

30th June 2020 - 14.00 (CEST)

Test Methods for Residential Air Conditioners

Towards a better way to measure the performance of inverter technologies

1. Agenda

- 00.00 Introduction & Background**
John Cymbalsky, United States Department of Energy
- 0.10 Summary of issues in testing variable capacity air conditioners**
Jessica DeWitt, Cadeo Group
- 0.20 Summary of development activities in EU and North America**
Veerle Beelaerts, European Commission
Kimberly Curran, NRCAN Canada
Catherine Rivest, United States Department of Energy
- 0.50 Benefits and challenges in achieving international alignment**
Rusty Tharp, Goodman Manufacturing, a member of Daikin Group
- 1.00 Q&A Discussion**
- 1.25 Conclusions & Close**
John Cymbalsky, United States Department of Energy
- 1.30 End**

2. Objectives

This webinar aims to bring together governments, technical experts and industry to:

- Alert governments of the issues highlighted in the recently published 4E Report;
- Inform participants of the initiatives and approaches underway in different regions;
- Highlight the need to improve international alignment;
- Discuss potential ways forward.

3. Background

Energy consumed by air conditioning systems has tripled since 1990: no other building end-use is growing as fast. Air conditioning not only makes up a significant and growing share of energy consumption, it is also the primary contributor to peak demand in many geographies.

Across the globe there are numerous governing bodies that currently regulate and test air conditioners (ACs) and more than 60 countries have regulatory requirements on the energy performance of ACs. Inverter technologies are proven, cost-effective strategies with potential to slow the growth of energy consumption and reducing peak demand on electrical systems around the world. Successful deployment of these technologies depends on accurate and repeatable test procedures in order to properly rate competing ACs on a level playing field.

However, the test procedures and metrics established by these different governing bodies often vary, making it difficult to compare the energy performance of ACs across jurisdictions. This can confuse consumers, and

provide misleading drivers for product developers, and increase the testing burden on manufacturers attempting to comply with many different regulatory schemes.

The testing of increasingly popular variable capacity air conditioners (“inverters”) has also presented significant challenges for manufacturers and regulators, and work is underway in several regions to develop advanced methods for testing these products.

Commencing in 2019 and continuing into 2020, 4E commissioned an examination of current test procedures and metrics across its Member countries. The resulting publication identified several recommendations to improve international alignment and better understand the issues around new test methods for variable capacity air conditioners. The report also indicated the importance of international round robin testing as a means to better understand and align any differences in these test methods.

A copy of the 4E Report can be found on the 4E Publications page (<https://www.iea-4e.org/publications>) or downloaded directly from this link: <https://www.iea-4e.org/document/442/domestic-air-conditioner-test-standards-and-harmonization>