



IIR Working Party

Life Cycle Climate Performance Evaluation

Meeting Minute

Sixth Meeting at Chicago on January 27, 2015

1. Presentations:

1.1 Low-GWP Refrigeration Programs and Research: A California perspective by Ed Cheng (San Francisco State University)

- CA Agencies With Regulatory Oversight Over Commercial Refrigeration
- CA Title 24, Part 6: Building Energy Efficiency Standards, Section 120.6, subsection (b): Mandatory Requirements for Commercial Refrigeration
- IIR LCCP evaluation methodology can guide and validate SFSU / ARB efforts

1.2 LCCP WP Overview and Draft LCCP Guidelines by Sarah Troch and Yunho Hwang (University of Maryland)

- Draft version of LCCP guideline was presented.
- The drop-in LCCPs of R-32, L-41a, DR-5 and R290 have been investigated as the alternative low-GWP refrigerants to R-410A cooling system.
- Energy Consumption is the main contributor to total lifetime emissions (from 87.6% to 98.7% of total emissions in this example).
- The most effective way to reduce emissions is to increase the energy efficiency of the unit.
- Not enough information is available for adjusted GWP values.
- LCCP equation can be much simplified when disregards negligible emission parameters.

2. Future Works:

- LCCP reevaluation at same system capacity.
- Sensitivity studies will be conducted aimed at reducing the complexity of the equations for different GWP refrigerants.
- Expand sample calculations to other applications and regions.
- Collect public comments
- Finalize and publish LCCP guidelines by this summer.

3. Discussions and Comments

- Better to compare LCCPs with same system capacities >> Agreed and will conduct LCCP evaluations based on same capacities
- How to reflect system design issues in efficiency? Environmental performance of systems can be optimized based on cost. >> We would like to separate system design options as research topic.



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- Some references are very old. Better to update references. >> We will work on it.
- Provide details of energy consumption calculation procedures. >> We will work on it.
- CO₂ emission in power generation: better to use worst value; better to use regional value >> We want to stay on regional value.

4. Next Meetings

Our next meeting is suggested in conjunction with International Congress of Refrigeration in Japan in August, 2015.

Contacts for Membership in this WP

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