IEA/4E/SEAD Network Standby Workshop:
Beyond 1-Watt – Towards energy efficiency in the digital age
16 – 17 September, Paris, IEA

The objective of the workshop is to help future-proof energy efficiency policy-making by providing insights into trends and energy implications of increasing network-connectivity. Focus will be placed on how to limit standby power consumption of network-connected appliances and policies and supporting measures needed to improve energy efficiency. The workshop will also provide an opportunity to discuss wider energy implications of "smart" products and systems and identify new areas where international collaboration could be instrumental in accelerating progress towards energy efficiency.

The deployment and uptake of "smart" network-connected products is growing at a remarkable rate. The capability to access information from and provide information to networks, other products and even electricity providers is rapidly spreading across a range of products. Today 80% of the televisions sold on the US market are able to connect to the Internet. It is expected that by 2015, the "smart" TVs will make up 55% of the global television market. All types of products could potentially have inbuilt network capability. As home automation and networking expands to encompass communications, entertainment, security, convenience and information systems, all types of devices from lamps to games consoles will increasingly be connected to network. Networked homes where a number of appliances and equipment are connected and controlled via a network already exist today. Korea is leading the way in this area with plans to have 10 million network connected homes in the near future. In the US, there are on average 4 network-connected products per household, expected to reach 16 products in just a few years. It is expected that roll-out of smart meters and deployment energy monitoring and demand response solutions will further accelerate the use of network-connected equipment and appliances.

Information communication technologies can provide a range of benefits including enabling energy efficiency across all sectors. However, increased deployment and use of these technologies will also contribute to rising electricity demand. There are considerable energy efficiency opportunities in this area.

One key area of energy waste is inefficient network standby i.e. the energy consumed by products waiting for network signals. In 1999 the IEA launched the 1-Watt initiative which served as a rallying call for governments to ensure that no product draws more than 1 Watt when in standby mode. The plan was endorsed in 2002 by the G8 leaders. Many countries have implemented policies to this effect. However, in absolute terms standby power consumption is increasing due to increased uptake of products and increased network connectivity. Currently, for many network-connected products, maintaining connectivity stops them from powering down to low power consuming standby modes. Projections indicate that globally by 2020, inefficient network standby could account for an energy waste in the order of 550 TWh, which is more than the current yearly electricity consumption of France.

While regulations to limit standby power have a significant impact in some areas, there is an urgent need to address networked products as these become more ubiquitous and not fully addressed in current standby power policies. There is a strong case for government intervention to create the drivers needed for more energy efficient network-connected products and systems starting promoting a market for networked appliances that can power down to low power modes and remain in such modes for as long as possible. Policy developments are underway, notably in the EU, Korea and US. As this is an emerging area of growing importance which concerns globally traded products, there is significant scope for exploring opportunities for international alignment and cooperation.

While improving the efficiency of end-use products is a starting point, further savings can be achieved by systemic approaches. As soon as a product is connected to a network, it is no longer a stand-alone product. Its energy consumption is affected by the network itself and other products on the network. While efficiency can be improved in the end-use product, another device on the network or the network itself may not let the end-use device behave in an efficient way. Achieving energy efficiency potentials requires the engagement of software and hardware producers, product manufacturers, standardisation organisations and service providers.

Energy efficiency needs to be a priority in the development of network systems and products; otherwise there is a risk that rapidly expanding electricity demand will outweigh the savings that these systems could unlock. The workshop is an opportunity for policy makers, researchers, industry, standardisation organisations, service providers and other key stakeholders to meet and discuss key issues that need to be addressed and how progress towards smart and energy efficient products and systems can be accelerated.

International collaboration to tackle excess network standby energy consumption

IEA has, together with the IEA Implementing Agreement for a Co-operating Programme on Efficient Electrical End-Use Equipment (4E) Standby Power Annex, initiated a project to decrease networked standby energy consumption. The project is implemented in close cooperation with the International Partnership for Energy Efficiency Cooperation / Clean Energy Ministerial Super-efficient Equipment and Appliance Deployment (SEAD) Initiative's product collaboration group on network standby.

As part of this collaboration, two international technical workshops have been held. The first workshop in May 2012 explored data collection and policy development, while the second workshop in March 2013 explored how to develop a comprehensive policy framework. In November, the IEA and 4E will, in collaboration with SEAD, publish a book covering on the energy implications of increasing network connectivity and provide guidance on how to tackle the issue of network standby.

16-17 September Workshop

During the workshop, the IEA will present key results and findings from its work on network standby and provide a forum for further discussion on how to move forward with policies and solutions. The workshop will also provide a platform to discuss further forward-looking approaches and mechanisms needed to ensure that our increasingly smart and connected homes and workplaces are energy efficient. The conference will provide an opportunity to get insights into current and planned policies and discuss the supporting framework needed for policy development and effective implementation. It will also provide an opportunity to identify areas related to information communication technology and network energy consumption that require further attention.

The 16 September will start off with an overview of existing policies and initiatives followed by a discussion of key issues that need to be addressed to further efficient network standby and ensure that the pre-requisites for effective policy-making are in place. The morning of 17 September will be devoted to discussing opportunities and mechanisms for international collaboration and exploring further energy efficiency opportunities within a "smart" and network-connected world.

The afternoon of 17 September will be held together with the IEA Energy Efficiency Working Party and will be dedicated to high-level discussions on the energy implications of increased network-connectivity. It will be an opportunity to gain an insight into trends and developments in regard to information, communication technologies, smart homes and appliances and energy implications. It will also provide a platform for discussing approaches underway and further measures needed, as well as to explore opportunities for international cooperation and how both international organisations and national governments can ensure that "smart" really is efficient.

Participation is by invitation only. There is no participation fee. Please contact Vida Rozite at the IEA Energy Efficiency Unit for more information – vida.rozite@iea.org.

The afternoon session on 17 September is a stand-alone session.
It is possible to participate for both days including the session or just the afternoon session.
Please register your interest (vida.rozite@iea.org) by 22 July to receive the updated agenda and background papers.
Registration deadline for participation is August 16.

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Draft agenda (updated agenda will be sent out in July)

16 September

	Moving forward with a policy framework for network standby
9.00 - 9.30	Introduction and objectives
9.30 – 11.00	Existing and planned policies - European Union - Korea - US Round table discussion
11.00 – 11.30	Coffee break
11.30 – 12.30	Focused discussion on definitions and how to move forward to standardised definitions
12.30 - 13.30	Lunch
13.30 – 14.30	Test procedures – approaches and scope for alignment A repository of test procedures
14.30 – 15.30	Data collection – approaches and methodologies
15.30 - 16.00	Coffee break
16.00 – 17.00	Guiding principles and integrating energy efficiency in the value chain
17.00 – 18.00	Technology standards and communication protocols that support energy efficiency and policies

17 September

9.00 - 10.30	Scope and mechanisms for regional and international collaboration Creating a global brand for action to improve the efficiency of network standby
10.30 - 11.00	Coffee break
11.00 - 12.30	Beyond network standby – energy efficient networked products and systems Smart homes, demand response, smart meters
12.30 - 13.30	Lunch

17 September 13.00 – 18.00 Joint high-level policy workshop

13.30 - 14.00	IEA welcome and introduction
14.00 – 14.30	Network standby - state of the art
14.30 – 15.30	Planned and existing policies and measures
15.30 – 16.00	Coffee break
16.00 – 17.00	Moving forward – scope and mechanisms for international cooperation Global call for action
17.00 – 18.00	Beyond network standby – further energy implications and challenges that need to be addressed