



LoadDown

THE STANDBY POWER NEWSLETTER



Load Down is supported by the International Energy Agency 4E Implementing Agreement.

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This edition of *Load Down* includes

- **Stockholm Workshop**
- **More success from Korea - results of latest evaluations**
- **Regulation Canadian Style**
- **International Standby Update**

Registrations now open for Network Standby Workshop May 7

On the 7th and 8th of May the IEA, 4E Standby Annex and SEAD will host the *Networked Standby Data Collection Methodology and Policy Development Workshop* in Stockholm, Sweden. Workshop participants will include international experts from government, industry and research fields. The workshop is trying to develop a simple and inexpensive way to collect network standby power measurements. One of the keys to addressing standby power problems in stand-alone products was developing a way to measure reasonably accurately and inexpensively stock in electronic retail stores. In that fashion, policy

makers could obtain trend data over time. This workshop is about exploring whether this inexpensive measurement might be possible for network standby equipment as well. Additionally the workshop will investigate requirements for more formal test procedures and discuss what the future possibilities are for networked products.

If you are interested in attending this workshop please contact Vida Rozite (Vida.ROZITE@iea.org) for more information. A draft agenda of the two day program is set out overleaf.

continued overleaf



SEAD



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Monday 7 May

Time	Topic	Speaker
	Welcome and overview	International Energy Agency
14.20	Session 1: Networked standby power consumption - state of the art and future developments	Moderator: Melissa Damnics
	State of the art - quantification of networked standby power consumption	
	ICT related energy use - a systems perspective on trends and growth	Flavio Cucchietti, Telecom Italia
	Future developments in the area of ICT and network-based communication protocols	Susanne Lundberg, Ericsson
	Smart appliances	
	State of the art and pipeline technologies	Jan Viegand, Viegand Maagoe
16.00	Coffee Break	
16.30	Session 2: Long term target for networked standby and how to get there	Moderators: Jan Viegand and Annette Gydesen
	Panel discussion: <ul style="list-style-type: none"> • What should be the long term (5-8 year) target for networked standby? • Which steps are needed to achieve the target(s)? • How should we start? • How do we stimulate designers, manufacturers, software developers to work towards this? • How do we convince stakeholders that we need to take action now? 	Panel: Bruce Nordman, LBNL, Alan Meier, LBNL, Per Döfnäs, Ericsson, Shane Holt, Chairman of 4E Standby Power Annex/Chairman of SEAD network standby working group
17.30	Session 3: Discussion	Moderator: IEA
	End of day 1	

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Tuesday 8 May

Time	Topic	Speaker
	Welcome and summing up from day 1	International Energy Agency
9.20	Session 4: Experiences from countries and programmes	
	Korea	Sanguk Jung, Telecommunications Technology Association
	US including Energy Star	Alan Meier, LBNL
	China	Pengcheng Li, China National Institute of Standardization
	EU networked standby policy development update	Hans-Paul Siderius, NL Agency
	EU Codes of Conduct	Paulo Bertoldi, European Commission DG JRC
10.45	Coffee Break	
11.15	Session 5: Building on lessons learned	
	1-Watt standby Mapping and benchmarking of results	4E Mapping and Benchmarking Annex
	California Low-power mode energy consumption residential survey	Alan Meier, LBNL
12.15	Session 6: Energy management protocols	
	Prioritising energy management protocols in standards for networked products	Bob Harrison, UK expert Bruce Nordman, LBNL Lloyd Harrington, Energyefficient
13.00	Lunch	
14.00	Session 7: Measuring networked standby power consumption	
	PC-based network simulation measurement methodology	Bob Harrison, UK expert Ali Rahbar/Troels Fjordbak Larsen, IT Energy
	Test procedures and protocols – standardisation and international harmonisation	Lloyd Harrington, Energyefficient Bruce Nordman, LBNL
16.00	Coffee Break	
16.30	Session 8: Summing up and discussion	Moderator: IEA
	End of day 2	

More success from Korea – results of latest evaluations

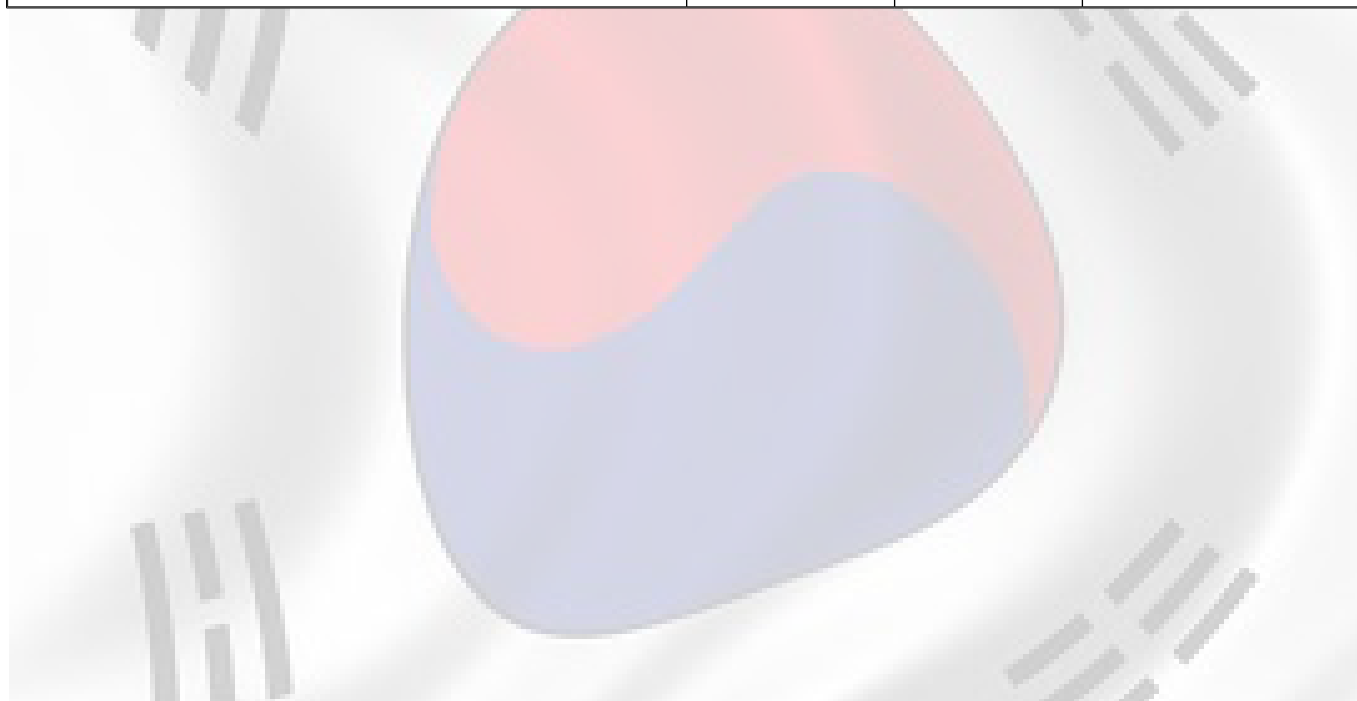
During 2011 KERI (Korea Electrotechnology Research Institute) conducted an evaluation of standby policies by investigating the status of standby power in the residential sector and conducting the annual survey of new products in stores. While the store surveys have been an annual event since 2008, this was the first residential survey undertaken in Korea since 2003. The residential survey measured almost 2000 appliances in 105 households, while 197 new appliances across 15 product categories were measured in a retail store.

Analysis concluded that the 1 Watt standby policy has been a huge

success in Korea with Average standby power per appliance in home decreasing 45% over the last 8 years. Nationwide annual standby energy has reduced 25% comparing the 2011 data with the 2003 survey. This is true despite an overall increase in the number of appliances present in Korean homes. Looking at new products entering the market, the research found over 80% of the appliances on sale in Korea consume less than 1W in standby mode. All of the TVs, PCs, printers (MFDs), washers and cell phone chargers in the market were reported below 1W. The results of the study are summarized in the following table.

The KERI study also reported on the “Challenges for future”, areas where there is likely to be significant standby consumption that is not covered by the current policies. These include Built-in appliances that are purchased by housing companies and pre-installed into new homes, networked & ‘smart’ home electronics and high consuming products such as boilers & set top boxes. More information on the Korean program is available at KEMCO or contact Dr. Nam Kyun Kim (nkkim@keri.re.kr). Dr Kim’s presentation of these results can also be viewed on the 4E Standby Annex site.

Standby index	2003	2011	Comment
Avg. standby power per home	3.66W	2.01W	45% decrease
Avg. number of standby appliances per home	15.6	18.5	19% increase
Avg. annual standby energy (percent of total electricity)	306kWh (10.6%)	209kWh (6.1%)	32% decrease (43% decrease)
Percent of appliances < 1 Watt per home	30%	53%	
Nationwide annual standby energy	4,600GWh	3,470GWh	25% decrease
Nationwide standby electricity bill per year	552B Won	416B Won	Saving 136B Won/yr
Residential standby percent of nationwide electricity use	1.67%	0.80%	Half-cut



Standby Regulation Canadian Style

Canada's new standby power regulations were published in October 2011 and will come into force on April 12, 2012. Passed as an amendment to Canada's Energy Efficiency Regulations, the document establishes minimum energy performance standards for compact audio products, televisions and video playing/recording devices. The regulations apply to household

products only with commercial and professional equipment exempt. Internet radio products and cameras have also been excluded from the regulations. A full description of products that fall within each category, along with all the details of the regulation can be found at <http://oee.nrcan.gc.ca/regulations/amendment11/8495>.

The new regulations will be phased in using a two tier approach. As of April 12, 2012, all products manufactured on or after May 1, 2011 will be required to meet the Tier 1 energy efficiency limits for standby power as shown in the table below. The Tier 2 standards will be applied to products manufactured on or after January 1, 2013. Limits have been set for both off and standby mode power, with products required to meet the respective power limits for both modes when the two modes are present. The amendment also requires the reporting of television in use or active mode power, however this mode is not being regulated at this time.

Tier 1 Minimum Energy Performance Power Limits (May 1, 2011)

Product Type	Off Mode Limit	Standby Mode Limit
Compact audio products	1 W	3 W
Televisions	1 W	4 W
Video products	1 W	3 W

Tier 2 Minimum Energy Performance Power Limits (January 1, 2013)

Product Type	Off Mode Limit	Standby Mode Limit	
		With Display	Without Display
Compact audio products that are not clock radios	0.5 W	1 W	0.5 W
Clock radios	1.0 W	2 W	n/a
Televisions	0.5 W	1 W	0.5 W
Video products	0.5 W	1 W	0.5 W

Network Standby – Moving Forward

Currently there is a lot of activity underway delving into the complexities of networked products: how they function; the effects of this on consumption; the possibilities to accurately measure this consumption; how consumers interact with this new capability; what kinds of technological process are available; and what policy tools will apply.

With so many diverse studies occurring simultaneously, it is difficult to see a clear path forward and how

we are travelling toward the goal of finding appropriate policy solutions and ultimately minimizing energy waste in networked products.

In the next edition of Load Down we will try to explain how the pieces of the puzzle fit together, looking at the results so far, providing an outline of the pathways forward following on

from the Stockholm meetings and provide an insight into the future policy landscape.



International standby Update



4E Standby Annex Update

The 4E standby annex is currently taking on several new projects and addressing the tasks it was set in the 2012-2014 workplan. This includes contracting two new projects, developing a policy briefing on the standby power annex and implementing some improvements to the website. The annex is also constructively working with the IEA in preparing for the Stockholm measurement workshops.

The two projects listed below are in the process of selecting contractors and should be initiated by May.

Mapping functions into modes for common products: This project will document the most common product

designs currently on the market and identify typical configurations and groupings with respect to functions by mode. It provides a sound basis for constructing a comprehensive set of requirements as part of a horizontal approach to standby power.

Power required for functions: This report will document best practice approaches that minimise energy for a range of common secondary functions found in products, especially network functions. Understanding the primary power requirements for various functions will enable best practice levels to be set on a fair basis.

SEAD

The Network Standby Collaboration Group (NSCG) has secured funding for four projects and is planning to contract this work by mid-2012. The projects are:

Standardized Definitions for Network Standby: This project will assess relevant and existing

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definitions for Network Standby and recommend a set of terminology suited to policy development in this area. Development of test procedures and policies addressing network standby is often impeded by definitions that conflict, or are unfamiliar, ambiguous, or ill-defined. This project would compile current definitions in a consistent format and outline the advantages and limitations of each. This compilation would enable technical committees to select the best definitions and incorporate them in future standards and policies.

Televisions and Network Standby: Increasingly new televisions have network connectivity, a feature which is likely to contribute to increased

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Standby Power Website

Have you visited the 4E Standby Power Annex website?

The website provides a valuable source of information for policy makers and technical experts interested in standby power issues. The news feed keeps you updated with the latest standby power events and publications from around the globe. The site also offers a compilation of standby power studies and evaluations and provides links to important relevant data sources and reports. Of course the site also includes all the information regarding the Annex and its work.

<http://standby.iea-4e.org/>

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electricity consumption. Most (perhaps all) TV test procedures and regulations completely ignore network connectivity. This project will assess key issues in addressing network-connected modes for televisions to enable coordinated global policy including test procedures and requirements.

Real world usage of network connected products: This project will investigate how consumers “really” use their network connected products. The study will focus on products which are usually classified as “always-on” such as home gateways or broadband modems. The study will provide insight into the level of network traffic by time of day. If it can be demonstrated that there are regular periods of negligible traffic common to the majority of users, then it should be possible to establish a way to switch these devices into a conventional low power standby mode for that period of time reducing consumption considerably.



Test procedure elements for measurement of network standby power: Without a definitive method of being able to measure the energy consumption of products connected to a network, it is not possible to set program or regulatory requirements. Products with network modes can be measured using the procedure established in IEC62301 Edition 2. However while the standard recognises that network modes exist, it does not establish a standardized approach for how network functions should be activated for measurement. This means that conditions such as the type of network connection(s) and the level of traffic present could vary from lab to lab. This project will work to formalise the test setup requirements for network products to allow consistent and reproducible measurements of products with network functions.

IEA Network Standby Project

The IEA is collaborating with the 4E Standby Annex, SEAD and other related initiatives to coordinate an approach for addressing issues within network standby including involving stakeholders and improving data collection. The IEA intends to produce a network standby policy pathway publication in early 2013 and to hold a series of fact finding and investigative workshops prior to the publication. The first of these workshops is being held in Stockholm in May (see lead article). The IEA project will conclude with an international conference to be held in collaboration with 4E and SEAD in 2013.

Workshop – data collection methodologies	Stockholm May 7-8 2012
Workshop	Late 2012
Policy Pathway	Early 2013
Conference	2013

Next Edition.....

- > **Outcomes from Stockholm**
- > **Standby Power Policy Briefings**
- > **Latest research results**

Send us an email at energyrating@climatechange.gov.au if you have suggestions for topics for the next newsletter (June 2012).



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