

4E

Mapping and Benchmarking Newsletter



Issue 3, October 2010

Welcome to the third issue of the 4E Mapping and Benchmarking newsletter.

In this issue, we discuss:

- The progress of the Annex in terms of product coverage and information availability on the website;
- The policy issues highlighted by the recently completed cold appliances benchmarking exercise; and
- Annex links to other international initiatives.

We encourage you to pass the newsletter on to anyone you think may find it of use, and should they wish to subscribe directly, they can do so by via our website, mappingandbenchmarking.iea-4e.org/newsletter.

Product progress

Since the last newsletter, there has been significant progress in the Annex in laying the foundations for more products to be analysed. Several new product definitions have been developed, which explain how these upcoming products will be mapped and benchmarked. Definitions for washing machines, domestic air conditioners, domestic lighting products, laundry dryers and notebook computers are now available through the Annex matrix (see following article).

Data has also been collected for washing machines and air conditioners, with draft mappings and a first round of benchmarking results completed for both products. Full

benchmarkings are due to be published later this year and soon after, in early 2011, similar documentation will be available for domestic lighting and laundry dryers.

Products to be addressed in the near future include notebook computers, water heaters, refrigerated vending machines and integral retail display cabinets.

Annex Website Upgraded for Easier User Access

The completion of the benchmarking document for the domestic cold appliances product sees the 'switch on' of the mapping and benchmarking matrix (the individual mappings and benchmarking for TV's have just been uploaded too!). This matrix now forms the portal to provide a simple, single access point for all visitors to the Annex website. The matrix allows visitors to access documentation in three ways:

1. By viewing a specific set of outputs for a given product, in a given country;
2. By viewing all outputs for a given product; and finally,
3. By viewing all outputs for a given country.

Only documents that have been cleared for publication will be accessible to the international policy makers, with the remainder requiring a password to access. This early access to Annex material is one of the key benefits of being a participating Annex member. However, as the Annex progresses more of this documentation will become publicly viewable.

You can visit the mapping and benchmarking matrix via the main website (selecting 'outputs' from the menu bar) or by going directly to the link here:

<http://mappingandbenchmarking.iea-4e.org/matrix>

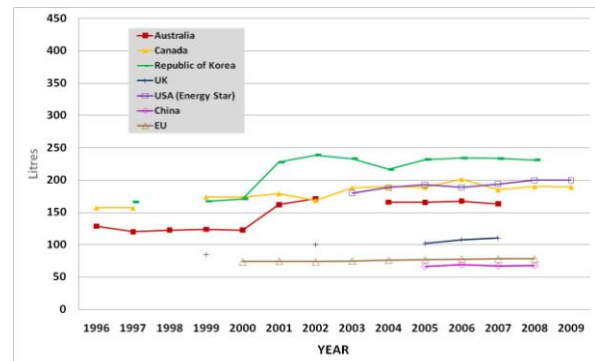
International Benchmarking of the Performance of Cold Appliances Identifies Important Policy Issue

Last month saw the public issue of the first full Benchmarking report from the Mapping and Benchmarking Annex (see <http://mappingandbenchmarking.iea-4e.org/matrix>). The report, on refrigerator/freezer combinations and stand alone freezers, primarily draws upon information supplied by Australia, Canada, China, the EU, Republic of Korea, the UK and the USA, with limited additional information included on Austria, Denmark and Switzerland.

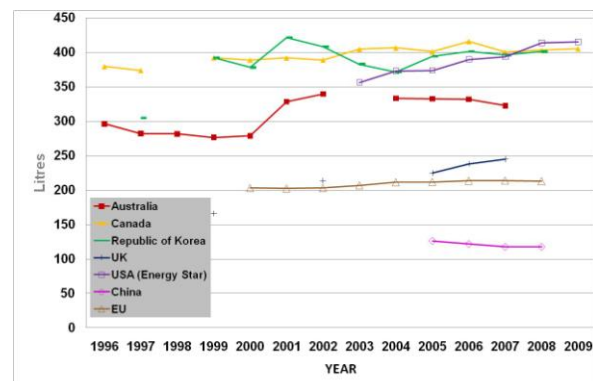
Using fully transparent normalisation techniques to compare products using differing testing regimes¹, the benchmarking report includes observations on significant differences in performance of products between countries, and a series of associated recommendations to Policy Makers including:

- Energy efficiency has been improving in almost all regions over the period for which data is available for both combination and freezer only units. However, for refrigerator/freezer combination units, it appears a significant proportion of the improvement in efficiency may be due to the rapid increase in volume of products (efficiency improves with greater volume). As a consequence, actual refrigerator/freezer product performance may be improving more slowly than it appears. Thus, the use of energy efficiency as the sole

metric for policy development and evaluation may be misleading and may actually lead to perverse outcomes if products are increased in volume (and potentially consumption) simply to improve apparent efficiency. As the control of volume growth is likely not to be possible, policy makers should consider the development of policy based on consumption caps.



Illustrative Average Unadjusted Frozen Compartment Volume in Combination Units (litres)

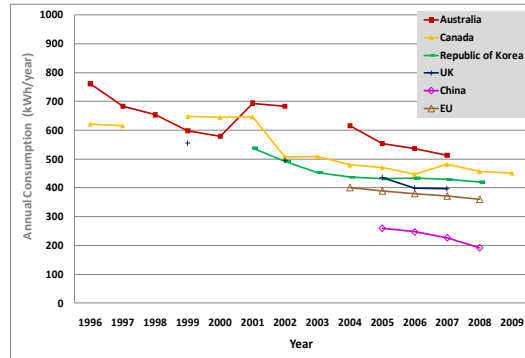


Illustrative Average Unadjusted Fresh Compartment Volume in Combination Units (litres)

- Differences in refrigerator/freezer combination unit energy consumption between countries are relatively small with almost all countries appearing to move towards a plateau of new product energy consumption of 350-400kWh/year. Without strong policy intervention to drive down new product consumption the overall energy consumption of *installed* products will begin to rise rapidly as marginal improvements in the consumption of new products are outweighed by growing household numbers and ownership levels.

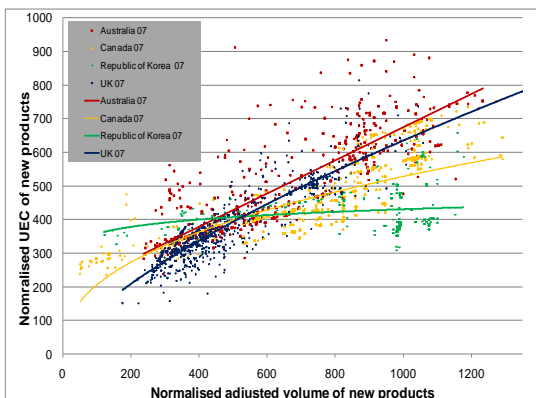
¹ Note: All data shown in this article is normalised.

- The markets where mandatory labelling and/or MEPS were introduced earlier and/or are revised regularly (Canada, Republic of Korea and the USA) tend to be those markets with the better performing products. However, as similar measures have been introduced in the remaining countries, efficiencies are rapidly improving and are beginning to approach those in the better markets.



Indicative Normalised New Product Weighted Energy Consumption (kWh/year)

- Even immediately after the implementation or revision of MEPS, some new products on the market are typically 50% more efficient than the *average* product for sale and even more so than the least efficient. This appears to offer the potential for the imposition of much more aggressive MEPS to overcome the apparent plateauing of improvement in new product energy consumption at a time when the total number of products installed is increasing in all markets.

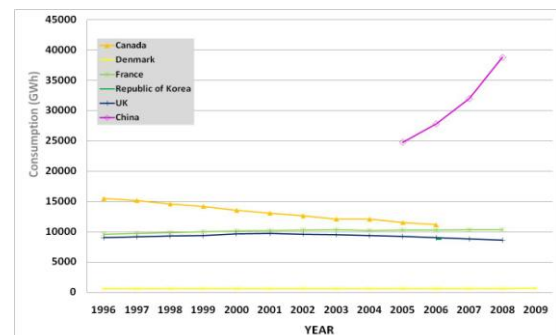


Robust Comparison of Energy Consumption (kWh/year) for Individual Models by Volume (litres).

- The energy consumption of cold appliances caused by the explosive growth in ownership levels in China is vastly outweighing any overall consumption/efficiency gains made elsewhere. This is despite the rapid improvement in the performance of

Chinese products. For refrigerator/freezer combination units in 2006, Chinese consumption was already at 60% of the combined consumption of Canada, Denmark, France, Korea and the UK. Since that point, Chinese consumption has risen by over 35% and is likely to

have surpassed the combined consumption of these nations. However, Chinese ownership levels are still less than one appliance in every four households so consumption will almost certainly continue to grow rapidly and for an extended period even with strong policy intervention. Given this explosive growth in China, and the huge ongoing potential for continued growth before the market begins to approach saturation, any technical or policy support that can be offered in managing this growth in demand would yield very high returns. Therefore, policy makers may wish to consider the value of supporting the China government in actions being undertaken to manage demand.



Illustrative Total Stock Energy Consumption (GWh/year)

The full benchmarking report is now available at <http://mappingandbenchmarking.iea-4e.org/matrix?type=product&id=1>.

Annex Expands Cooperation with Other Initiatives Seeking to Improve Product Performance

The Annex Management Committee is acutely aware of the need for the Annex to cooperate with other initiatives seeking to improve product energy performance around the globe. Such cooperation results in higher quality outputs for all, and most importantly, greater overall impact on policy decisions.

Earlier this year, Davide Minotti (the Annex Chair) signed a Memorandum of Understanding (MoU) on behalf of the Annex with CLASP (Collaborative Labeling and Appliance Standards Program). The MoU identified key areas of collaboration, including peer review of each other's studies, documents and findings for all products that are covered by both programmes.

More recently, at the Clean Energy Ministerial in Washington D.C., Ministers launched the US-led Super-efficient Equipment and Appliance Deployment (SEAD) Initiative. Discussions are now ongoing regarding how the 4E Mapping and Benchmarking Annex might provide SEAD with technical support.

Dates for your diary...

Motor Summit 2010

26-28 October 2010 - Zurich, Switzerland

Mapping and Benchmarking Annex Management Committee and 6th 4E Executive Committee Meetings

2-4 November 2010 – Ottawa, Canada

Annex Management Committee Quarterly Video Conference

February 2011

Mapping and Benchmarking Annex Management Committee and 7th 4E Executive Committee Meetings

16-20 May 2011 – Zurich, Switzerland

International Conference on Energy Efficiency in Domestic Appliances and Lighting (EEDAL)

24-26 May 2011 – Copenhagen, Denmark

European Council for an Energy Efficient Economy (ECEEE) Summer Study

6-11 June 2011 – Toulon/Hyères, France



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More information on the IEA 4E Implementing Agreement, including links to the other Annexes, can be found at www.iea-4e.org.

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