G20 ENERGY EFFICIENCY ACTION PLAN: Networked Devices

PARIS | JANUARY 2015
Key findings of More Data Less Energy & recommendations

Sam Thomas, IEA
Why we care about networked devices?

- Managing energy demand is key to secure sustainable energy systems
- Information communication technology (ICT) electricity demand is growing at a faster rate than overall electricity demand
- Devices (including appliances) in homes and offices are driving this demand
- These provide valuable services, but there are significant energy efficiency opportunities
- Policies can play an important role in creating the conditions needed to accelerate energy efficiency
More Data, Less Energy

Why is this publication useful?
• Explores recent developments and trends
• Focuses on energy implications
• Looks at technologies and solutions
• Provides guidance on policy responses
• Identifies possible roles for range of stakeholders

www.iea.org/etp/networkstandby
Growing electricity demand of ICT

Electricity demand of networks, PCs and data centres

Total ICT energy demand reached 1560 TWh in 2013
Networked devices are driving electricity demand

Networked device electricity demand

ICT electricity demand by segment

- Edge devices and user-premise network equipment: 42%
- Networks: 18%
- Data centres: 21%
- Other: 19%

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<th>Year</th>
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How much could we save?

- Australia, Japan, Korea, New Zealand
- Asia ex. Japan and Korea
- European Union
- United States

**Savings potential**

**Remaining consumption**
Energy management and power scaling

Power scaling matches power draw to work performed

Source: B. Nordman
Everyone has a role to play

How different actors across the value chain can promote energy efficiency

- Drive low-power network standards
- Seed low-power software
- Incentivise service providers to offer low-power solutions
- Ensure availability of low-power IP
- Ensure low-power modes in hardware
- Create awareness with consumers
Devices also need a holiday

Swiss consumer awareness raising campaign

Offez également une pause à vos appareils électroniques. Éteignez-les complètement ou retirez la prise. Ainsi vous évitez des pertes d’énergie inutiles dues au mode veille. Si tous les ménages suisses éteignaient leurs appareils pendant leurs vacances, le gain en énergie se montrerait à la consommation annuelle d’environ 15’000 ménages.

Plus d’informations sur suisseenergie.ch
Examples of policy approaches

- EU
  - Voluntary agreements
  - Mandatory requirements
- Republic of Korea
  - Mandatory and voluntary requirements
- US
  - Voluntary industry led agreement on set-top boxes
  - ENERGY STAR LABEL (also in other countries)
- Switzerland
  - Awareness raising campaigns
Key messages from More Data, Less Energy

• Develop and implement policies to promote energy efficiency
• Strengthen foundations for policy making
  – Standards
• Intensify international cooperation
  – Policy cooperation platform
  – Policy – Industry cooperation platforms