

**CONTRIBUTIONS OF THE ASIAN CIVIL ENGINEERING
COORDINATING COUNCIL
TECHNICAL COMMITTEE ON SUSTAINABLE INFRASTRUCTURE TO
IMPLEMENTATION OF THE UN 2030 AGENDA**

INTRODUCTION

The Asian Civil Engineering Coordinating Council (ACECC) was formed in Tokyo in 1999 with five civil engineering societies: the American Society of Civil Engineers(ASCE); the Chinese Institute of Civil and Hydraulic Engineering (CICHE), the Japanese Society of Civil Engineers, the Korean Society of Engineers (KSCE), and the Philippine Institute of Civil Engineers(PICE). The purpose of the ACECC is to " promote collaborative work towards sustainable development of infrastructure within the Asian regions." Membership is open worldwide.¹ Today there are 14 member societies representing in addition to the founding members: Australia - Engineers Australia; Bangladesh - Institute of Engineers Bangladesh; India - Institution of Engineers India; Indonesia - Indonesian Society of Civil and Structural Engineers; Mongolia - Mongolian Association of Civil Engineers; Myanmar - Federation of Myanmar Engineering Societies; Nepal - Nepal Engineers' Association; Pakistan - Institute of Engineers, Pakistan; Vietnam - Vietnam Federation of Civil Engineering Associations.

The theme of the first ACECC meeting in Manila in 1999 that came to be called CECAR1 was sustainable construction. At CECAR2 in Tokyo in 2001 there was extensive discussion by the ACECC society presidents on the role of civil engineers and infrastructure in sustainable development. Robert Bein, then President of ASCE, was quoted saying " The future demand of a civil engineer is to become a sustainable development engineer."² The program included a number of sessions on the sustainable development track. A highlight of the meetings was a special lecture by Maurice Strong entitled "Engineering for Sustainability."

At CECAR5 in Sydney, Australia in August 2010, ACECC re-committed to the "aims and objectives of the Asian Civil Engineering Coordinating Council and drew attention to the world wide benefits of promoting sustainable communities." At CECAR6 in Jakarta, Indonesia in August 2013 the major theme of the conference was "Embracing the Future through Sustainability" and there was a track on sustainable infrastructure.³ CECAR7 was held in Oahu, Hawaii from 30th August through 2nd September, 2016 and the theme was "Ho-'omalalama: Building A Sustainable Infrastructure In The Asia Pacific Region."⁴

¹ ACECC website <http://www.acecc-world.org/>

² Summary Report of Presidential Meeting The 2nd CECAR Tuesday, 17 April, 2001
<http://www.acecc-world.org/20010417-2nd%20CECAR%20PM%20summary.pdf>

³ The 6th Civil Engineering Conference in the Asian Region (CECAR6)
[http://www.acecc-world.org/Final%20Report%20of%20CECAR6%20\(R\).pdf](http://www.acecc-world.org/Final%20Report%20of%20CECAR6%20(R).pdf)

⁴ Final Report CECAR7 <http://www.acecc-world.org/CECAR7%20Final%20Report.pdf>

CECAR 8 was held in Tokyo in April 2019 and the Tokyo Declaration is available on the ACECC website.⁵ The theme for CECAR8 was "Resilient Infrastructure in Seamless Asia." CECAR9 will be in Goa in 2022 and the theme will be "Sustainable Design and Eco Technologies for Infrastructure."⁶

ACECC does its work mainly virtually between the triennial conferences through its technical committees of which there are nine currently active. The ACECC Executive Committee meets twice each year and every third year there is the international conference called the Civil Engineering Conference in the Asian Region (CECAR); this is the main activity of the ACECC.

TECHNICAL COMMITTEE 14 SUSTAINABLE INFRASTRUCTURE AND ITS CONTRIBUTIONS TO THE 2030 AGENDA

The ACECC Technical Committee 14 Sustainable Infrastructure's objectives for CECAR8 were (1) Determine how each member economy is educating future civil engineers and current practitioners on sustainable infrastructure practices.(2) Determine what more needs to be done to ensure civil engineers can support the implementation of the UN Sustainable Development Goals.

In preparation for CECAR8, TC 14 held its first symposium as part of the ACECC Executive Committee Meeting in Hanoi, Vietnam on April 13, 2018 at the University of Transport and Communications. The Symposium was cosponsored with the Vietnam Federation of Civil Engineering Associations (VFCEA) and the University of Transport and Communications Vietnam-Japan Research and Development Center. TC 14 committee members reported on how each member's country is educating future civil engineers and current practitioners on sustainable infrastructure practices. Presentations were followed by discussion on sharing and encouraging best practice and looking ahead, how countries are preparing engineers to support the infrastructure components of the 2030 United Nations Sustainable Development Goals. All of the presentations are available for download on the ACECC web site under TC 14. The second part of the symposium was organized by VFCEA and included papers addressing different aspects of sustainable development in Vietnam. Papers were presented on materials, hydrology and stormwater management, and urban redevelopment.⁷

Two sessions were held at CECAR 8. One session consisted of papers reporting on progress to date in transforming civil engineering education and practice to meet the challenges of achieving the UN SDGs and make sustainable infrastructure the new norm. A second session was a panel focusing on what still needs to be done to transform civil engineering education and practice to meet the challenges of achieving the UN SDGs and make sustainable

⁵ ACECC Tokyo Declaration 2019

http://www.acecc-world.org/Final%20version%20of%20ACECC%20Tokyo%20Declaration_sign.pdf

⁶ CECAR9 <http://cecar9.com/index.html>

⁷ ACECC 34th Executive Committee Meeting April 12-14 of 2018, Hanoi, Vietnam

<http://www.acecc-world.org/Newsletter/ACECC%20Newsletter%20Outlook%20No12.pdf>

infrastructure the new norm. Papers and presentations can be accessed through the ACECC website.

As part of the discussion at CECAR8, it was agreed that the TC 14 objective for CECAR9 would be to build on the work of the UN and engineering societies to develop a sustainable infrastructure roadmap tailored to the Asian region and supportive of the UN SDGs.

A progress seminar is being organized for the ECM in March 2021. It is now widely agreed in the engineering community that infrastructure underpins achievement of all of the SDGs.⁸ Sustainable infrastructure supports human well being - e.g. water (Goal 6) , food (Goal 3), energy (Goal 7), but also directly impacts the environment e.g. climate (Goals 13), oceans (Goal 14) and terrestrial environment (Goal 15).⁹ Engineers need to ensure that the right infrastructure projects are done and that they are done right - maximize human well being and minimize negative social, economic, and environmental impacts. The importance of sustainability and sustainable development in civil engineering practice is highlighted in the ACECC Tokyo Declaration.¹⁰

The American Society of Civil Engineers(ASCE) has completed its Five-Year Roadmap to Sustainable Development: (1) Do the right project; (2) Do the project right; (3) Build technical capacity; (4) Advocate.¹¹

In October 2018, ASCE, the Institute of Civil Engineers (ICE), the Canadian Society for Civil Engineering (CSCE), and WFEO met with colleagues representing the global engineering community to identify specific steps that the engineering profession needs to take to support achievement of the SDGs. Also in 2018, the WFEO released its Infrastructure Report Card Guide and established a Working Group on infrastructure.¹² In May 2019, the ICE released its Route Map outlining the activities ICE plans with its collaborators over the next 3 years to transform the way engineers engage with the SDGs.¹³ And the UN Environment Assembly issued a resolution on sustainable infrastructure.¹⁴ A broad consensus has emerged that sustainable infrastructure is essential to achieving the UN SDGs.

⁸ UNOPS (2018) Infrastructure: Underpinning Sustainable Development <https://www.unops.org/news-and-stories/news/new-oxford-university-unops-report-stresses-infrastructure-as-key-to-unlocking-sustainable-development-goals>

⁹ Lancet (2015) Governing the UN Sustainable Development Goals: Interactions, infrastructures, and institutions [https://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(15\)70112-9/fulltext](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(15)70112-9/fulltext)

¹⁰ ACECC Tokyo Declaration <http://www.acecc-world.org/Final%20version%20of%20ACECC%20Tokyo%20Declaration%20before%20presidential%20meeting.pdf>

¹¹ ASCE Five-Year Roadmap to Sustainable Development <https://www.asce.org/sustainability-roadmap/>

¹² WFEO Infrastructure Report Card Guide 2018 <https://www.wfeo.org/wp-content/uploads/irc/Infrastructure%20Report%20Card%20Guide%202018%20vers%201.0.pdf>

¹³ ICE Sustainability Route Map https://www.ice.org.uk/knowledge-and-resources/sustainability-route-map?_ccCt=BE~j35WfRC1zzTJGCNUjkzRpO_HidMRtNXgN674P1iX9Skb73XDRC4BLdDPXGoSX

¹⁴ UNEA Resolution on Sustainable Infrastructure https://papersmart.unon.org/resolution/uploads/k1900873_0.pdf

The focus of the ACECC Sustainable Infrastructure Committee over the next two years (to 2022) is adapting and building on the ASCE Roadmap, and the work of the ICE and WFEO to develop an infrastructure roadmap to fit the needs of ACECC member countries and support infrastructure that is sustainable, resilient and of high quality.

At the progress seminar representatives will report on how each member's country is developing the sustainable infrastructure to support achievement of the 2030 UN SDGs. Presentations will be followed by a discussion on sharing and encouraging best practice and looking ahead, how countries are ensuring they have the sustainable infrastructure needed to support achievement of the 2030 United Nations Sustainable Development Goals in their country.

SUMMARY

The Asian Civil Engineering Coordinating Council has focused on sustainability and infrastructure since its founding over 20 years ago. A number of its technical committees have contributed to various aspects of sustainable and resilient infrastructure important in the Asian region. TC 14 with its work on sustainable infrastructure as it relates to the Sustainable Development Goals is contributing directly to the achievement of the Goals