

G20 ENERGY EFFICIENCY ACTION PLAN: Networked Devices



Report to G20 Energy Sustainability Working Group, February 2015

In November 2014, G20 leaders endorsed a United Kingdom and International Energy Agency (IEA) led initiative on networked electronic devices as one of the six work streams of the **G20 Energy Efficiency Action Plan: Voluntary Collaboration on Energy Efficiency**.

This briefing provides a summary of the Networked Devices work stream and progress to the end of January 2015.

Work Stream Outline

Devices connected to a communications network can bring significant benefits to the global community, including enabling energy savings through ICT solutions. However, the G20 Action Plan also highlighted the potential for an unintended and significant increase in energy consumption from maintaining a network connection (see short explanatory video: <http://edna.iea-4e.org/about>).

In order to address this issue, the G20 Action Plan established the Networked Devices work stream:

Participating countries will work together to accelerate the development of new ways to improve the energy efficiency of networked devices. In 2015, this work will include consideration of options for goals for reducing the global standby mode energy consumption of networked devices.

This G20 work stream is led by the UK Government's Department of Energy and Climate Change (DECC) and the International Energy Agency (IEA) and will cover all equipment connected to a communications network. The International Partnership for Energy Efficiency Co-operation (IPEEC) is responsible for reporting this work stream to the ESWG.

The focus of the work stream is the minimisation of 'network standby' energy, i.e. the reduction of any energy wastage that directly results from the connectivity of networked devices. As such, it aims to support the energy efficient delivery of the many benefits arising from the network connection of devices.

The work stream will provide a platform for on-going international co-operation involving governments, experts and industry through the Energy Efficient End-Use Equipment Implementing Agreement (IEA-4E) and the Super-Efficient Equipment and Appliance Deployment (SEAD) initiative.

Expected Outcomes

In recognition of the global trade in networked devices, this work stream will engage and co-ordinate governments and industry globally to develop innovative responses to the challenge of energy consumed by networked devices. The Networked Devices work stream will:

- Establish a forum for governments and industries representative of the value chain for connected devices to develop joint initiatives.
- Expand relevant research and share information amongst participants.
- Accelerate the development of product standards for technologies that would enable devices to power down and use less energy when in standby mode.
- Develop policy frameworks to reduce energy consumption of networked devices when in standby mode.
- Consider goals for reducing the global standby mode energy consumption of networked devices.
- Report on progress with these issues and make recommendations to the G20 Summit in Turkey.

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Government and industry stakeholders have already identified the following six promising collaborative initiatives that have the potential to bring about a transformation in the efficiency of networked devices. These initiatives will be investigated during 2015, and could lead to important deliverables by the time of the G20 meeting in Turkey.

- Goal/vision: Identify a realistic but ambitious goal that can help focus government and industry attention on the issue of networked devices.
- IEA Principles for Energy Efficiency in Digital Devices: Develop a set of 'guiding principles' for the design of equipment and networks, and actively promote their adopting amongst industry and standards setting bodies.
- Centre of Excellence: Establish a web-based repository of information on energy efficiency in network devices, which provides open access to the best available up to date information for all interested parties.
- Awards: Explore the potential for awards to incentivize industry to produce more efficient products, and to stimulate improved protocols through awards for standards making bodies.
- Digital Energy Disclosure: Investigate how the ability of networked devices to communicate can be used to provide information on their energy use without contravening privacy requirements.
- Protocols: Identify gaps in the existing landscape of protocols and those that have the greatest potential to enhance energy efficiency.

Liaison with the G20 ESWG

The Networked Devices work stream will provide a report to each of the three meetings of the ESWG throughout 2015, including a final report, through IPEEC. Further involvement in the project by relevant representatives of all ESWG member countries is welcomed.

The final report will identify relevant developments and improvements in understanding relating to the world of connected devices. It will highlight the achievements of this work stream and also identify further opportunities to increase energy savings for consideration by G20 countries.

The Workplan

A detailed work plan has been developed, anchored by the following three workshops during 2015:

- Joint Government/Industry workshop, January 19/20, IEA, Paris
- Government workshop, May 21, Copenhagen
- Joint Government/Industry workshop, June 17/18, IEA, Paris

Representatives of all ESWG member countries are invited to attend these workshops.

Through the IEA, IPEEC, SEAD and IEA-4E, there will be a continual process of engagement to encourage wide participation from G20 governments and relevant industry sectors throughout 2015. During this time, six or so concepts will be developed, which could form potential collaborative initiatives for inclusion in a final set of report recommendations.

The major areas of engagement and development of collaborative initiatives are shown in Table 1.

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Table 1: Key Processes in G20 Networked Devices Workplan

Item	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov
Government/Industry Workshop, Paris, Jan 19/20	█										
Further contact to engage industry and governments		█	█	█	█	█					
ESWG Meeting, Antalya, February 24/25		█									
Progress 6 concepts for collaborative initiatives		█	█	█	█						
Government Workshop, Copenhagen, May 21					█						
ESWG Meeting, Istanbul May 21/22					█						
Government/Industry Workshop, Paris, June 17/18						█					
Report drafting in consultation with IPEEC							█	█	█	█	
Liaison with Turkish, UK and other Advisors									█	█	█
G20 Summit, 15/16 November											█

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Progress to Date

The Networked Devices work stream has made encouraging progress to date, as indicated by the following achievements:

- Establishment of a project *Advisory Group* comprising representatives from DECC, the IEA and SEAD and from the governments of UK, Australia, Netherlands and the USA. This group has held five teleconferences since November 2014.
- Allocation of initial *funding* from IEA-4E & SEAD sufficient to undertake the proposed workplan. Further contributions to extend engagement with more countries and industry are welcomed.
- Appointment of *Project Managers* to provide co-ordination, technical and communications support.
- The establishment of a *network of 300* interested parties including government departments and agencies, key industry players and academics.
- A *two-day workshop* held in January at the IEA in Paris that drew 50 global participants from government and industry that identified:
 - Pathways and actions towards intelligent and energy efficient products and systems.
 - Potential government/industry collaborative initiatives and priorities for inclusion in the G20 project report.
 - Goals for the G20 Network Devices project.

Participating organisations are shown in Table 2 below. The workshop communiqué is attached.

- Project *web presence* for communicating further information on progress at <http://www.iea-4e.org/projects/g20>.
- Development of a project *work plan and communications/outreach strategy* for 2015.
- Initiation of *six collaborative initiatives* that will be investigated and enhanced by government and industry participants (see *Expected Outcomes* above for more information).

Table 2: Participants in G20 Networked Devices Workshop, January 2015

Industry	Government
Alcatel-Lucent International	Australia (Department of Industry)
ARM Holdings	Canada (Natural Resources Canada)
European Committee of Domestic Equipment Manufacturers (CECED)	Denmark (Danish Energy Agency)
Cisco	European Commission
Consumer Electronics Association (US)	France (ADEME)
DELL	Germany (BAM Federal Institute for Materials Research and Testing)
DigitalEurope	Korea (KEMCO)
Ericsson	Netherlands (Netherlands Enterprise Agency)
Information Technology Industry Council	Saudi Arabia (Saudi Energy Efficiency Center SEEC)
Hitachi	Sweden (Swedish Energy Agency)
Hewlett Packard	United Kingdom (DECC)
Intel	USA (Department of Energy)
Japan Electrical Manufacturers' Association	
Osram	Intergovernmental
PACE	IPEEC
Philips	IEA
Power Integrations	Super-efficient Appliance Deployment Initiative (SEAD)
Rockwell Automation	UNEP
Schneider Electric	
Sony Computer Entertainment	
Telecom Italia	
Telecommunications Technology Association	

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Government and industry commence co-operation on G20 networked devices project

50 government officials and industry experts from 13 countries met at a workshop on 19-20 January 2015 in Paris, to commence the process of addressing the global energy efficiency of networked devices.

This workshop was held in response to the [G20 Energy Efficiency Action: Voluntary Collaboration on Energy Efficiency Plan](#) which was released in November 2014. The plan notes that devices connected to a communications network can bring significant benefits to the global community, including enabling energy savings through ICT solutions. However, it also highlights the unintended and significant increase in energy consumption that can arise from maintaining a network connection. This issue is explained in more detail in this [short video](#). The networked devices work stream under the G20 Action Plan states:

Participating countries will work together to accelerate the development of new ways to improve the energy efficiency of networked devices. In 2015, this work will include consideration of options for goals for reducing the global standby mode energy consumption of networked devices.

During the Paris workshop, government and industry participants put forward a wide range of innovative solutions that lead to the improved energy efficiency of networked devices. The workshop canvassed initial ideas and established a process for identifying and developing initiatives suitable for inclusion in a progress report to be tabled at the G20 meeting in November 2015.

Potential solutions span voluntary and mandatory initiatives suitable for both the short and longer terms. Given the timeframe applied by the G20 there was a strong focus in Paris on measures that could be implemented by industry on a voluntary basis.

Following the workshop, the UK Government, as leader of the G20 networked devices project, will canvas wider government and industry views, and develop a pathway for deliverables leading up to and beyond the Turkey G20 meeting to be held in November 2015.

The UK Government will be supported by the International Energy Agency ([IEA](#)), the Energy Efficient End-Use Equipment Implementing Agreement ([IEA-4E](#)) and the Super-Efficient Equipment and Appliance Deployment ([SEAD](#)) initiative. The International Partnership for Energy Efficiency Cooperation ([IPEEC](#)) is tasked with providing the progress report to the G20 in November 2015.

A further government / industry workshop scheduled for 17–18 June 2015 in Paris, hosted by the IEA, will report on progress and refine potential solutions to be included in a report to the G20.

Parties interested in contributing to or receiving updates on these efforts should send an email to info@edna.iea-4e.org. Further information is available from the [IEA-4E website](#).

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