



Clusters of Scientific Innovation in the Middle East and North Africa (COSIMENA)

Event Report

Name of the Event:	Meta-Conference “Ensuring Climate Resilience through Climate Action”
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Introduction

In the framework of the project “Clusters of Scientific Innovation in the Middle East and North Africa” (COSIMENA), the DAAD Regional Office Cairo organised an online meta-conference discussing the topic “Ensuring Climate Resilience through Climate Action”. Taking place on Monday, November 29th and Tuesday, November 30th, 2021, this event gathered several researchers and scientists working in the field of climate change, meteorology, (renewable) energy and higher education from Germany, Egypt and the MENA region. Primarily, the conference aimed to connect scientists and experts around the topic of climate and to foster cooperation to tackle this issue. Divided in several thematic blocks, including presentations on climate extremes and the impact on communities, on CO₂ emissions and the carbon footprint and on the role of higher education for climate action, the fruitful exchange among speakers and attendees raised central questions to face existing environmental challenges. Specifically, the series of presentations and the final panel discussion intended to shed the light on the topic from various perspectives, by investigating the impact of extreme events, the most appropriate ways to operate a shift towards renewable energy usage, the need to join forces between policymakers, scientists, the economic sector and the civil society, the role of higher education and scientific institutions as well as of the civil society and the most desirable policies to be implemented.

Day One, Monday, November 29th, 2021

Ms. Isabell Mering, Director of the DAAD Regional Office Cairo, opened the conference with greeting words to all speakers and attendees. “*The call for climate action has never been higher than today,*” she stated, wishing to offer networking possibilities for all attendees to exchange ideas on this pressing issue through this conference. Similarly, **Mr. Philippe Maupai**, Head of Science and Protocol (the **Embassy of the Federal Republic of Germany in Egypt**), highlighted the need to foster scientific cooperation to achieve durable results. Further, **Eng. Sherif Abdel Rehim**, Head of the Central Department for Climate Change and the UNFCCC Focal Point (the **Ministry of Environment in Egypt**), outlined the significant steps undertaken by Egypt to be a leader in the promotion of climate action in the region. He equally expressed his enthusiasm for the choice of Egypt as host country for the 2022 United Nations Climate Change Conference (COP27), considering this conference as an opportunity to share knowledge on the topic of climate change in preparation for the major event of COP27.

After a short overview of the programme of the day by **Ms. Nermine Abdelaty** (DAAD Regional Office Cairo) the conference kicked off with a first section analysing “Impacts of Climate Change in Germany and the MENA region”. During this time, **Prof. Dr Hermann Held** (**University of Hamburg** Germany) discussed “The 1.5°C Target: Chances and Challenges”. Firstly, he clarified the concept of 1.5° target, presenting the studies of the impact of climate change on sea levels according to two prominent schools in climate economics. At the core of his presentation, **Dr Held** described the Cluster of Excellence ‘Climate, Climatic Change, and Society (CLICCS), which aims to identify the possible and plausible climate futures through a hybrid approach taking into consideration major social drivers. Concluding this informative part, he mentioned the role of universities to promote

innovation and cooperation for a sustainable future, warning against the existing deep uncertainties affecting studies on climate change.

Furthermore, **Ms. Clara Hohmann (Koblenz-University of Applied Sciences, Germany/Jordan)** offered a detailed presentation on “CapTain Rain: Capture and retain heavy rainfalls in Jordan”. In describing this transdisciplinary project, which aims to minimise the damages and maximise the use of rainfalls in Jordan, Hohmann emphasized the positive results of German-Jordanian exchange throughout this work as well as the need for continuous cooperation with the various stakeholders in such projects. In the subsequent Q&A session, **Hohmann** expressed the desire to expand the project to other areas of the country and of the region, wishing to continue sharing knowledge and expertise with other partners.

Then, the conference moved to the second block of presentations titled “An approach to Clean Energy Solutions”. In this context, **Prof. Dr Adel Khalil (Cairo University, Egypt)** presented “Egypt Renewable Energy Cluster Initiative (ERECI)”. While illustrating the high potential for renewable energy (RE) technologies in Egypt and in the region, he analysed major existing challenges. Among others, **Dr Khalil** drew attention to the limited integration of public and private efforts, highlighting the necessity to develop more applied research efforts as well as to encourage the active involvement of the different stakeholders. Further, he looked at the example of ERECI, bringing to light the numerous benefits of this initiative deriving from continuous cooperation between various entities. After analysing other successful examples of cooperation in the field of renewable energies, like the project ‘Renergy Egypt’, **Prof. Dr Khalil** concluded by stressing the crucial role of renewable energy in ensuring climate resilience, while recalling the need to close gaps, connect policies and foster exchange.

In addition, **Dr Eren Çam (University of Cologne, Germany)** offered an insightful analysis of “The Economics of Hydrogen”. After an overview of the mission, areas of research and objectives of the ‘Institute of Energy Economics at the University of Cologne’ (EWI), he presented major projects conducted in this institute, including ‘the techno-economic hydrogen system modelling’. Equally, this presentation shed the light on major challenges on the path towards a hydrogen market, mentioning technical issues, economic difficulties and socio-political obstacles.

During the following presentation on “Tunisian Energy Transition and Intended Contribution to Climate Change Mitigation”, **Assoc. Prof. Souheil El Alimi (University of Monastir, Tunisia)** highlighted the benefits from developing renewable energies in Tunisia, introducing the example of the ‘Tunisian Energy Transition Strategy’. In explaining the country’s effort to work towards the ambitious goal of reaching 3815 MW (especially from wind and solar energy) by 2030, he emphasized the necessity of having international support. Subsequently, **Dr Amr Amin (Helwan University)** tackled the topic from the point of view of Egypt in his presentation: “Mega-Solar Energy Projects in Egypt”. Particularly, he focused on three current main projects, including ‘STS-Med’ project, the

'Multipurpose Applications by Thermodynamic Solar' (MATS) project and the 'Egyptian-Chinese Joint Laboratory for Renewable Energy'.

Furthermore, the programme of the day included a section dedicated to the discussion of "Energy and Sustainable Mobility Projects in (Sub-Saharan) Africa". Notably, **Dr Tarek Hatem (British University in Egypt (BUE))** shed the light on the opportunities, challenges, current actions and future proposals for renewable energy in Africa. His presentation "Potential of Solar Energy in Africa: Do Knowledge, Policy and Economy Match?" highlighted the role of universities and the need for national and international collaboration to increase the exchange of knowledge in this field. "*If you want to see things happening you need to connect,*" he stated in an interview following the conference. Specifically, he outlined BUE's approach based on the innovation cycle model and its efforts to support the involvement of young students to achieve innovative results.

Furthermore, **Ms. Djalila Ben-Bouchta (Politecnico di Torino and University of Kassel, Germany)** shared with the audience the focal points of her research: "A Multi-Disciplinary Approach to Energy Service Delivery to Enable Productive Use of Energy for Female Entrepreneurs in rural Sub-Saharan Africa". After outlining the details of her research, such as the problem overview, the challenges and the methodology adopted, she clarified the research main objective to become part of the rural electrification solution in Sub-Saharan Africa by developing a gender multi-dimensional business model for solar PV mini-grid providers. Similarly, to the other presentations throughout the conference, the subsequent Q&A session gave the opportunity to expand the discussion, in this case raising the question of the necessity to consider the effect of energy in the market chain during the research.

The first day of the conference concluded by investigating the topic of "CO2 Emissions and Sustainable Mobility". Initially, **Dr Oliver Lah (Technische Universität Berlin (TU-Berlin), Germany)** clarified the role of 'Transformative Living Labs' to foster climate action. By detailing the 'SOLUTIONSplus Project', he highlighted the successful results of the approach used, which is guided by the desire to inspire, initiate, implement and then impact.

Subsequently, **Prof. Dr Felix Creutzig (TU-Berlin and Mercator Research Institute on Global Commons and Climate Change, Germany)** analysed the topic of "Integrated Climate and Sustainability Solutions in Urban Transport". Remarkably, his presentation raised awareness of the need to accompany smart technologies with policy decisions and public regulations. By looking at the example of some cities in the MENA region such as Cairo, **Prof. Dr Creutzig** concluded with the clear statement: "*Smart mobility is not always sustainable, while shared pooled mobility is*".

Day Two, Saturday, November 30th, 2021

The following day, speakers and attendees resumed online to further delve into the topic of climate action through a rich programme including presentations, a panel discussion and conclusive reflections. After renewed greeting words from Ms. Mering and Ms. Abdelaty, the first block of presentations focused on energy projects by German Institutions in Egypt. Primarily, **Mr. Omar Tawfik (Siemens Energy Projects, Egypt)** highlighted the major role of Siemens Egypt in developing projects for cleaner energy, offering a detailed summary of the energy decarbonisation strategy. In explaining the details of this strategy, he described it as a journey that must be taken step by step and with the cooperation of different actors.

In addition, the next presentation on “125MW PV, 1000MW Effort: Egypt Industry PV NAMA” by **Dr Amr Sobhy (Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ))** offered other examples of successful projects developed in Egypt. In introducing the work of GIZ in Egypt, **Dr Sobhy** outlined major initiatives in the energy sector, such as the creation of the ‘Joint Committee on Renewable Energy, Energy Efficiency and Environmental Protection (JCEE)’. During this time, he highlighted the need to work in close cooperation with the government of Egypt and to involve various partners. Finally, **Dr Sobhy** focused on ‘Nationally Appropriate Mitigation Actions (NAMAs)’, highlighting the specificities of these concrete projects, policies and/or programmes and their numerous benefits for the operation of a national shift towards a low-carbon developments trajectory. During the rich exchange with the attendees in the Q&A session, **Dr Sobhy** shared his enthusiasm for the upcoming COP27 conference in Sharm el Sheikh, reminding: “*There are many challenges as well as opportunities for the country and the entire world with regards to climate action*”.

The meta-conference proceeded with a series of presentations analysing the topic of climate action in the framework of higher education and research institutions. **Prof. Dr Katja Tielbörger (Universität Tübingen, Germany)** opened this central block with a presentation on “Sustainable Adaptation to Global Change in the Middle East (SAGE)”. After providing background information on the existing natural resources scarcity issue in the region, she presented the work of the ‘**SAGE-Centre**’. Situated in Jordan with hubs in Palestine, Israel and Germany, the ‘**SAGE-Centre**’ represents a regional knowledge and education hub promoting regional transboundary cooperation in global change adaptation. Therefore, attendees could learn about the distinguishing features of this centre, based on the ‘Reduce, Replace and Refine (RRR)’ approach, and its multiple goals, including promoting education, capacity building, research and application.

Similarly, the successive presentation by **Prof. Dr Hans-Liudger Dienel (TU-Berlin)** offered insights on the need to carry out valuable research to be shared with society and policymakers. By looking at the three main examples of ‘**the Green Energy Centre Iran (GECI)**’, ‘**the Centre for Climate and the Environment Central Asia**’ and ‘**the Energy Masters at the EUREF Campus in Berlin**’, **Prof. Dienel** highlighted the favourable

results of establishing bilateral and international cooperation as well as of integrating the academia and entrepreneurship environments.

Dr Sadeeb Simon Ottenburger (Karlsruhe Institute of Technology (KIT), Germany) concluded this rich section of the conference with a presentation on “Designing Renewable Energy Systems in a Resilient Way”. In considering the future systemic risks and uncertainties with regards to climate change, he presented possible solutions. Remarkably, **Dr Ottenburger** explained the ‘robust and resilient energy systems planning’, involving a systematic implementation of microgrids (MGs) built in redundancies through cellular development.

Complementing these highly informative presentations on the topic of climate change under various perspectives, the conference concluded with a dynamic panel discussion on “Future Perspectives and Climate Action”. At this time, the moderator, **Mr. Mohamed Kamal**, from the Egyptian social enterprise ‘**Greenish**’, invited various experts from the government, academic institutions and civil society to exchange views on the need to join forces in the fights against climate change. After the first round of introductory remarks, when all speakers presented the work for climate action carried out by their organizations and institutions, the discussion focused on the interaction between civil society initiatives and governmental institutions. Specifically, **Ms. Omnia Hegazy**, from the **Egyptian Environmental Affairs Agency of the Ministry of Environment** in Egypt, highlighted the ministry’s effort to support bottom-up projects in different ways, for example by organizing conferences and lectures with the different civil society actors involved in climate action. In addition, **Mr. Shady Khalil**, from **Greenish**, focused on the necessity for civil society initiatives to provide valuable knowledge from the observation of the societal needs together with detailed strategic planning to the ministries involved. Equally, it highlighted the necessity to close the gap between the academic world and society. In an interview following the conference, Kamal reflected on the benefits of using platforms such as the DAAD conferences to spread the results of research in an accessible way. Furthermore, **Prof. Dr Tielbörger** underlined the need to raise awareness on the larger environmental issue, starting from the young generation. **Mr. Michael Wilmes (Climate Change Centre Berlin Brandenburg, Germany)** added the scientists’ responsibility for sharing knowledge in order to bring about the desirable cultural and societal change. In addition to these reflections, it reaffirmed the role of international cooperation, as highlighted by **Philippe Maupai**, who presented the initiative of ‘**Cairo Climate Talks**’. During the final conclusive remarks sharing insights on the current actions needed in Egypt, the speakers also mentioned the need to enforce laws on environmental issues, considering another fundamental aspect in the discussions happening in different countries around the world.

Conclusion

Overall, the two-day conference was able to tackle the topic of climate action from a variety of perspectives, inspiring new reflections for the achievement of concrete results to face the pressing issue of climate change. Remarkably, various speakers highlighted the necessity to share knowledge, raise awareness and boost cooperation in order to create a joint force working for climate action and, above all, climate education. As **Isabell Mering** affirmed at the end of the conference, there is no doubt that it is time to take collective action, which cannot happen but by starting from climate education under multiple levels. Cooperation and exchange were therefore keywords used throughout all the conference, indicating the desire to face the current environmental challenges together. Following the conference, various speakers highlighted the relevance of the conference in the current discussions happening around the world, expressing the desire to continue participating in this kind of events. *"We need to continue having such initiatives and speaking about them in the upcoming period,"* **Kamal** stated.

Annex

Additional resources

- CLICCS: <https://www.cliccs.uni-hamburg.de/de.html>
- CapTain Rain: <https://captain-rain.de/home.html>
- SOLUTIONSplus Project: <http://www.solutionsplus.eu/>
- SAGE : <https://www.daad.de/en/information-services-for-higher-education-institutions/further-information-on-daad-programmes/sage-centre-middle-east/>
- STS-Med Project: <http://www.stsmed.eu/>
- MATS Project : <http://www.mats.enea.it/progetto.asp>
- GIZ Egypt : <https://www.giz.de/en/worldwide/319.html>
- Greenish: <https://www.green-ish.org/>