
Maria van der Hoeven, Executive Director, International Energy Agency (IEA)
Didier Houssin, Director of Sustainable Energy Policy and Technology (IEA)

2 July 2014
The global energy footprint of ICT is large and growing

Electricity demand of networks, PCs and data centres

Total ICT energy demand reached 1560 TWh in 2013

Electricity demand of ICT is growing at a much faster rate than overall electricity demand
Connected devices are driving ICT energy demand

Network-enabled device electricity demand is growing at a rate of 6% per year
How much could we save?

- Savings potential
- Remaining consumption
Where are the big savings opportunities?

Example of energy consumption of a game console model

Some devices use most of their electricity just to maintain connectivity.
Energy management and power scaling

Power scaling matches power draw to work performed

Source: B. Nordman
What can we do?

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

Standard development organisations

Intellectual property providers

Ensure availability of low-power IP

Ensure low-power modes in hardware

End product

Service provider

Consumers

Create awareness with consumers

Everyone has a role to play in enabling the development and uptake of energy efficient solutions
Policy options and technical foundations

- **Policy approaches**: energy requirements, voluntary agreements, endorsement of best performers, consumer awareness campaigns

- **Technical foundations**: standards (testing and measurement, network architecture) and communication protocols
Devices also need a holiday

Swiss consumer awareness raising campaign

Savings of 65 GWh just by turning devices off for 4 weeks
Policy examples

- **EU**
  - Voluntary agreements
  - Mandatory requirements

- **Republic of Korea**
  - Mandatory and voluntary requirements

- **US**
  - Voluntary agreement on set-top boxes
  - ENERGY STAR LABEL

- **Switzerland**
  - Awareness raising campaigns
IEA digital energy efficiency initiative

- Develop and implement policies to promote energy efficiency
- Strengthen foundations for policy making
  - Standards
- Intensify international cooperation
  - Policy cooperation platform
  - Policy – Industry cooperation platform
More Data, Less Energy

Making Network Standby more Efficient in Billions of Connected Devices

Free download and access to graphs and further information: www.iea.org/etp/networkstandby

More information about 4E activities: www.iea-4e.org