




World Federation of Engineering Organizations  
Fédération Mondiale des Organisations d'ingénieurs  
Official partner of UNESCO (associate status)



# Engineering for Sustainable Future

*GONG Ke*

**President of World Federation of Engineering Organizations (WFEO)**

Consisting of 100+ national engineering organizations and 10+ regional/continental engineering organizations, WFEO is the world largest engineering family





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**Under the auspice of UNESCO, WFEO is founded in 1968 as official partner of UNESCO and many other UN bodies like UNECOSOC, UNIDO, ITU, ISO, UNEP, etc.**

**In UN system, WFEO is the coordinator, together with ISC, of the Major Group Scientific Technological Community. An important role of WFEO is making voice of engineering in the world especially in UN system.**





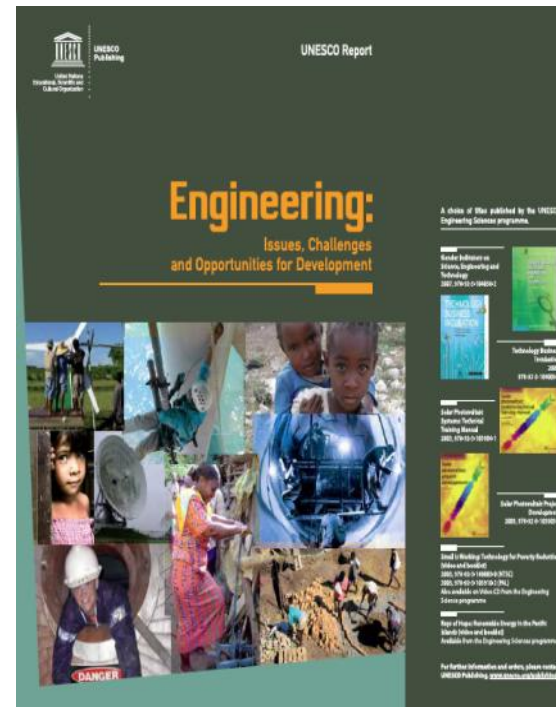


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# ***Representing Engineering society gives input to UN Reports***

- WFEO had deeply engaged in the 1<sup>st</sup> UNESCO's Engineering Report, released in 2010, and the 2<sup>nd</sup> one, will be released on the 1<sup>st</sup> World Engineering Day, March 4<sup>th</sup>, 2020.





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## ***Building stronger engineering capacity***




**WFEO / FMOI**

CELEBRATING 50 YEARS OF INTERNATIONAL ENGINEERING LEADERSHIP

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United Nations  
Educational, Scientific and  
Cultural Organization

### Paris Declaration

Advancing the United Nations  
Sustainable Development Goals  
through Engineering



**SUSTAINABLE  
DEVELOPMENT  
GOALS**

The World Federation of Engineering Organizations (WFEO) is the main body for engineering globally, representing nearly 100 nations and some 30 million engineers.

The members of WFEO are the national and regional professional engineering institutions of the world. WFEO is a member of the United Nations Scientific and Technological Community (UN STC) Major Group and has an official Associate status with UNESCO.

UNESCO, as the United Nations agency for education, science and culture, supports engineering through its Natural Sciences Sector, and acknowledges engineering as a powerful means to achieve sustainable development, capacity-building in engineering education and gender equality in developing countries, as well as the safeguarding of world heritage.





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## ***UNESCO-WFEO African Engineering Week***

- Supported by UNESCO, WFEO organizes African Engineering Week every year since 2014.



**UNESCO 6th AFRICA ENGINEERING WEEK  
AND 4th AFRICA ENGINEERING CONFERENCE**  
**15th - 21st September, 2019**

**THEME: ADDRESSING THE SDGs THROUGH  
SUSTAINABLE ENGINEERING DEVELOPMENT**



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## ***Building worldwide engineering education standards***

- WFEO is now working with IEA, IFEES, ICEE, etc. to promote the **world benchmark standards of Graduate Attributes and Professional Competencies** as well as the procedure of accreditations, in order to reflect the requirements of 2030 SDGs and the scientific technological and industrial revolutions.



### International Engineering Alliance Meeting Global Engineering Education Standards and Capacity Building

UNESCO, as the United Nations agency for education, science and culture, supports engineering through its Natural Science Division, and acknowledges engineering as a great means to achieve sustainable development, to progress capacity building education level and gender equality in developing countries, and safeguard world heritage.

The International Engineering Alliance (IEA) is the governing body for the multilateral engineering accords and agreements relating to engineering education and professional development.

The World Federation of Engineering Organizations (WFEO) is the peak body for engineering globally, representing nearly 100 nations and more than 30 million engineers. The members of WFEO are the main national and regional professional engineering institutions of the world. WFEO is a member of the United Nations Scientific and Technological Community Major Group and has an official Associate status with UNESCO. Many of the national members of WFEO are signatories to the IEA Accords and Agreements. The international members of WFEO represent the various regions of the world and include the Federation of Engineering Institutions of Asia and the Pacific (FEIAP), the Federation of African Engineering Organisations (FAEO) and the Federation of European Engineering Institutions (FEANI), among others.



#### IEA/WFEO Working Group

An account of the role, purpose, and composition of the IEA Graduate Attributes and Professional Competencies Working Group, the proposed and updated plans of work, a summary of the progress of work in the interval November 2019-May 2020 are given. A summary of the identified main emergent points that are taken account in a revision of GAPC tables is also included.

#### IEA Graduate Attributes and Professional Competencies Review

##### ROLE AND PURPOSE

UNESCO and WFEO recognise the IEA Graduate Attributes and Professional Competencies Framework as a valuable international engineering benchmark standard.

The IEA Graduate Attributes and Professional Competencies were approved on 21 June 2013 and it is appropriate that they are reviewed to ensure that they reflect contemporary values and employer needs as well as equip engineering professional of the future to incorporate the practices that advance the UN

INTERNATIONAL ENGINEERING ALLIANCE

WFEO / FMOI

UNESCO

SATURDAY 18 JULY  
11am - 12:30 pm UTC  
01am - 02:30 pm CET

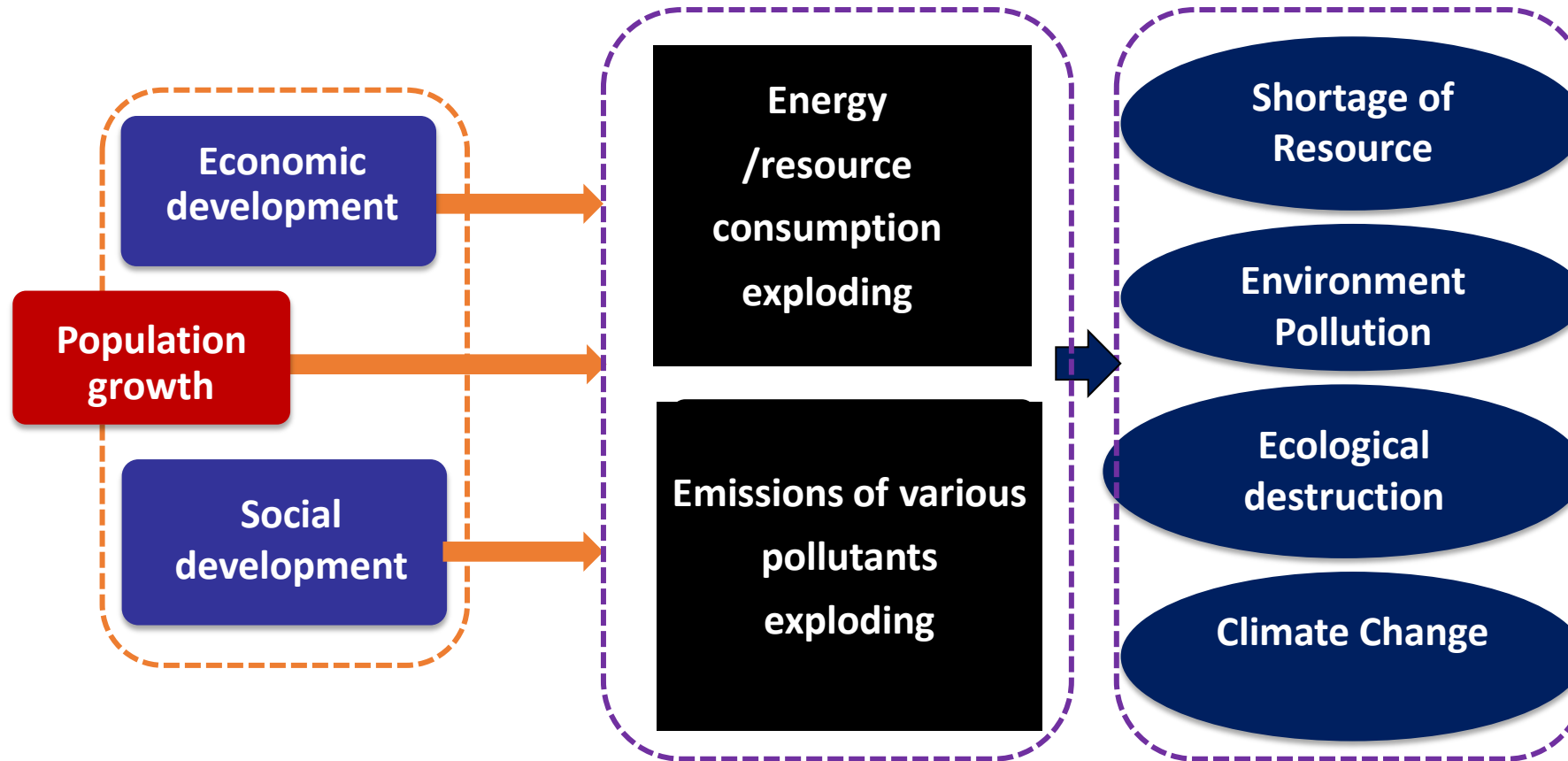
CONSULTATION WEBINAR  
UNESCO IEA WFEO DRAFT REVIEW IEA GRADUATE ATTRIBUTE AND PROFESSIONAL COMPETENCY FRAMEWORK (GAPC)

MODERATOR:  
Prof. GONG Xu  
President of WFEO

SPEAKERS:  
Dr. Maurice Kanga  
WFEO Past President  
Dr. Michael Milligan  
CEO, IEA / IEA  
Dr. Charlie Tsan  
President of IEA  
Prof. Robert Cooper  
Chair, WFEO IEA Working Group  
Mr. Kang Ancheng  
General Secretary  
WFEO IEA

Register here:  
<https://bit.ly/38PC0IX>





**The lives, especially the human lives, on the earth could not sustain!**





**6 million+**

children die before age 5

**40%**

of population does  
not have access to  
sanitation

**29%**

of the global  
population lacks  
safely drinking water  
supplies

**52%**

of the world in  
not digitally  
connected

climate impacts could  
push **100**

**million**

people into poverty  
by 2030

.....



## Resolution adopted by the General Assembly on 25 September 2015

[without reference to a Main Committee (A/70/L.1)]

### 70/1. Transforming our world: the 2030 Agenda for Sustainable Development

*The General Assembly*

*Adopts* the following outcome document of the United Nations summit for the adoption of the post-2015 development agenda:

#### Transforming our world: the 2030 Agenda for Sustainable Development

##### Preamble

This Agenda is a plan of action for people, planet and prosperity. It also seeks to strengthen universal peace in larger freedom. We recognize that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development.

All countries and all stakeholders, acting in collaborative partnership, will implement this plan. We are resolved to free the human race from the tyranny of poverty and want and to heal and secure our planet. We are determined to take the bold and transformative steps which are urgently needed to shift the world on to a sustainable and resilient path. As we embark on this collective journey, we pledge that no one will be left behind.

The 17 Sustainable Development Goals and 169 targets which we are announcing today demonstrate the scale and ambition of this new universal Agenda. They seek to build on the Millennium Development Goals and complete what they did not achieve. They seek to realize the human rights of all and to achieve gender equality and the empowerment of all women and girls. They are integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental.

The Goals and targets will stimulate action over the next 15 years in areas of critical importance for humanity and the planet.







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## Sustainable Development Goals



[The 2030 Agenda for Sustainable Development](#), adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.

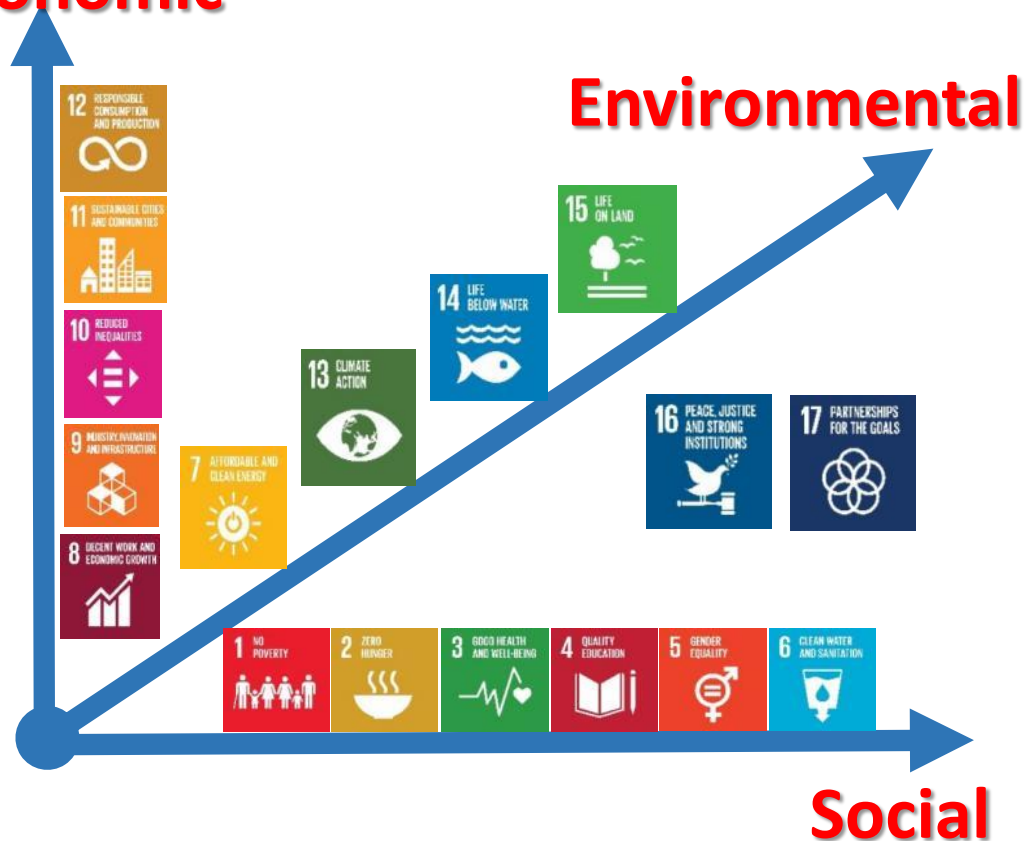


## *Leave no one behind*

**Economic**

**Environmental**

**Social**



- The 17 Sustainable Development Goals and 169 targets which we are announcing today demonstrate the scale and ambition of this new universal Agenda.
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## Interactions between the SDGs





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## Engineering is the key for achieving SDGs

*“.....we strive to achieve the 17 Sustainable Development Goals – the world’s blueprint for building a future of peace and prosperity for all on a healthy planet. **Every one of the Goals requires solutions rooted in science, technology and engineering.**”*







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**We ,especially the young generation, are responsible to  
save the earth and to end poverty**

**We can be the **first** generation to  
succeed in ending poverty; just as we  
may be the **last** to have a chance of  
saving the planet.**

**The world will be a better place in  
2030 if we succeed in our objectives.**

*-- Transform our World: 2030 agenda for  
sustainable development*





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## Build back better by transformative recovery



While this crisis is imperiling progress towards the Sustainable Development Goals, it also makes their achievement all the more urgent and necessary. Moving forward, it is essential that recent gains are protected as much as possible and a truly **transformative recovery** from COVID19 is pursued, one that reduces risk to future crises and bring much closer the inclusive and sustainable development required to meet the goals of the 2030 Agenda and the Paris Agreement on Climate Change. ....it will require **a surge in international cooperation** and multilateralism.



**COVID-19  
RESPONSE**



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**Engineering is the key to achieve the sustainable development goals, engineers especially young engineers are shouldering the responsibility to transform our world to sustainability by achieving the 17 SDGs. Let's work together to build back better from COVID-19 crisis and accelerate the actions of delivering SDGs.**

*Thanks for your kind attention*