

More Data, Less Energy: Making Network Standby More Efficient in Billions of Connected Devices

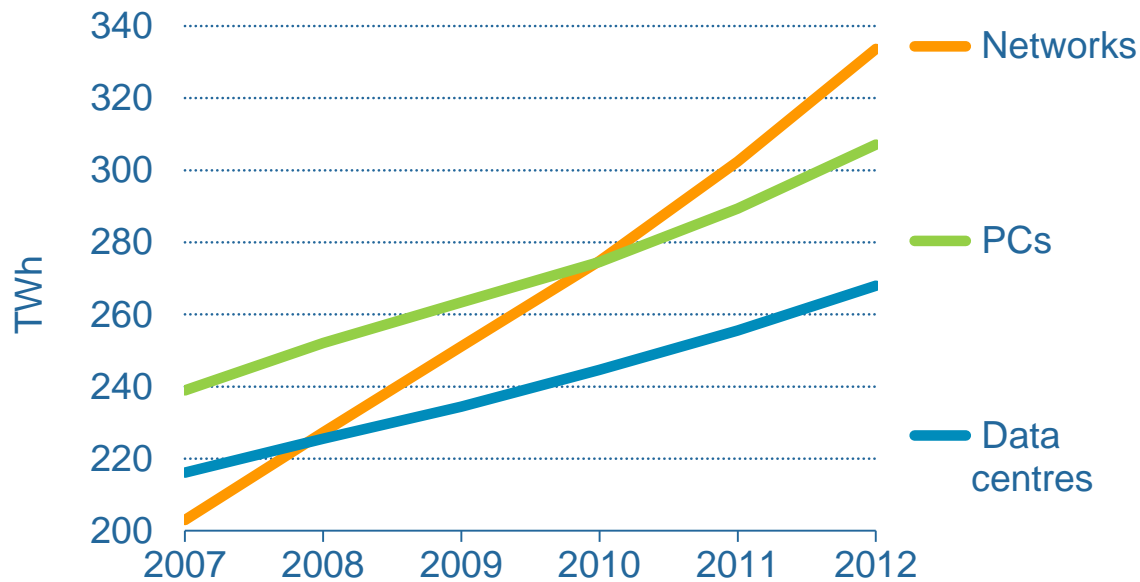
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The global energy footprint of ICT is large and growing

Electricity demand of networks, PCs and data centres

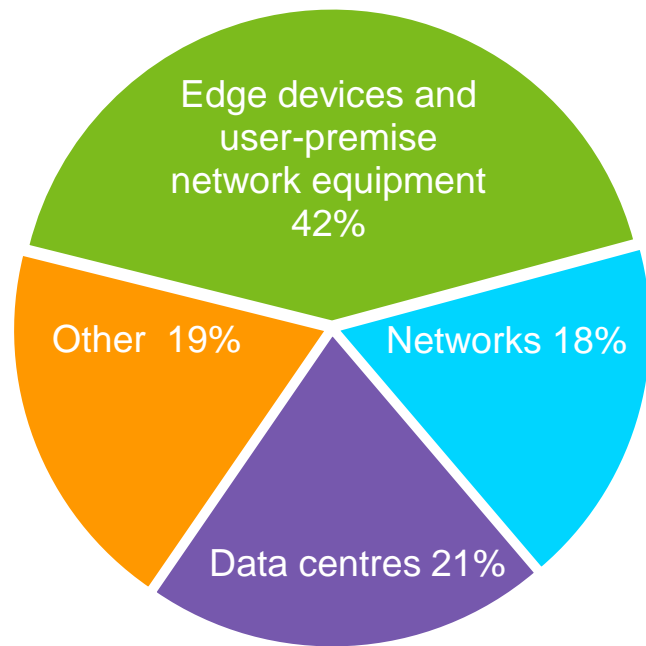


Total ICT energy demand reached 1560 TWh in 2013

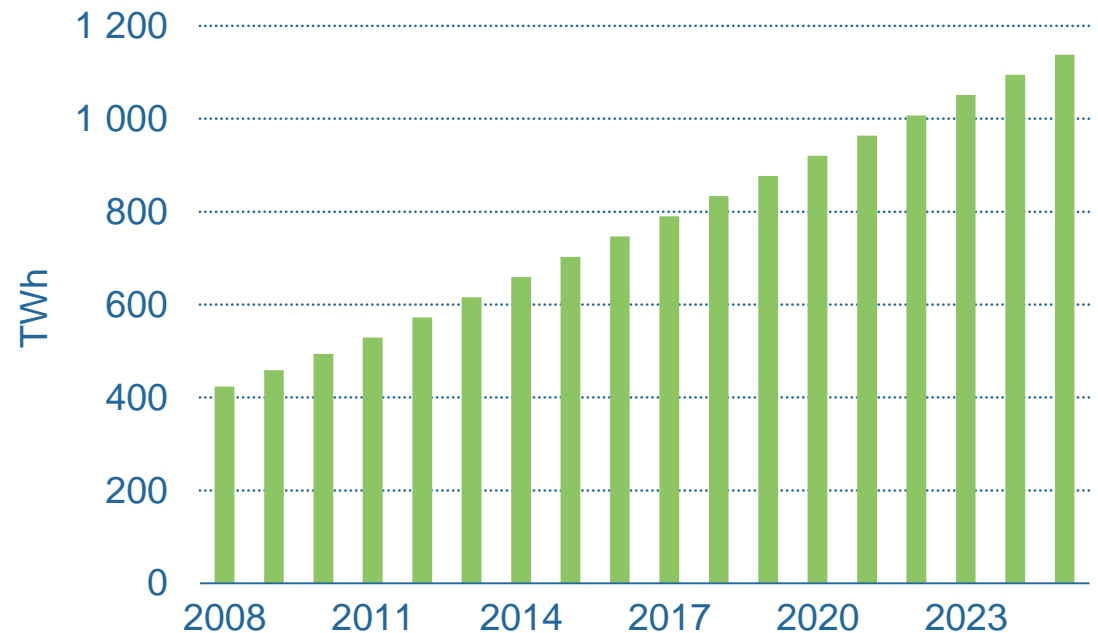
Electricity demand of ICT is growing at a much faster rate than overall electricity demand

Connected devices are driving ICT energy demand

ICT electricity demand by segment

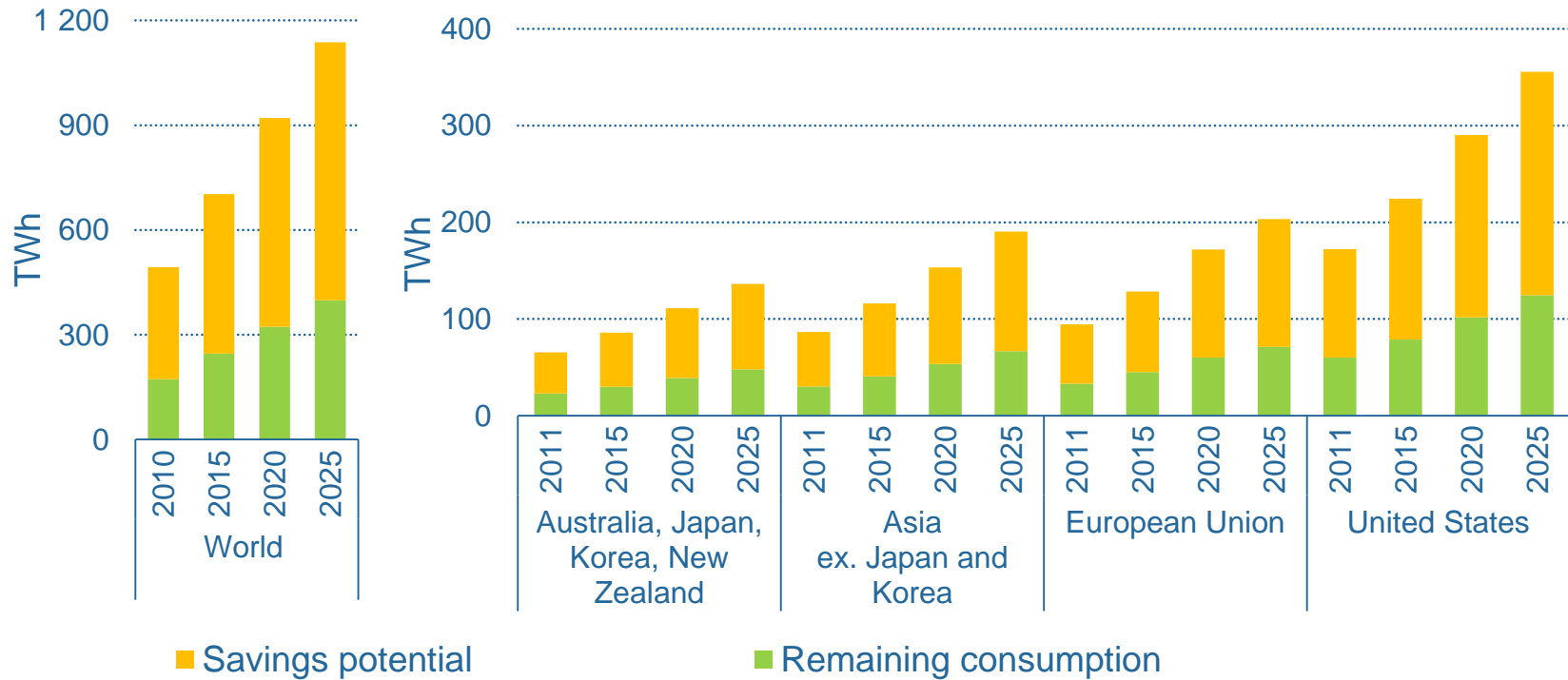


Network-enabled device electricity demand



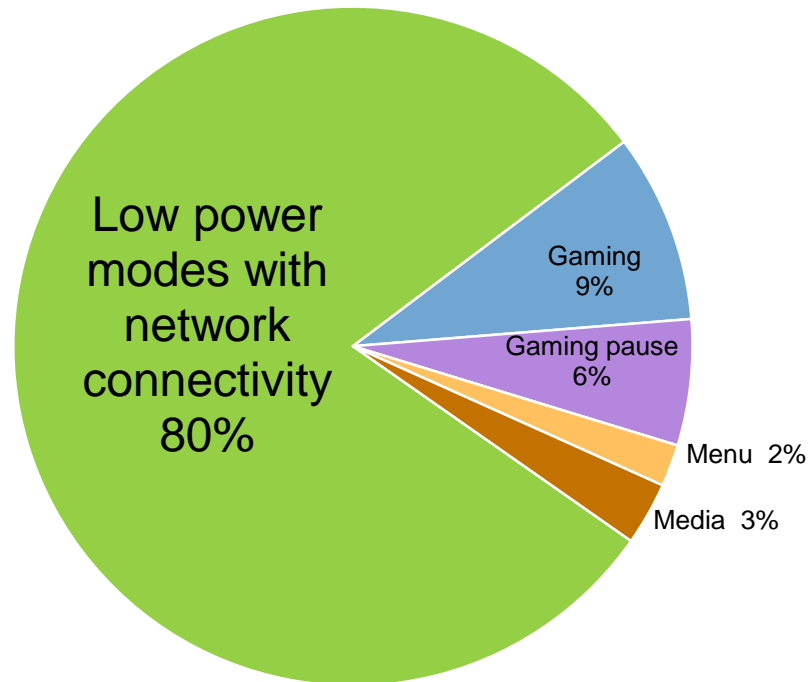
Network-enabled device electricity demand is growing at a rate of 6% per year

How much could we save?



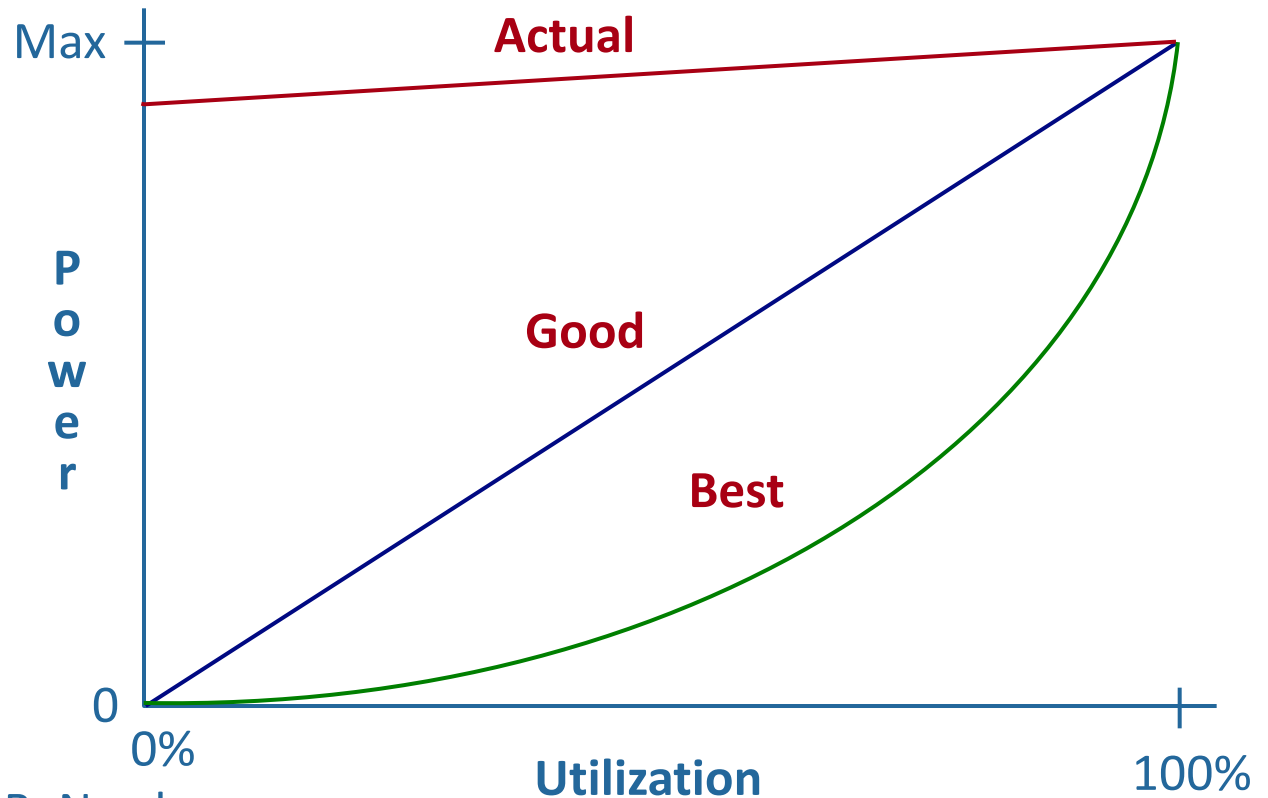
Where are the big savings opportunities?

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

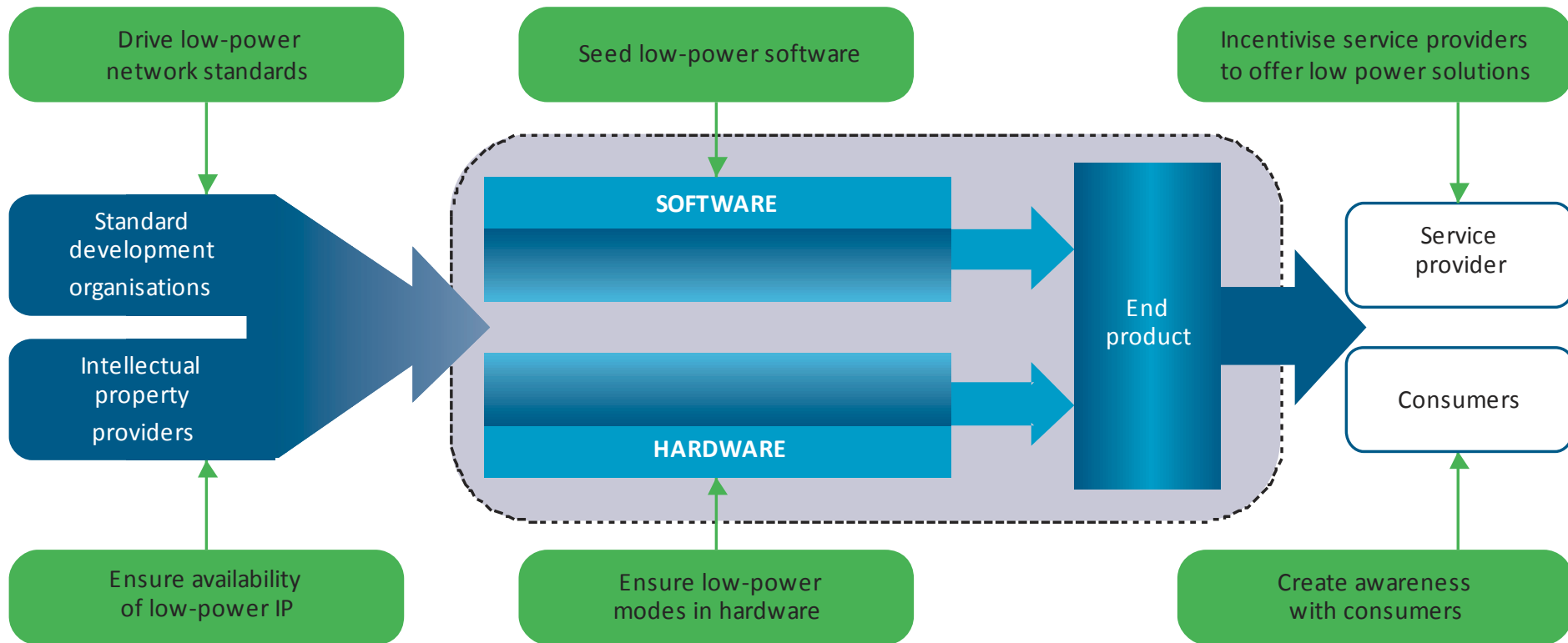


Source: B. Nordman

Power scaling matches power draw to work performed

What can we do?

How different actors across the value chain can promote energy efficiency



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



**EN VACANCES,
DÉBRANCHEZ!**

Offrez également une pause à vos appareils électroniques. Éteignez-les complètement ou retirez la prise. Ainsi vous éviterez des pertes d'énergie inutiles dues au standby. Si tous les ménages suisses éteignaient leurs appareils pendant leurs vacances, le gain en énergie se monterait à la consommation annuelle d'environ 15'000 ménages.

Plus d'informations sur suisseenergie.ch

En partenariat avec



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

Policy examples

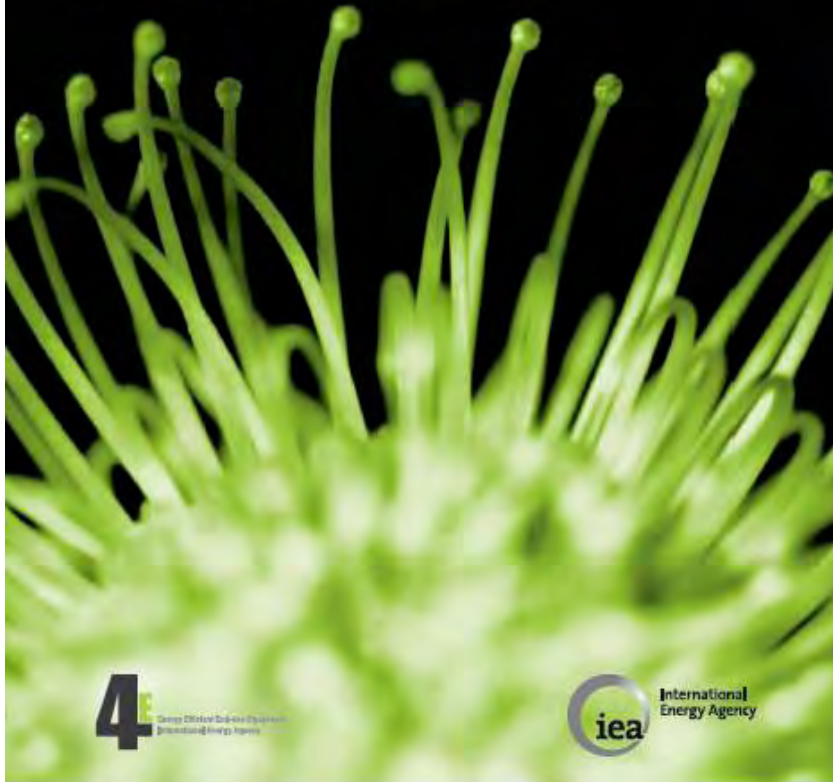
- EU
 - Voluntary agreements
 - Mandatory requirements
- Republic of Korea
 - Mandatory and voluntary requirements
- US
 - Voluntary agreement on set-top boxes
 - ENERGY STAR LABEL
- Switzerland
 - Awareness raising campaigns

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

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

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