



The 9th World Sustainability Forum
13–15 SEPTEMBER 2021 | ONLINE

SUSTAINABLE DEVELOPMENT GOALS

KAUST Satellite Session

Circular Carbon Economy: Paving The Way for a Sustainable Future

14 SEPTEMBER 2021 3:00 pm AST | Online

The most recent 2020 G20 Leaders' Declaration underscored the importance of affordable and clean energy for achieving economic growth by endorsing the Circular Carbon Economy (CCE) Platform, with its 4Rs framework (Reduce, Reuse, Recycle and Remove). Despite the challenge brought about by the pandemic and indeed heightened by it, the urgency of providing affordable and reliable energy for all continues to demand innovation across fuels and technology options, including C capture, usage and storage (CCUS). The CCE platform provides a voluntary, holistic, integrated, inclusive, pragmatic, and complementary approach to promote economic growth while enhancing environmental stewardship through managing emissions in all sectors including, but not limited to, energy, industry, mobility, and food.

In this special WSF session dedicated to the Circular Carbon Economy, we will explore realistic technology options, from the required R&D innovations to industry and government deployments and commensurate C management policies.

CHAIRPERSON OF THE KAUST SATELLITE SESSION:

Professor Mohamed Eddaoudi | Distinguished Professor of Chemical Science and Director of Advanced Membranes and Porous Materials Center at King Abdullah University of Science and Technology (KAUST), Saudi Arabia

AGENDA

3:00 pm Welcome from the Conference Chair of the World Sustainability Forum

Professor Edwin Constable | Department of Chemistry and former Vice-Rector for Research, University of Basel, Switzerland

3:05 pm Opening remarks on the KAUST WSF Satellite Session

Professor Tony Chan | KAUST President, Saudi Arabia

3:10 pm PANEL 1 | CARBON CAPTURE, USAGE AND STORAGE: R&D INNOVATIONS TO INDUSTRY AND GOVERNMENT DEPLOYMENTS

C capture and storage is vital for achieving climate change targets, and urgent research and innovation will be required to develop viable approaches for critical emissions reduction technology and C storage. Moreover, industry and government play crucial roles in advancing and deploying these technologies to scale. This session will define the R&D and innovation challenges and pathways to solution, and discuss existing and emerging strategies and examples from industry and government deployments.

3:15 pm Role of CCUS in Achieving Global Decarbonization Goals

Dr. Aqil Jamal | Chief Technologist R&DC, ARAMCO Carbon Management R&D Division, Saudi Arabia

3:30 pm A research agenda for chemical, biochemical and mineralization approaches to gaseous carbon waste utilization

Professor David Allen | Melvin H. Gertz Regents Chair in Chemical Engineering, Department of Chemical Engineering and Center for Energy and Environmental Resources, University of Texas at Austin, USA

3:45 pm Animating the Global Carbon Cycle: the technical potential of restoration and rewilding as a carbon removal strategy

Karl Burkart | Deputy Director, One Earth, USA

4:00 pm Green Hydrogen and Clean Fuel Technologies in the Circular Carbon Economy

Professor Mani Sarathy | Associate Professor of Chemical Engineering at KAUST, Associate Director of KAUST Clean Combustion Research Center and Senior Manager of Technology and Innovation, NEOM Hydrogen and Clean Fuels, Saudi Arabia

4:15 pm The KAUST Circular Carbon Initiative

Professor Jorge Gascon | Professor of Chemical Engineering at KAUST and Director of the KAUST Catalysis Center, Saudi Arabia

4:30 pm PANEL 2 | POLICY AND CARBON MANAGEMENT STRATEGIES

COP 21 in Paris (2015) set clear 2°C and 1.5°C targets, but getting there requires policies that empower the government and private sectors to deliver the required transformation. The strategies and policies needed to enable acceleration of R&D and innovation effort will be the focus of this session.

4:35 pm The Circular Carbon Economy | A Global Blueprint for Carbon Circularity & the Deployment of a Saudi Circular Carbon Economy Program

HRH Princess Noura Al Saud | AEON Strategy, Saudi Arabia

4:50 pm The Role of Policy in Carbon Management

Adam Sieminski | Senior Advisor to the Board of Trustees of King Abdullah Petroleum Studies and Research Center (KAPSARC), Saudi Arabia

5:05 pm Carbon is not the Enemy: Addressing Climate Change as a Design Problem

William McDonough | Chief Executive of McDonough Innovation, USA, and Distinguished Research Professor at KAUST, Saudi Arabia

5:30 pm End of Session