinguished Associate

Consolidated Contractors Group (C.C.C)

Associate Members

Archirodon
 Asian Civil Engineering Coordinating Council (ACECC)
 European Council of Engineers Chambers (ECEC)
 Federal Council of Engineering, Architecture & Agronomics (CONFEA)
 Japan Federation of Engineering Societies (JFES)
 Liberty International Underwriters (LIU)
 Madrid Worldwide Engineering Center (MCMI)
 Pakistan Engineering Council (PEC)
 Petrus Communications

Individual Associate

Dipl. Eng. Hermann Sturm (Germany)

WFEO Awards

WFEO awards every two years, the Medal of Engineering Excellence for Distinguished Achievement Service of Humanity, the Medal of Excellence in Engineering Education and the Hassib J. Sabbagh Engineering Construction Excellence Award for Energy for Sustainable development.

WFEO Medal of Engineering Excellence



Prof. Ching Chuen Chan

Professor Chan from Hong Kong is the winner of the 2013 **WFEO Award of Engineering Excellence** for his contributions to the advancement of the theory, practice, commercialization of electric vehicles and creative engineering education.

Prof Chan is one of the foremost international authorities on electric vehicles.

He has made an outstanding contribution to science, technology and industry.

He served as chairman of more than a dozen committees of international professional institutions.

His contribution is wide ranging in the international arena and covers academic industrial, professional, educational and public awareness issues.

WFEO Medal of Excellence in Engineering Education



Prof. Xila Liu

Professor Xila Liu is the winner of the 2013 **WFEO Award of Excellence in Engineering Education**.

He served in WFEO for more than 14 years and is currently finishing his term as National Member for China at the WFEO Executive Council.

He is also member of the WFEO committees on Engineering Capacity Building and Education in Engineering and is a registered structural engineer (First Class) in China and a Chartered Engineer in UK.

His competency in drafting and creating engineering education strategies and programs on national and international scales is highly recognized.

He received many education awards such as the "Beijing Excellence Teacher Award" and "Shanghai Teaching Masters Award".

He was twice voted as "The Favorite Teacher" by 17000 SJTU students. Since 1987, he advised 37 PhD and 52 Master students.

He is the author or co-author of 5 books and about 400 technical papers.

Hassib J. Sabbagh Award for Engineering Construction Excellence



John Jo Hammill
representing the London
2012 Olympic Park
Project Team

The **London 2012 Olympic Park Project Team** is the winner of the 2013 **Hassib J. Sabbagh Award for Engineering Construction Excellence**.

The London 2012 Olympic Park Project Team were a triumph not just for sport, but a triumph for engineering. Demonstrating the transformational power of civil engineering to act as an agent of change and provide the underpinning infrastructure on which civilizations depends, lifting both body and spirit to new heights.

Record breaking on and off the track, the Olympic Delivery Authority (ODA) and LOCOG and their delivery partners conceived, designed, constructed and delivered the most sustainable Olympic and Paralympic facilities ever built, on time and budget to high sustainability standards.

The London Olympic Park has delivered sustainability at the systems scale. The Olympic Park is the largest new urban parkland in Europe for 150 years, a 2.5 square-km site featuring a number of waterways and links to surrounding areas via highway, cycle way and rail networks. In the preparation of the site, segregation of waste on site was over 90% against an industry average of 50%.

In Memoriam



José Medem Sanjuan

José Medem Sanjuan, WFEO President from 1999 to 2003, sadly passed away at the start of 2015.

José was also a past President of the European Council of Civil Engineers (ECCE), the European Federation of National Engineering Organisations (FEANI) and the World Council of Civil Engineers (WCCE). He also supported the establishment of the Pan-American Academy of Engineers (PAI).

Prof. Miguel Yadarola, who worked closely with José Medem at WFEO, *"José deserves the recognition of the engineering organisations of the world, that José presided with expertise and generosity, without sparing effort, delivering his knowledge and his enthusiasm."*





World Federation of Engineering Organizations
Fédération Mondiale des Organisations d'Ingénieurs



World Federation of Engineering Organizations
Fédération Mondiale des Organisations d'Ingénieurs

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