

MOP 35 Workshop Highlights: Sunday, 22 October 2023

Throughout the day and into the early evening on Sunday, delegates attended a pre-meeting workshop on energy efficiency. The workshop provided an opportunity to share information, experiences and lessons learned, and assess challenges to improving availability and accessibility of energy-efficient equipment and equipment using low- or zero-global warming-potential (GWP) alternatives towards the implementation of the Kigali Amendment. The workshop's outcomes will feed into discussions at the thirty-fifth Meeting of the Parties (MOP 35) to the Montreal Protocol on Substances that Deplete the Ozone Layer.

Opening

In her remarks, Megumi Seki, Executive Secretary, Ozone Secretariat, welcomed delegates to the session and noted the importance of addressing energy efficiency, noting its co-benefits for climate change mitigation. Liazzat Rabbiosi, Ozone Secretariat, introduced the session, noting that the outcomes would be shared at MOP 35.

Landscape of Energy Efficiency in the Refrigeration, Air-Conditioning and Heat-Pump (RACHP) Sector

Highlighting that 2023 has had some of the highest temperatures ever recorded, Facilitator Shikha Bhasin, UN Environment Programme (UNEP) Cool Coalition, underscored the impacts of cooling measures to the climate.

Conor Gask, International Energy Agency (IEA), pointed to best practice in policy implementation including: lighting standards in South Africa; building codes in Tunisia; air conditioner regulations in China; car fuel economy standards in the US; electric motor regulations in the EU; and policies for heavy industry in India.

Ray Gluckman, Technology and Economic Assessment Panel (TEAP), identified four main areas for improvement: reducing cooling loads via physical barriers in buildings and the cold chain; innovating new equipment; optimizing cooling operation and control; and selecting appropriate refrigerants.

Highlighting the role of the Montreal Protocol in preventing global warming, Omar Abdelaziz, TEAP, said increasing energy efficiency in RACHP equipment could double climate benefits, but noted challenges in: creating a common policy framework; creating a comprehensive understanding of circular economy in the RACHP sector; and raising consumer awareness. He also drew attention to dumping of low energy-efficient products in low-income countries coupled with higher prices for energy efficient products.

Satish Kumar, Alliance for an Energy Efficient Economy, illustrated the "daunting challenge" of cooling in India given the growing population, rising temperatures, growing housing aspirations, and rising demand for refrigeration. He highlighted three specific examples of positive outcomes from India's Cooling Action Plan relating to super-efficient appliances, passive cooling design, and district cooling.

The ensuing discussion examined, *inter alia*: integrated funding policies to increase energy efficiency in RACHP, including financing instruments for electricity demand management; acting within a limited data landscape; coordinating different processes under the Protocol, the UN Framework Convention on Climate Change (UNFCCC), the G20 and others; and regional approaches to fund and access energy efficient technologies.

Making Energy-efficient Equipment and Equipment Using Low- and Zero-GWP Alternatives More Available

Facilitator Ayman Eltalouny, UNEP, opened this session by highlighting the great demand to expand the cooling sector worldwide for all types of applications.

Manufacturing (product design, refrigerant choices, components, assembly sector and small- and medium-sized enterprises): Bettina Schreck, UN Industrial Development Organization, spoke about adopting energy-efficient technologies in the Refrigeration and Air Conditioning (RAC) manufacturing sector, and recommended: distinguishing between large and small manufacturers; rolling out minimum energy performance standards; and applying market surveillance.

Ren Tao, China RAC Industry Association, said the Association is making a technology roadmap to guide and promote high energy-efficient products and innovations, such as small diameter tube heat exchangers, variable flow-path technology, and gas-bearing compressors.

Nabil Shahin, Air-Conditioning, Heating, and Refrigeration Institute, spoke about the Middle East and North Africa (MENA) region, which have a significant consumption of cooling equipment due to their high-ambient temperatures, resulting in the highest per capita CO₂ emissions. He noted the region is relatively new to regulating energy efficiency and recommended globally harmonized standards.

In the ensuing discussion, participants reflected on, among others: the balance between energy efficiency and energy security; setting international manufacturing standards; challenges in implementing equipment standards in developing countries; the expected life span of energy efficient products; and the difference between availability and access of energy efficient technology.

Servicing (installation, maintenance and operation practices): Claudia Sanchez, Colombian Association Refrigeration and Air-conditioning Industry, focused on the importance of establishing reliable energy-consumption baselines in order to better understand and verify maintenance and retrofitting outcomes.

Madi Sakande, U-3ARC, highlighted that half the responsibility for an energy-efficient use of RACHP lies with consumers who need to know how to use it. He further urged for a greater inclusion of women, both as technicians and end consumers, and underscored that cooling should not be considered a luxury.

Philipp Denzinger, GIZ Proklima, elaborated on how technician qualifications are key to achieve energy-efficient cooling, and underlined that training also needs to reach the informal sector.

Greg Picker, Refrigerant Australia, presented on the review of Australia's RAC licencing programme, which showed that most RAC equipment check-ups revealed at least one easy-to-fix fault, with 14-20% energy losses across most tests.

Manuel Azucena, Refrigeration and Air conditioning Technicians Association of the Philippines, shared case study to illustrate how trained technicians also need to understand the context around energy efficiency to be motivated to follow industry standards.

Contributions from the floor included emphasizing that maintenance equipment and toolkits need to be accessible and affordable, and that measurement and verification processes need to be improved to enable carbon market access.

Policy options for enhancing the adoption and uptake of energy efficient equipment with low- and zero-GWP refrigerants

Monica Wambui, CLASP, moderated this session. Nihar Shah, Lawrence Berkeley National Laboratory, said Minimum Energy Performance Standards (MEPS) and labelling programmes are among the most effective policies when implemented at scale. He recommended regional harmonization as a tool to achieve increasing innovation and lower prices of energy efficient technology.

Brian Holuj, UNEP United for Efficiency (U4E), spoke about efforts to implement financial incentive schemes to sell “new, efficient and climate friendly” products in developing countries. To this end he drew attention to the “Rwanda Cooling Finance Initiative” and the “Green On-Wage Financing in Ghana.”

Stephen O. Andersen, Institute for Governance and Sustainable Development (IGSD), promoted air conditioning “buyers clubs” which intend to lower the purchase price and increase the environmental performance by bulk purchasing and streamlining distribution and installation. He shared his experience in supporting the “2017 India Energy Efficiency Services Limited’s Path-Breaking Bulk Procurement,” which aligned government policy in India to support bulk procurement of “superefficient room air conditioning” at “competitive prices.”

Andrea Voigt, Cool Coalition, promoted the energy-as-a-service business model from the Danish company Danfoss, which allows supermarkets to lease refrigeration and other technical facilities. She said supermarkets are a major stakeholder for change on the path to net zero, and stressed that action in this sector can have a major impact, and lead the way for other sectors.

In the ensuing discussion, participants highlighted the importance of adequate interaction between different sectors in applying efficiency standards. Some discussed the applicability of using the term “climate friendly” when referring to certain products, noting the definition depends on different factors.

In closing remarks Wambui shared key take-aways from the session, including: the need for collaboration between different sectors and shared responsibility; that energy efficiency is achievable; regional harmonization provides opportunities; these discussions feed into climate, sustainability, and other fora; including local stakeholders is key for achieving solutions; and there is need for contextualization, because every country and region is different.

Enabling Policies for an Integrated Approach

Thanavat Junchaya, World Bank, moderated this session. Etienne Gonin, UN Development Programme (UNDP), presented on how National Cooling Action Plans (NCAPs) can facilitate an integrated policy approach between ozone layer protection, climate change and energy policies. He highlighted that NCAPs can leverage public and private funding and help identify the roles of the various actors involved.

Rajan Rawal, Centre for Advanced Research in Building Science and Energy, CEPT University, explained how integrated urban design can both reduce the cooling load and increase heat resilience. He noted that urban heat island effects can be mitigated through place-based planning and collaboration between planners, architects, engineers, RAC technicians, and the building occupants who need clear instructions for installing and maintaining their RAC equipment.

Lukas Kahlen, NewClimate Institute, addressed challenges in accessing and deploying finance for energy efficiency measures. He identified key considerations for a comprehensive finance strategy including understanding the local context, recognizing the contributions by all public and private actors, and promoting the interaction with sustainable development strategies. He urged stakeholders to prioritize the lower life-cycle costs of state-of-the-art technologies over their higher upfront costs.

Closure of the Workshop

Facilitator Patricia Kameri-Mbote, Director, UNEP Law Division, thanked participants, panelists, and participants and recapped the day’s discussions. She invited panelists to share their closing remarks.

Philippe Chemouny, CANADA, addressed challenges and barriers in promoting energy efficiency, including that: money is a major issue, especially for small- and medium-sized enterprises; the lack of labelling programmes and policy framework for MEPS; and the lack of testing, monitoring, and verification capacity to ensure the assessment of energy-efficiency claims.

Kofi A. Agyarko, GHANA, stressed that there are many barriers for Article 5 countries, in particular: availability of high-end technology equipment in the markets; affordability of technology, noting that cooling is a matter of survival; and developing-country parties are at the receiving end of inefficient technologies, which compete with highly energy-efficient products. He said Article 5 countries have the potential to drive demand for cooling in the future and stressed that when one corner of the world burns “the heat will transfer” to the other corner of the world.

Yaqoub Al-Matouq, KUWAIT, spoke on how high-ambient-temperature countries can promote energy efficiency, emphasizing that some sectors can be more easily addressed, but alternatives to cooling were still expensive and needed a relevant transition period. He noted most interventions from the floor during the workshop came from Article 5 parties, showing their interest in looking for solutions to the challenges in implementing energy-efficient solutions. Speaking about an integrated approach to policymaking and financing, Tom van Ierland, EU, shared insights about the region’s policies and regulations addressing energy efficiency, refrigerants, building codes, eco design, MEPS, emissions trading, and reduced uses of certain substances.

Speaking on how to ensure that knowledge from this workshop can be translated into policy at national and international level, Sergio Merino, MEXICO, shared his country’s experience, highlighting the importance of inter-sectorial coordination.

Addressing the need for Article 5 countries to adopt successful models to promote energy efficiency, Ryan Ooi Chean Weai, MALAYSIA, shared examples relating to his country’s national energy efficiency plan, stressing the use of the Kigali Implementation Plan (KIP) to improve inter-agency coordination, including between the agencies for implementing ozone-related matters and promoting energy efficiency. Kameri-Mbote said the Secretariat will prepare an outcome document which will be presented at MOP 35. She closed the session at 18:52.

In the Breezeways

Arriving at UNEP headquarters on a mild Sunday morning, delegates attending the pre-meeting workshop were soon fired up, laying bare their concerns about the challenges in transitioning to an energy-efficient world in a fair and equitable way. Some were clear that “there is no one-size-fits-all, even in the very design of energy-efficient technology.” Those living in “extremely high-ambient-temperature countries” shared that, for them, air-conditioning is much more a human right than a luxury. Further, once one has the technology, maintaining it becomes an additional responsibility “that requires very special skills, and comes at an upfront cost not everyone can afford.” Communities around the world are going to great lengths to keep cool in an increasingly warming world. Accessibility, affordability, and availability were the buzzwords of the day, as delegates discussed how best to ensure that energy efficiency does not compromise energy security.