

Executive Summary

**IKI Mid-Term Evaluation of the project
Cool Up – Scaling up sustainable COOLing
in the Middle East
Project number: 20_1_379 MENA_A_Cool_Me**

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1 Executive Summary

Background: FAKT Consult was commissioned by Zukunft – Umwelt – Gesellschaft gGmbH (ZUG) to carry out the mid-term evaluation of the project “Cool Up – Scaling up sustainable COOLing in the Middle East” (Project number: 20_1_379 MENA_A_Cool_Me). The project is implemented by Guidehouse and a consortium of 10 partners: Oeko-Recherche, Frankfurt School of Finance and Institute für Luft und Kältetechnik (ILK) Dresden providing expertise across the partner countries, and the Regional Center for Renewable Energy and Energy Efficiency (RCREEE) which provides expertise across the region. United Nations Development Programme (UNDP) Regional Hub in Istanbul and UNDP country offices in Egypt, Jordan, Lebanon, Türkiye, the Integrated Development Group (IDG) (Egypt), Royal Scientific Society (RSS)/National Energy Research Center (NERC) (Jordan) are implementation partners in partner countries. In addition, there are 2 country specific subcontractors: Istanbul Aydın University (IAU) – local subcontractor in Türkiye, and Lebanese Center for Energy Conservation (LCEC) in Lebanon. The partner countries include Egypt, Jordan, Lebanon and Türkiye.

The outcome the Cool Up project aims to achieve is: *Conditions for increased uptake of sustainable cooling technologies in different cooling segments in the building sector (AC in residential and RAC in commercial buildings) encouraging early implementation of Kigali Amendment and Paris Agreement in Jordan, Lebanon, Türkiye and Egypt are enabled.*

Purpose: As a Mid-Term Evaluation (MTE), the main objective of this evaluation type is learning, a contribution to ZUG’s and the implementing partners’ knowledge management, and support for evidence-based decision making. Learnings are also relevant for the Federal Ministry for Economic Affairs and Climate Action (BMWK) who has commissioned the project through the International Climate Initiative (IKI). A further objective of the MTE is enhancing transparency and accountability by providing evaluation summaries to the German parliament (Bundestag) and to the interested public.

Evaluation Design: To fulfil the objectives of this MTE, the evaluation team chose a mixed-method approach, modelled on a contribution analysis, but realising that the full implementation of this method was not possible given the early state of implementation of Cool Up. The approach was aimed at assessing the current delivery of activities and the likelihood of contributing to the long-term impacts the project aims to achieve. In doing this, the evaluation team co-designed the Theory of Change (ToC) with the project team and tested the causal pathways.

To test the pathways, the evaluation team collected data using project documents, individual interviews, group interviews, an in-person workshop and an online survey. The methods were implemented to enable triangulation of results and assessment of the robustness of evidence. Interviews were mainly conducted in person within the partner country. Online platforms were used where time and security constraints did not allow for in-person meetings, such as in Jordan which would have required travel from Lebanon, or with stakeholders based in other countries than the 4 partner countries. All workshops apart from one stakeholder workshop were held online because of the geographical distribution of stakeholders.

Main Evaluation Results: As far as **relevance**, the evaluation team concludes that the project’s objectives are well aligned with partner countries’ strategies, including those related to the Paris Agreement and the Kigali amendment of the Montreal protocol as well as national strategies around the phasing out of the use of Fluorinated Gas in cooling systems and a transition to sustainable cooling. This alignment covers all three sectors in which the programme is active: policy making – by supporting the preparation of the National Cooling Action Plans; technology – by preparing technical documents, offering training to trainers of technicians; and the financial sector

– by providing reports on the readiness of the sector to support sustainable cooling, training and networking opportunities. One important tool still missing is evidence from local demonstration projects to show the energy efficiency and cooling effectiveness of the technology in the partner countries themselves.

The Cool Up activities of training, knowledge creation and networking are also relevant to the non-political stakeholders. Trade associations are interested in innovation within their sector and keen to ensure that their members can become part of a newly developed markets. Cool Up was repeatedly named as the first project in this sector which brought together the key stakeholders of policy, technology and finance. Within each partner country, the project team adjusted objectives and activities to enhance alignment and support development of relevant national policies.

The project has been found to be suitable to address the core problems within partner countries, in particular building the relevant knowledge and skills base nationally, identifying policy requests and working with other projects to develop a market for cooling systems which use refrigerants with less climate harmful substances.

At the global level Cool Up is relevant to the development of the discourse about sustainable cooling and raising its profile by bringing the energy, ozone and climate debates together.

Cool Up is therefore an important part of addressing the core problems of climate challenge affected by the cooling sector and the need to mitigate and adapt to rising temperatures. Breaking this down, Cool Up addresses core problems regarding capacity and capability, the need for funding for investment in sustainable cooling and the underpinning legislation and standardisation. However, Cool Up is small compared to the challenge and cannot on its own solve all related problems.

Planning, Steering and Coherence: The evaluation team has found that Cool Up cooperates well with stakeholders, especially with political partners. The teams have identified stakeholders in the industry and the financial sector and is beginning to integrate them into the project. There is still a little way to go in each country to complete the process of full integration with different gaps arising in each country.

The planning of Cool Up reflects a complex stakeholder map by bringing together the relevant parts of the supply chain for sustainable cooling, i.e. regulation, skills, knowledge and capacity to work with the new technology as well as the technology itself. In addition, it makes best use of its existing networks in the region. This is likely to have reduced start-up costs, which was particularly important because of the COVID 19 pandemic at the time.

The evaluation team found that some stakeholder groups higher up in the delivery chain, such as architects and senior project managers, are not as closely involved as could be useful for implementation of sustainable cooling in new large construction projects. The evaluation team found that the overall timeframe of Cool Up is ambitious, because the technologies to be used in sustainable cooling are still new to the market.

Project steering is mainly done by Guidehouse and the team leaders within its consortium partners, depending on the organisational expertise. The evaluation team found a well-structured monitoring process with a clear and elaborate network of country and thematic meetings. At times the steering structure may appear somewhat slow but it does ensure a consistent and comprehensive approach to decision making and problem solving. Any frictions occurring during set up of delivery which led to some delay are being addressed.

The project team uses a set of Guiding Principles, which includes prioritisation of local solutions and working at eye level with partners. The evaluation team also noted good coordination with

other projects working on similar topics such as those implemented by the Deutsche Gesellschaft für internationale Zusammenarbeit (GIZ). This cooperative spirit avoids duplication and generates synergies at country level and internationally.

Effectiveness: The evaluation found that the intervention logic as set out in proposal still holds. However, the evaluation process investigated some of the more nuanced intermediate steps such as the role of evidence derived from the demonstration projects for stakeholders from governments, finance and technology side, and the role of networking in order to disseminate knowledge.

Most of the planned activities are being delivered in time according to the country-specific implementation schedules with some delays in the finance and demonstration project work. Accordingly, the output indicators are mainly on target and Cool Up has achieved its first output already (Output I) by assessing the status quo of the cooling sector in partner countries at the beginning of the project, publishing the resulting baseline studies and pathways towards the agreed outcome. The evaluation assessed that about half of the outputs by country are likely to be achieved, with only one output in one country (sustainable cooling finance strategies in the financial sector in Lebanon) as not likely to be achieved due to the economic crises which severely impacted the banking sector in Lebanon. For the rest of the outputs by country, it is still too early to tell, as can be expected in a MTE.

The evaluation team found that on the global stage Cool Up has influence that goes beyond its size. The team has been active with events at COP 27 and 28 driving the agenda forward and providing an opportunity for partner countries to demonstrate their achievements.

If the outcome, which is also targeted by other organisations, is achieved it is highly likely that Cool Up contributed to it for a number of reasons including that it started the discussion between partners such as government, industry and finance.

Transformational Impact and Sustainability: External circumstances such as the security situation in the Middle East and the economic crises which have affected this and other regions create barriers to achieving the needed outputs, outcome and impacts because interest in investment is low and governments have other pressing matters to deal with. The Cool Up team has shown some resilience in adapting to the circumstances and making clear that sustainable cooling is also energy efficient and can be part of a solution to high energy bills as cooling demand is rising.

Cool Up is likely to deliver a number of co-benefits including economic impacts, because training will enable participants to pursue new careers, higher energy efficiency reduces pressure on grids and the energy bills into the future. Where partner countries have industries, which could start producing sustainable cooling systems like in Egypt, Jordan and Türkiye, export opportunities might open up including to the EU.

The evaluation found that Cool Up's work aims to create the conditions required for sustainable change and upscaling by supporting the development of regulations to embed sustainable cooling into certified standards applied, addressing skills shortages and gaps in finance. The teams in each country as well as the leadership team are working well in this complex setting. However, in order to achieve the potential for transformational change, society and community groups need to be brought into the thinking on sustainable cooling in order to avoid future challenges.

Social and Environmental Safeguards: The evaluation team found that Cool Up has implemented the IKI safeguarding standards and monitors related risks diligently. So far, no unintended negative impacts on the environment or vulnerable groups have been noticed. The reporting on IKI indicators with respect to climate impacts is plausible.

Recommendations: Overall, the evaluation team made 30 recommendations. Eleven are cross-cutting, of which one is also addressed at the BMWK and two at ZUG. There are 6 country-level recommendations for the Cool Up team in Egypt, 2 in Jordan, 4 in Lebanon and 7 in Türkiye. Each recommendation has an owner and a timeframe assigned to it.

Cross-cutting and steering recommendations

- The Cool Up consortium should ensure that all steps necessary to ensure a speedy delivery of the demonstration projects goes ahead and leads to the supply of much needed monitoring information. There are specific recommendations regarding the demonstration projects in each country in the report.
- The Cool Up consortium should review its approach to social media to assess whether the story of sustainable cooling can be built up to more effect in order to draw in large potential users such as supermarkets and hotel chains.
- BMWK with BMUV and AA should consider ongoing support for sustainable cooling – “Cool Up 2 “- in order to cement the achievements in the preparation of a structured market for sustainable cooling in the MENA region.

Country level recommendations

The **Cool Up team in Egypt** should

- Extend its cooperation into other Ministries such as Ministry of Housing and Ministry of Food and Supply as well as downstream organisations to engage with the sectors sponsored by these Ministries.
- Intensify the collaboration with the Egyptian Organisation for Standards and Quality (EOS).
- Expand cooperation, for example, with universities for training purposes and with industry to enhance mutual benefits in the dissemination of knowledge about sustainable cooling.

The **Cool Up team in Jordan** should

- Ensure the delivery of the demonstration project by starting procurement processes early in the future, use domestic suppliers where possible and selecting projects which can be implemented with equipment that is easy to procure.
- Include more private sector actors, especially large potential users.

The **Cool Up team in Lebanon** should

- Intensify its cooperation with the Lebanese standards agency to support and facilitate much needed standards in the sustainable cooling sectors.
- Make use of existing training curricula in the partner countries and shape curricula for Lebanon based on this input in order to push the training programme and with it the availability of trained engineers.

The **Cool Up team in Türkiye** should

- Strengthen the links with the finance sector and make use of the willingness to provide input and support by all stakeholders.
- Improve some of the management practices especially how larger meetings with multiple stakeholder groups are run and followed up to give a sense of drive and direction.
- Assess whether some of its activities could increase reach including younger groups of students in its training activities, and geographic regions beyond the three main cities in which it is active now.