



[Side Event at MOP37]

Regional Centres of Excellence for Sustainable Cooling: A Strategic Guide for Developing Countries

Organiser: Natural Resources Defense Council (NRDC)

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Date & time: 5 November 2025, 13:00–15:00 East Africa Time

Venue: CR-10, United Nations Office at Nairobi (UNON), United Nations Avenue, Gigiri, Nairobi, Kenya

About the event: This side event will host a discussion around transferable learnings from existing models of regional Centres of Excellence (CoEs). It will highlight key considerations for developing effective and sustainable regional CoEs, emphasising alignment with existing initiatives, regional contexts, and available resources, while avoiding duplication. Through a panel discussion featuring international experts, the event will showcase case studies and provide practical guidance to help stakeholders design approaches that are feasible, streamlined, and flexible, especially in the context of advancing energy efficiency with the HFC phasedown. A strategic guide for setting up regional CoEs will be launched at the side event.

Agenda:

13:00-13:30	Networking lunch
13:30-13:35	Welcome remarks by Prima Madan, NRDC
13:35-14:00	Presentation by Akash Goenka and Gerry George, NRDC India
14:00-14:45	<p>Panel discussion</p> <p>Objectives:</p> <ul style="list-style-type: none">• Share transferable learnings from existing regional CoEs to inform the design of future regional models.• Discuss key factors for developing effective and sustainable CoEs <p>Panellists:</p> <ol style="list-style-type: none">1. Prima Madan, NRDC (in-person, moderator)2. Liana Ghahramanyan, NOU of Armenia (in-person)3. Leslie Smith, NOU of Grenada (in-person)4. Kudakwashe Ndhlukula, Southern African Centre for Renewable Energy and Energy Efficiency (SACREEE) (online)5. Ana Maria Carreño, CLASP (in-person)6. Eslam Mahdy, Guidehouse/CoolUP Programme (in-person)7. Steven McKee, Labtech International Ltd. (in-person)8. Devika Panse, World Bank (online)9. Stephen O. Andersen, IGSD (in-person)
14:45-15:00	Audience Q&A

Meeting Notes

Panel Discussion

Liana Ghahramanyan, NOU of Armenia

- Armenia established a regional CoE in 2019 to serve Europe and Central Asia, with support from UNIDO under a bilateral project framework.
- The center was certified under an EU program and provides training and certification in English, Armenian, and Russian.
- In 2019, several Armenian technicians were certified through the CoE, and four national trainers were accredited to deliver training.
- In 2021, the CoE trained a group of technicians from Turkmenistan, but since then, activities have been limited to occasional sessions.
- The CoE's main achievement is the establishment of a fully equipped, certified facility capable of serving the entire region.
- However, the key weakness has been a lack of sustainability, largely due to the absence of a self-sustaining revenue model and an inadequate organizational structure.
- The experience underscored the need for strong stakeholder involvement during the establishment phase, which had been insufficiently considered.
- Current national planning efforts include the mandatory certification of technicians, expected to revive CoE operations—though initially only at the national level rather than regional.
- The next step will be to explore the regional dimension and financing modalities—such as recurring or annual support mechanisms—to prevent the CoE from reverting into a purely national institution.
- The NRDC guide will be used as a key reference for rethinking sustainability and regional engagement, in consultation with the Engineering Association of Armenia.

Leslie Smith, NOU of Grenada

- In the Caribbean, CARICOM serves as the main economic zone, complemented by the Organization of Eastern Caribbean States (OECS) as a sub-regional body. While there are no dedicated CoEs for HVAC or energy efficiency, several regional testing centers for air conditioning and refrigeration already exist.
- A key priority is the harmonization of regional policies and standards, supported by the CARICOM Regional Organization for Standards and Quality (CROSQ). Member states are responsible for adopting or adapting these standards nationally.
- Harmonized policies and standards are seen as central functions of future regional CoEs, along with the pooling of resources to achieve efficiency, economies of scale, and greater competitiveness in attracting new technologies.
- Regional CoEs could play an important role in data management, serving as hubs for storing and sharing high-quality data needed for planning and project development across the region. CARICOM is already working to establish regional centers to facilitate this.
- On the technical and capacity-building front, CoEs could host vocational qualification and certification programs, enhancing skills and technical competency in the HVAC sector.
- CoEs should also advance awareness and behavioral change, especially around air-conditioning use—such as thermostat settings—which significantly affect energy efficiency.
- Attracting financing for sustainable cooling initiatives remains critical.
- The region faces logistical and operational challenges, including high transport costs between islands, unreliable air and sea connections, and cost burdens on importers for moving and testing equipment. These must be shared and managed collaboratively.
- Existing testing centers could evolve into full-fledged regional CoEs, but this requires a more structured and organized framework to ensure sustainability and inclusiveness.
- Grenada has taken a leadership role in shaping regional initiatives and emphasized that CoE design must be context-specific, reflecting regional realities, logistical challenges, and local culture—potentially differing from models in other regions such as Asia.
- Support from the MLF will be essential to operationalize and expand regional centers for HVAC and natural refrigerant training across the Caribbean.

Kudakwashe Ndhlukula, Southern African Centre for Renewable Energy and Energy Efficiency (SACREEE)

- The SADC region's major achievement in energy efficiency has been in the area of lighting and appliances, responding to member states' demand for practical ways to save energy.
- To address trade and efficiency issues, MEPS were developed and harmonized regionally, then adopted by individual member states.
- Building on this foundation, and with support from UNEP and UNIDO, the region expanded efforts to include cooling appliances.
- While these standards remain voluntary, they represent significant progress in aligning regional approaches to energy efficiency.
- The coordinating body itself is not a regulator, but plays a key role in capacity building, testing, and facilitating collaboration among member states.
- This experience demonstrates how harmonization of regional policies and standards can directly enhance capacity building—one of the most critical functions envisioned for regional CoEs.
- The work also draws from the region's experience under the United for Energy Efficiency initiative, which offers valuable lessons for strengthening technical and institutional capacities in the cooling sector.

Ana Maria Carreño, CLASP

- Environmental dumping of inefficient, high-GWP equipment is widespread across the Global South, including Africa, Southeast Asia, and Latin America.
- Such products are often exported to countries lacking strong safety, environmental, or efficiency regulations.
- This practice increases national energy demand, raises consumer energy bills, and undermines countries' ability to meet their Kigali Amendment commitments.
- There is a need to raise awareness of how imported inefficient appliances affect domestic energy and climate goals.
- Addressing the issue requires joint action between exporting and importing countries and active engagement from manufacturers.
- Policies that remove inefficient appliances from markets are essential but insufficient, as regulating traded and second-hand equipment remains difficult.
- Regional CoEs can play a critical role by convening stakeholders, harmonizing efficiency and refrigerant standards, and supporting rapid policy adoption.
- CoEs are especially important for economies that are primarily importers, helping align regional and national approaches to energy efficiency and refrigerant management.
- Strengthening and expanding the role of CoEs can help counter environmental dumping through coordinated policies, shared knowledge, and capacity building.

Eslam Mahdy, Guidehouse/CoolUP Programme

- It operates in four countries—Jordan, Turkey, Lebanon, and Egypt—working closely with National Ozone Units to identify effective approaches.
- The programme is structured around four key pillars, including curriculum development across the participating countries to support knowledge transfer and capacity building.
- Initiatives such as the annual Cool Up Week in Jordan foster regional exchange and learning among stakeholders.
- The programme supports the launch of National Cooling Action Plans and two demonstration projects to showcase practical solutions.
- Regional events bring together industry and finance actors to stimulate demand for sustainable cooling technologies and explore policy pathways.
- Cool Up emphasizes the importance of lessons learned, shared methodologies, and regional dialogue to strengthen collaboration.
- Key challenges include limited financing options, difficulties in establishing collaboration infrastructure, and the absence of harmonized regional MEPS and energy performance certificates.

Steven McKee, Labtech International Ltd.

- Labtech has been supporting national governments for over 35 years in developing and expanding technical training programs and centers.
- The organization works in over 100 countries and has helped more than 4,000 schools strengthen their technical education systems.
- It has established regional centers, such as in Barbados for EV and hybrid automotive training, in collaboration with industry partners.
- In Jordan, Labtech helped set up an HVAC training center aimed at building capacity during a period of rapid sectoral change.
- The experience showed that upgrading facilities must be paired with upgrading teachers, as capacity building is a continuous, not one-time, process.
- Curricula need to evolve regularly to stay relevant, and regional training centers are well positioned to facilitate this.
- Several state-level CoEs have been established in India in partnership with the Asian Development Bank, offering 1–3 year programs.
- Schools and existing centers could serve as strong partners for future regional CoEs, reducing the need to create new institutions from scratch.
- Labtech is increasingly using digital and interactive learning tools to make technical training accessible to remote regions.
- Integrating concepts from the Kigali Amendment and Montreal Protocol into broader HVAC and technical curricula would strengthen understanding and implementation.
- Embedding these topics into traditional education frameworks would help ensure long-term capacity building and awareness.

Devika Panse, World Bank

- Private sector participation is key to ensuring the financial sustainability of CoEs, as industry-led funding of shared activities can generate spillover benefits for all participating countries.
- The cooling sector's complexity and diversity—spanning different import-export dynamics, manufacturing bases, and product types—necessitate realism about the feasibility of sharing certain research outputs.
- While bridging technology gaps is essential, expecting open transfer of intellectual property may not be practical, and alternative approaches will be needed for activities that serve as regional public goods.
- The sector should aim to reduce dependence on specific technologies or supply chains to ensure resilience and equitable access to innovation.
- Constructive private sector involvement requires clear mechanisms for engagement, balancing commercial interests with regional collaboration and knowledge sharing.

Stephen O. Andersen, IGSD

- The Climate and Clean Air Coalition (CCAC), align closely with the Montreal Protocol and represent valuable talent and expertise that can be leveraged.
- The Montreal Protocol framework excels in several areas, but there are gaps where other organizations can complement its work and “take up the slack.”
- Efforts should focus on avoiding duplication and building on existing organizations and training initiatives, adding new elements rather than recreating existing structures.
- Proven best practices from corporations and governments can often be adapted directly to regional contexts, particularly for technology-related work.
- Building on completed work accelerates progress and reduces costs, while shared experience across regions adds substantial long-term value.
- Regional networks play an important role in disseminating information—both about effective programs and about poor or misleading technologies on the market.
- Regional CoEs could help standardize safety and maintenance procedures, reduce redundant testing regimes, and share knowledge on repairing or improving inefficient equipment.

Audience Q&A

- EPA Tunisia shared its experience over two years of exploring a regional CoE, noting challenges in ensuring sustainability and meeting diverse regional needs. The “core and satellite” approach was highlighted—having a strong central hub of expertise, technology, and finance supported by regional satellites. Running a center as a business is essential for sustainability, but limiting its work solely to resource mobilization can be restrictive, especially in a budget-constrained context. Tunisia emphasized the need for clear criteria, not just guidelines, before establishing a regional CoE.
- IIIR asked whether existing regional OzonAction networks had been studied. Leslie responded that ongoing efforts include “twinning” between energy efficiency and ozone officers. The networks are currently exploring how to leverage existing cooperation and support the establishment of regional CoEs.
- Egypt inquired about the scope and mandate of the proposed regional CoE for cooling—whether it would focus only on policy harmonization and awareness, or extend to technician training, capacity building, equipment testing, and certification. Egypt raised concerns about whether a single country could house all these functions and suggested learning from experiences like CoolUp. They also noted the importance of combining MLF and non-MLF funding sources for long-term viability.
- Sustainable Energy for All highlighted institutional coordination challenges, noting that ministries of energy typically oversee equipment efficiency, while ministries of environment handle refrigerants, and treasuries manage financing. The establishment of interministerial cooling units can help align these responsibilities. Drawing from experience with National Cooling Action Plans, they emphasized opportunities for governments to restructure coordination mechanisms and engage more effectively with the private sector.