

Cooling and HFC Lifecycle Management Assessment for ASEAN

Presented by:

Albert Magalang

Climate Change Service

Department of Environment and Natural
Resources

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Partners and Implementing Agencies



**CLIMATE &
CLEAN AIR
COALITION**
TO REDUCE SHORT-LIVED
CLIMATE POLLUTANTS











IGES
Institute for Global
Environmental Strategies



E&E Solutions Inc.

The Climate and Clean Air Coalition (CCAC)

- voluntary partnership of governments, intergovernmental organizations, businesses, scientific institutions and civil society organizations
- committed to improving air quality and protecting the climate through actions to reduce short-lived climate pollutants.

 <p>Heavy-Duty Vehicles Black carbon</p>	 <p>HFC Hydrofluorocarbons (HFC)</p>
 <p>Oil and Gas Black carbon Methane</p>	 <p>Household Energy Black carbon Tropospheric ozone</p>
 <p>Waste Black carbon Methane</p>	 <p>Agriculture Black carbon Methane</p>
 <p>Bricks Black carbon</p>	 <p>Efficient Cooling Black carbon Hydrofluorocarbons (HFC)</p>

Efficient Cooling

Improving energy efficiency in the cooling sector

The Efficient Cooling Initiative's overall objective is to catalyse action on efficient cooling to double the climate benefit of the Kigali Amendment HFC phase-down alone.

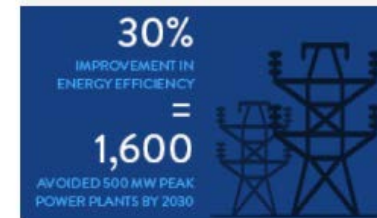
Emissions from air conditioning and refrigeration are expected to rise 90% from 2017 levels by 2050. This increase would result in emission of 12 GtCO₂e, equivalent to a third of our total emissions in 2017.



There are 1.6 billion residential air conditioners in use today. Without fast action, that number could triple by 2050 requiring USD \$3.2 trillion in power generation.



A 30% improvement in energy efficiency of room air conditioners can save enough energy to avoid building up to nearly 1,600 500MW peak power plants by 2030, and up to 2,500 by 2050.



The Efficient Cooling Initiative is focusing on:

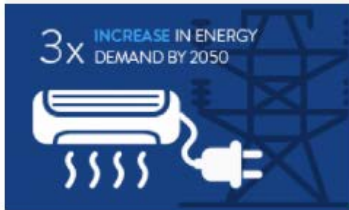
- **High-level events to raise awareness on the need to improve energy efficiency, on efficient alternatives and technologies and market transformation, and on additional resources to enhance the energy efficiency of cooling equipment**
- **Technical activities, aiming at disseminating best practices and lessons learned and increasing communication between important actors in the cooling sector**

HFC

Promoting HFC Alternative Technology and Standards

This initiative targets governments and the private sector to address rapidly growing HFC emissions, which could account for as much as 19% of carbon dioxide (CO₂) emissions by 2050, if left unchecked.

Global energy demand from air conditioners is expected to triple by 2050, requiring new electricity capacity the equivalent to the combined electricity capacity of the United States, the EU and Japan today



The global stock of air conditioners in buildings will grow to 5.6 billion by 2050, up from 1.6 billion today – which amounts to 10 new units sold every second for the next 30 years



Combining the phase down of HFC production and consumption with energy efficiency gains in cooling is expected to double the anticipated CO₂-e savings, avoiding as much as 1°C of global warming



The HFC Initiative supports

- the development of HFC inventories and studies,
- information exchange on policy and technical issues
- demonstration projects to validate and promote climate-friendly alternatives and technologies
- capacity-building activities to disseminate information on emerging technologies and practices to transition away from high-GWP HFCs and minimize HFC leakages.

Cooling and HFC Lifecycle Management Assessment for ASEAN

Objectives:

- To assess the needs/gaps/opportunities of efficient cooling, including HFC life-cycle management
- To study and propose recommendations on how the ASEAN community as well as individual ASEAN member states could work together to reduce HFC emissions, improve energy efficiency and implement F-gas life-cycle management in the context of the Montreal Protocol and Paris Agreement

Target Stakeholders

- Country stakeholders
 - NOU: Government agency with jurisdiction on Montreal Protocol (National Ozone Unit)
 - CC: Government agency with jurisdiction on UNFCCC/Paris Agreement (e.g. National Designated Authority)
 - EE: Government agency with jurisdiction on energy efficiency
 - AWGCC: ASEAN Working Group on Climate Change focal points
 - ACE: ASEAN Centre for Energy country focal points
- Selected international organizations
 - Such as ASEAN Secretariat (Environment and Energy), Ozone Secretariat, MLF Secretariat, UNFCCC Secretariat, K-CEP, GIZ, UNEP OzonAction, UNDP, UNIDO, World Bank, among others

Implementation plan

1	Desktop survey To collect information from journals, reports or any published documents
2	Questionnaire survey (each target country) By email or telephone communication with the respective target countries
3	Interview survey <ul style="list-style-type: none">• Each target countries: By web online meeting with the respective target countries• International organizations : By web online meeting with the selected international organizations
4	Draft report <ul style="list-style-type: none">• To draft a report on the assessment of efficient cooling and HFC lifecycle management needs and opportunities in ASEAN, based on the results of 1st~4th steps• To share the draft report to the country stakeholders for review and comment
5	Final report <ul style="list-style-type: none">• To finalize the report upon receipt of comments from the country stakeholders



Thank you.