

Workshop on energy efficiency opportunities while phasing-down hydrofluorocarbons



Session 1 Questions from the Mobile App

1. Is it possible that energy efficiency has a much higher impact than refrigerant phasedown? What advice do you have so that this higher impact might be captured and synergized with the phasedown rather than take over the agenda completely.

Energy efficiency has a much higher impact on emissions reductions than the reduction in emissions due to low global warming potential (GWP) refrigerants. While the HFC phasedown is mandated by the Kigali Amendment a higher impact of energy efficiency related emissions will be captured by setting minimum performance standards, applying labeling and financial assistance through a number of instruments.

2. At what point do energy efficiency opportunities for RAC diminish? In developed countries we have 60% improvement over 20 years. Don't we need focus on 1) technological change, 2) improvements in A5 countries at point of sale & 3) focus on improvements in installation & service?

Even in developed countries there is still a great deal of opportunity for cost effective energy efficiency. Consumers are only buying products that are a third to half as efficient as the most efficient products available today. There is even more potential in A5 countries and this is a good time to introduce efficient appliances because only a small percentage of households have them and if they buy inefficient appliances now they will be locked in to high energy bills for several years.

3. Are the reduction scenarios shown based on already available energy-efficient equipment or does it assume new technological development? (on presentation by IEA)

The 44% reduction attributable to energy efficiency in the Sustainable Development Scenario presented by the IEA is based on existing, cost effective technologies that are economically viable.

4. Super efficient air conditioning appears to be associated with equipment using R290. What safety standard was used in the public procurement process? The international safety standard is not complete, so couldn't future compliance be more expensive?

Refrigerant change will never give super efficiency. Future compliance with the standard could be more expensive or not, depending on what the standards will prescribe or where they will put limits.

5. HFC current emissions are of the same order as HFC produced annually. About 1400 Mt CO₂ eq per year. How can this be considered insignificant compared to 2000 Mt CO₂ / y mitigation expected from EE by 2050?

Emissions are very relevant, and 1400 Mt CO₂-eq are not insignificant. The differences between various refrigerants will be small, not the absolute magnitude.

6. To IEA presenter: What would the consequences be of expected future cooling growth while disregarding energy efficiency aspects for peak use and electricity supply?

Without new energy efficiency policies energy demand for cooling could triple by 2050 according to IEA analysis and in even today in some countries cooling accounts for more than 70% of peak load which is very expensive to supply.

7. Mobile cooling accounts for close to a third of cooling emissions and is growing rapidly; it is also fuelled primarily by diesel adding another challenge - do we need integrated strategies to deliver clean mobile cooling alongside space cooling?

Might be useful, but an integration of stationary and mobile cooling is not yet considered. It is more likely that electric vehicles will need to be developed with small needs for cooling.

8. Will India recognize international safety standards?

Yes, India takes into account the international standards in developing its national standards.

9. How do you see role of district cooling for delivering energy efficient cooling? Especially given new urban growth?

Dependent on the location and the way new urban planning is done, district cooling can give a substantial contribution to emission reductions.

10. End user like to pay what they see, how do you convince them to pay for the future benefit (i.e. if the benefit will only be realised between 1 - 3 years)?

If a payback period can be realized between 1-3 years, national campaigns to encourage consumers to buy highly energy efficient products can be effective. Specific consumer groups may be targeted with specific messages on benefits and payback periods.

11. Does energy efficiency in appliances lead to more material usage like copper etc? Should we add additional CO₂ (e.g. in energy saving calculations) on account of additional material usage?

Increase of energy efficiency may lead to higher material usage or more components, or more electronics, which will add to cost. The lifetime costs related to energy consumption are many times higher than any energy involved in manufacturing extra components.

12. It was mentioned that the world is now using 13 % less energy, is it possible to further break it down to regions as this will assist to take appropriate action?

This analysis is available from the IEA for a range of countries and regions.