The Advanced Cooling Market Tracker: Monitoring deployment of climate-friendly cooling technology worldwide

Brian F. Gerke
Lawrence Berkeley National Laboratory

Gabrielle Dreyfus
Institute for Governance and Sustainable Development

EEDAL – 13 September 2017 – Irvine, CA
The Kigali Amendment to the Montreal Protocol phases out high-GWP refrigerants in favor of lower-GWP alternatives.

<table>
<thead>
<tr>
<th>Refrigerant</th>
<th>Type</th>
<th>Ozone depleting</th>
<th>GWP*</th>
</tr>
</thead>
<tbody>
<tr>
<td>R22</td>
<td>HCFC</td>
<td>Yes</td>
<td>1810</td>
</tr>
<tr>
<td>R410A</td>
<td>HFC</td>
<td>No</td>
<td>2090</td>
</tr>
<tr>
<td>R32</td>
<td>HFC</td>
<td>No</td>
<td>675</td>
</tr>
<tr>
<td>R290</td>
<td>HC</td>
<td>No</td>
<td>&lt;4</td>
</tr>
</tbody>
</table>

* 100-yr CO₂ equivalent values
Coupling refrigerant transition with increased cooling efficiency can significantly boost the impact of Kigali.

Xu et al. 2013

Shah et al. 2015
In 2016, the Clean Energy Ministerial launched the Advanced Cooling (AC) Challenge.

A challenge to governments, companies, and other stakeholders to develop and deploy at scale super-efficient, smart, climate-friendly, and affordable cooling technologies that are critical for prosperous and healthy societies.

http://www.cleanenergyministerial.org/Our-Work/CEM-Campaigns/AC-Challenge
The AC Challenge brings together governments, NGOs, and industry.
To help achieve its goals, the AC Challenge has launched the Advanced Cooling Market Tracker.

To achieve the goals of the Challenge, policy makers and big buyers need to know:

• What are the most efficient air conditioners available?
• What refrigerant do they use?
• How much do they cost?
• What features do they have?
• How is the AC market evolving?
The Advanced Cooling Market Tracker gathers and combines online data to track cooling markets.
IDEA: International Database of Efficient Appliances

• An ongoing LBNL initiative.
• The data engine for the AC Market Tracker.
• Collects and collates model-level data from a wide range of online sources.
• A unified database with fully normalized attribute naming conventions.
• Fully cross-referenced against government certification databases.
• Regular data updates are easy to perform.
• Data fully archived to enable future retrospective analyses.
• Enables price tracking, benchmarking, monitoring of policy impacts.
• Flexible data framework can be applied to any energy-consuming product.
The initial focus of the Advanced Cooling Market Tracker is on ductless room ACs (mini-splits).
Demonstration of the Advanced Cooling Market Tracker

• The AC Market tracker is kindly hosted by the International Energy Agency, which is also host to the CEM secretariat.

• The AC Market Tracker is now live at www.iea.org/cem/AC-Challenge/
Continued and ongoing data collection can enable additional applications in the future.

- **Market tracking and benchmarking:** View time-series plots of market indicators.
  - Median and best-on-market efficiency.
  - Penetration of low-GWP refrigerants or variable-speed technology.
  - Compare to other countries or to the top-performing market.

- **Facilitating efficient procurement:** View a filterable list of AC models, with links to online retail or manufacturer websites.

- Need to develop an access model that will yield support for long-term data collection and maintenance of the tool.
THANK YOU!

Check out the tracker at
http://www.iea.org/cem/AC-Challenge/

Brian Gerke
Lawrence Berkeley National Laboratory
bfgerke@lbl.gov
BACKUP SLIDES
The AC Challenge.

Building on work in the CEM's Super-efficient Equipment and Appliance Deployment (SEAD) initiative, the AC Challenge is providing this resource to facilitate policymakers, industry, consumers and other stakeholders to have better information of cooling product markets globally. Currently the tool includes information on single-zone residential ductless mini-split air conditioners.

START

For more information click here
Saudi Arabia

This map is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.
China

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Improving cooling efficiency is also critical for future grid reliability.

Delhi State Load Dispatch Center 2012

compiled in Shah et al. 2015