



## ***South and South-East Asia use technical and vocational education in cooling sector for Montreal Protocol compliance and workforce development***



**Bangkok, 1 July 2019** – National technical and vocational training holds one of the keys that can unlock the potential of one of the world’s most effective multilateral environmental agreements for even greater environmental achievements and labour force development. This was the theme behind a landmark workshop organised by UN Environment in Bangkok last week in which over 60 representatives from 21 countries across Asia gathered ahead of the 41<sup>st</sup> Meeting of Open-Ended Working Group of Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer. Representatives of National Ozone Units (NOUs) and their counterparts in technical vocational education and training (TVET) authorities considered how to collaborate to support the refrigeration and air-conditioning servicing sector (RSS) to support national action plans to comply with this treaty while at the same time increasing employment opportunities and strengthening the skills of their workforces.

The skill level and actions of RSS technicians, who form the backbone of this sector, directly affect the environment through their handling of refrigerants and the air conditioning and refrigeration equipment that uses them. Their work to stop leaks and ensure energy-efficient operation of the appliances contributes significantly to ozone and climate protection. They require specialised and regular training in the new technologies and techniques being introduced as a result of the Montreal Protocol. NOUs and TVET authorities thus have a great opportunity to work more closely together to serve this common stakeholder. UN Environment OzonAction brought these two partner groups together in the “Thematic Workshop on the Integration of Good Servicing Practices for Refrigeration and Air-Conditioning Servicing Technicians into National Qualification and Technical and Vocational Education and Training Systems,” organised from 29-30 June 2019 with support from the Montreal Protocol’s Multilateral Fund.

The most effective approach is to upgrade the national qualification certification system for RSS technicians that ensures the safe use and handling of gases and equipment, maintaining/enhancing energy efficiency and reducing refrigerant emissions during servicing. Ms Yoojeong Seo, a UNESCO expert in Educational Innovation and Skills Development, explained that the objective of technical training/educational sector is to be industry- and market-driven. As the needs of the refrigeration and air conditioning (RAC) market changes in accordance with the evolving Montreal Protocol requirements, the education of those who work in these markets must respond or adapt accordingly.



Almost unanimously, presenters and participants agreed that TVET is the critical link between industry and the national qualification system. Participants made it clear that each country has some structure in place related to certification of RSS occupations, which could be used to integrate the good servicing practices promoted by the Montreal Protocol. The usual chain leading to the integration includes: occupational and competence standards, curriculum for training, adequate facilities as well as capable educators and assessors. Certification can be also mandatory, i.e. requiring a license to practice and service certain cooling systems.

The integration is a challenge in countries as diverse as the ones represented in the workshop, and there is no 'one size fits all' approach. During the workshop, participants developed a clear situation analysis of where their national qualification system stands and where the possible entry points are for such integration of the good servicing practices. This helped to develop an initial action plan for the post-workshop activities.

As an example, Mr. Sri Hardono, from the Bekasi Vocational Training Center, explained how Indonesia's National Occupational Standards for RSS recognise informal experience by conducting competency-based assessments run by the Ministry of Manpower. From a different perspective, China's Ministry of Ecology and Environment representative Zhao Zikang described the country's efforts to strengthen the links of the good servicing practices training to their TVET institutions. Their reform mechanisms are leaning towards innovation in vocational education, establishing school-enterprise cooperation, and promoting more work-based learning. Mongolia's National Ozone Unit in close collaboration with their national TVET authorities is guiding the process of establishing the RSS certification based on good servicing practices by developing the relevant occupational standards and a Recognition of Prior Learning assessment mechanism.

Another issue raised by many countries throughout the workshop was how to incorporate recognition for informal 'on-the-job' learning. This stimulated vibrant discussion about the need for practical or prior experience to be recognised in formal qualifications, given that in many Article 5 countries it is difficult for people to obtain such qualifications, and cost remains a barrier.

Mr. Eduardo Ganem, Chief Officer of the Multilateral Fund for the Implementation of the Montreal Protocol, joined the second day proceedings and praised the workshop participants for their timely contribution "While next week [41st OEWG] is about policy; this precursor meeting is about practice and you are critical stakeholders." James Curlin, Acting Head, OzonAction said "For many countries, close collaboration between NOUs and TVET authorities has been a missing piece of the puzzle in relation to the Montreal Protocol. This partnership can secure multiple environmental benefits, contribute to employment growth, and create well-paying jobs. It also ultimately supports the UN Sustainable Development Goals including Climate Action, Decent Work and Economic Growth, and Sustainable Cities and Communities."

Overall, the workshop gave deep insight into how countries in South Asia and South East Asia might adopt or adapt national standards to incorporate key competencies of good servicing practices for their RAC technicians and enable smooth and safe transition to ozone- and climate-friendly refrigerants and energy-efficient cooling equipment in their respective domestic market. At the conclusion of the workshop, it was agreed that countries will set up regular integrative mechanisms between the NOUs and TVET institutions and that UN Environment OzonAction's Compliance Assistance Programme team, together with UNESCO, intend to continue to provide support to NOUs in this regard.



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