UN environment
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UN Environment and UNIDO Help Countries with High Ambient Temperatures Assess Risk of Flammable Refrigerants

CAIRO, EGYPT, 10 August 2018 – UN Environment's OzonAction, in cooperation with UNIDO, is currently leading the way to build the first *Risk Assessment Model for Flammable Refrigerants*. This endeavor is part of the UN Environment-UNIDO multi-stage project "Promoting Lower-GWP Alternative Refrigerants in High Ambient Temperature (HAT) Countries," commonly known as "PRAHA." This innovative demonstration project is helping countries that experience sustained high average outside temperatures to evaluate whether commercially-available alternatives and technologies are effective solutions for their climate zones, and if not, what solutions are needed.

The PRAHA project, which is financed by the Multilateral Fund for the Implementation of the Montreal Protocol, started in 2013 and its first stage completed successfully in 2016 with very promising results in terms of refrigerants with lower global warming potential (GWP) refrigerants that could be alternatives for air-conditioning applications in HAT operating conditions. However, some gaps and issues were identified that must be overcome in order to facilitate the introduction and deployment of alternatives to industry and markets in the concerned countries.

Through cooperation with the Japan Refrigeration and Air-Conditioning Industry Association (JRAIA), UN Environment and UNIDO started to build a first-of-its-kind model for assessing the risks associated with the use of lower flammability (A2L) refrigerants, with a special focus on logistics, i.e. installation, operation, servicing and decommissioning of applications. The model is

based on a scientifically-validated methodology developed by JRAIA and its local partners that combines field data analysis and simulation of hazards related to flammable refrigerants.

To start building the model, UN Environment convened a special expert's meeting from 31st July – 1st August 2018 in Cairo to discuss, review and comment on the data collection methodology designed. The meeting was attended by selected experts from the air-conditioning servicing and firefighting sectors, and including participation of two members from the Montreal Protocol Refrigeration Technical Options Committee and members of the Halons Technical Options Committee, as well as research institutes experts, servicing sector expert and National Ozone Officers from Egypt and Kuwait. JRAIA experts joined the meeting through web-conferencing during the two days. The meeting built clarity and better understanding about the model suggested by JRIAA before the next step, when the participation of the group will be expanded to include other regional research institutes.

The process of building the *Risk Assessment Model for Flammable Refrigerants* started with an international roundtable meeting on the same topic hosted by Kuwait in October 2017.

UN Environment and UNIDO are also working to build another parallel model for HAT countries addressing flammable (A3) refrigerants in cooperation with China, given that country's expertise and knowledge about R-290 (i.e. hydrocarbon) refrigerants. The *Risk Assessment Model for Flammable Refrigerants* is a lengthy process that starts by data collection moving to analyzing and build risk scenarios and concluding by steps and actions for safe practices at different levels of interaction with applications that operate with flammable refrigerants.

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