

LINKING THE KIGALI AMENDMENT AND ENERGY EFFICIENCY IN THE DEVELOPMENT OF THE NATIONAL COOLING ACTION PLAN

PROJECT: Enhancing Energy Capacities of the Philippines



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1. OVERVIEW: Why does COOLING warms our planet?
2. INTRODUCTION: Where are we in the COOLING sector?
3. SIGNIFICANCE: What links global SDG and COOLING?
4. NCAP METHODOLOGY: How does COOLING Plan works?
5. RESULTS: Will efficiency address the COOLING demand?
6. WAY FORWARD: What's next with sustainable COOLING?



1. WHY DOES COOLING WARMS OUR PLANET?

1 Direct Impact:
REFRIGERANT LEAK

2 Indirect Impact:
ENERGY CONSUMED

2. WHERE ARE WE IN THE COOLING SECTOR?

3.4 Billion

*GLOBAL RESIDENTIAL COOLING UNITS

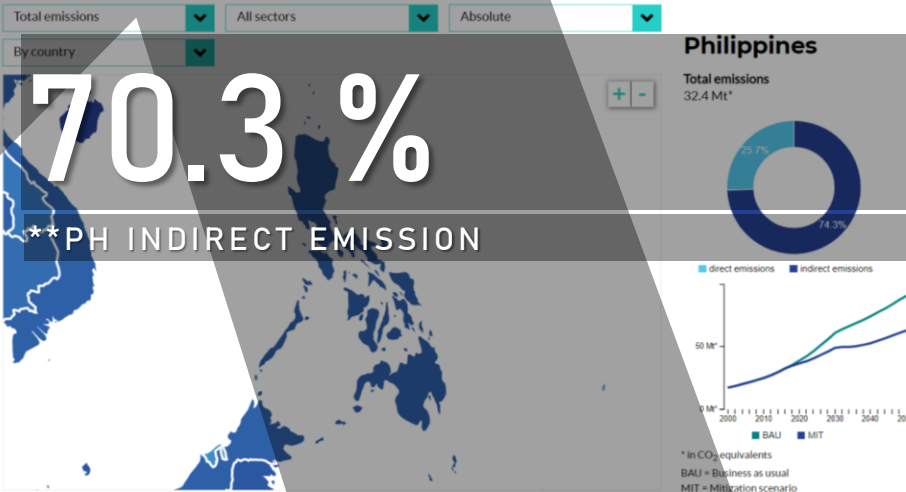
9,960 MT

**GLOBAL TOTAL COOLING EMISSION BY 2050

6,200 TWh

*GLOBAL ENERGY USE IN COOLING BY 2050

Total emissions of cooling sector



*IEA, The Future of Cooling, OECD/IEA 2018, 59-61

**<https://www.green-cooling-initiative.org/country-data#total-emissions/all-sectors/absolute>

2. WHERE ARE WE IN THE COOLING SECTOR?

3,473 MODELS

*Certified RAC Products by DOE in 2020

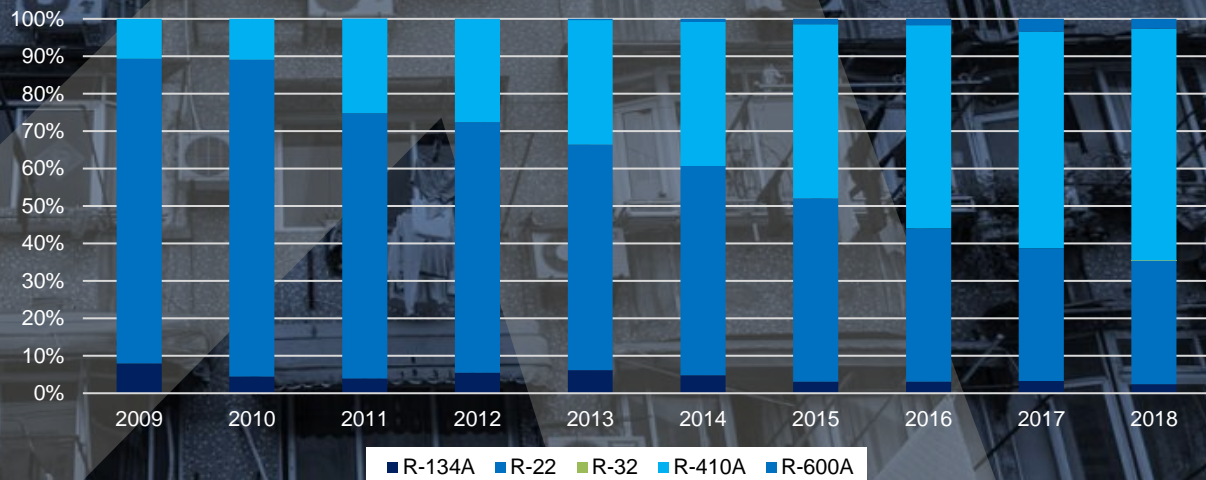
71.9 % OUT OF 2,463 AC

*Certified Room Air Conditioners | Imported

12.3 MT

**PH Total RAC Emission by 2030

***RAC Product Refrigerant Market Profile

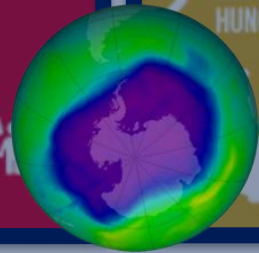


*DOE, https://www.doe.gov.ph/sites/default/files/pdf/energy_efficiency/certified_rac_split_2020_1st_quarter.pdf

**<https://www.green-cooling-initiative.org/country-data#!total-emissions/all-sectors/absolute>

***PH NCAP, 2021 Draft National Cooling Plan

3. WHAT LINKS GLOBAL SDG AND COOLING?



1

MONTREAL PROTOCOL
One of the most successful treaty



2

UNDP
United Nations Development Programme



3

CLEAN COOLING COLLABORATIVE
Previously branded as Kigali Cooling Efficiency Program (K-CEP)

4. HOW DOES COOLING PLAN WORKS?

COLLECTION,
REVIEW AND
DATA ANALYSIS

DESK REVIEW
OF COOLING
SECTOR

STAKEHOLDERS
& PARTNERS
CONSULTATION

NATIONAL
COOLING
ACTION PLAN

*STAGE I

PLAN & CONTEXTUAL
ASSESSMENT

1 COUNTRY MAPPING
Cooling landscape

2 PLANNING & PRE-WORK
Guiding components

*STAGE II

COOLING DEMAND
ASSESSMENT

3 RAC SECTOR DEMAND
Data-driven assessment

4 RAC SECTOR SOLUTIONS
Sector-wise analysis

*STAGE III

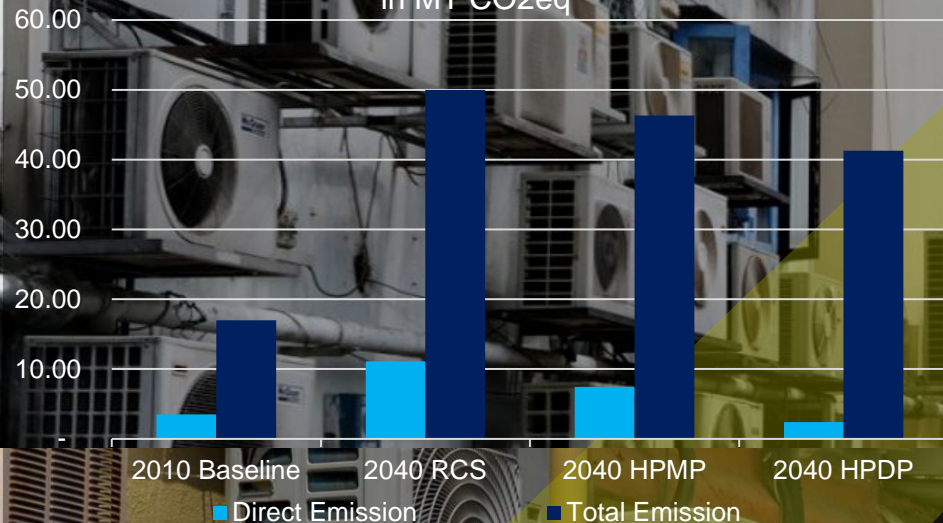
SYNTHESIS AND
NCAP CREATION

5 INTEGRATION
Sectoral synergies

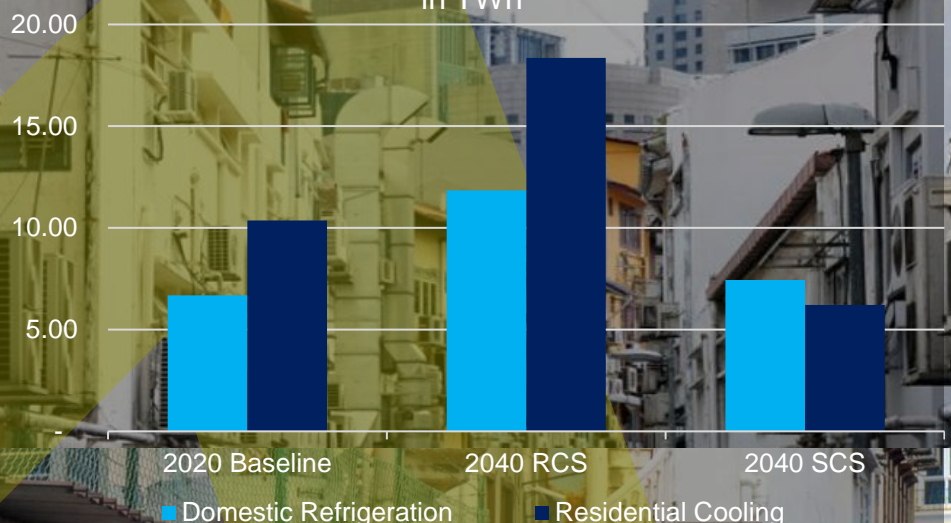
6 RECOMMENDATIONS
Impacts and priorities

5. WILL EFFICIENCY ADDRESS COOLING DEMAND?

RCS and SCS Direct Emission Comparison
in MT CO₂eq



RCS and SCS Energy Consumption Comparison
in TWh



The reduction in direct emission and energy savings projections in TWh comparing RCS and SCS are presented above. RCS already considers the 4 percent energy savings based on the DOE energy outlook while SCS further adopts the full implementation of MEPP. With these assumptions on RCS and SCS, the domestic refrigeration sector will save 4.41 TWh while residential cooling sector will save as much as 12.15 TWh.

6. WHAT'S NEXT WITH SUSTAINABLE COOLING?



Based in the Philippines NDC targets, the country's projected business-as-usual cumulative economy-wide emission is 3,340.3 MT CO₂ equivalent for '20-'30. This is 75 percent target GHG emission reduction and avoidance by 2030 as committed to the Paris Agreement. Out of this target, 72.29 percent is "conditional" or contingent upon the support provided by developed countries while the remaining 2.71 percent is "unconditional" or shall be implemented mainly through domestic resources. The SCS net effect is close to 12 % of the unconditional NDC target of the country.

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