

IEA/4E/SEAD NETWORK STANDBY WORKSHOP – BEYOND 1-W

TOWARDS ENERGY EFFICIENCY IN THE DIGITAL AGE

17 SEPTEMBER PARIS

Vida Rozite



International
Energy Agency

Joint workshop

- International Energy Agency (IEA) Energy Efficiency Unit
- IEA Implementing Agreement for Efficient Electrical End-use Equipment (4E) Standby Power Annex
- Super Efficient Appliance Deployment (SEAD) Initiative working group on network standby

Common objectives:

- Tracking **emerging issues** and monitoring **trends** & providing recommendations on how to develop and implement **effective energy efficiency policies**
- Creating **opportunities** for sharing policy experiences
- Creating fora for discussion

Key messages

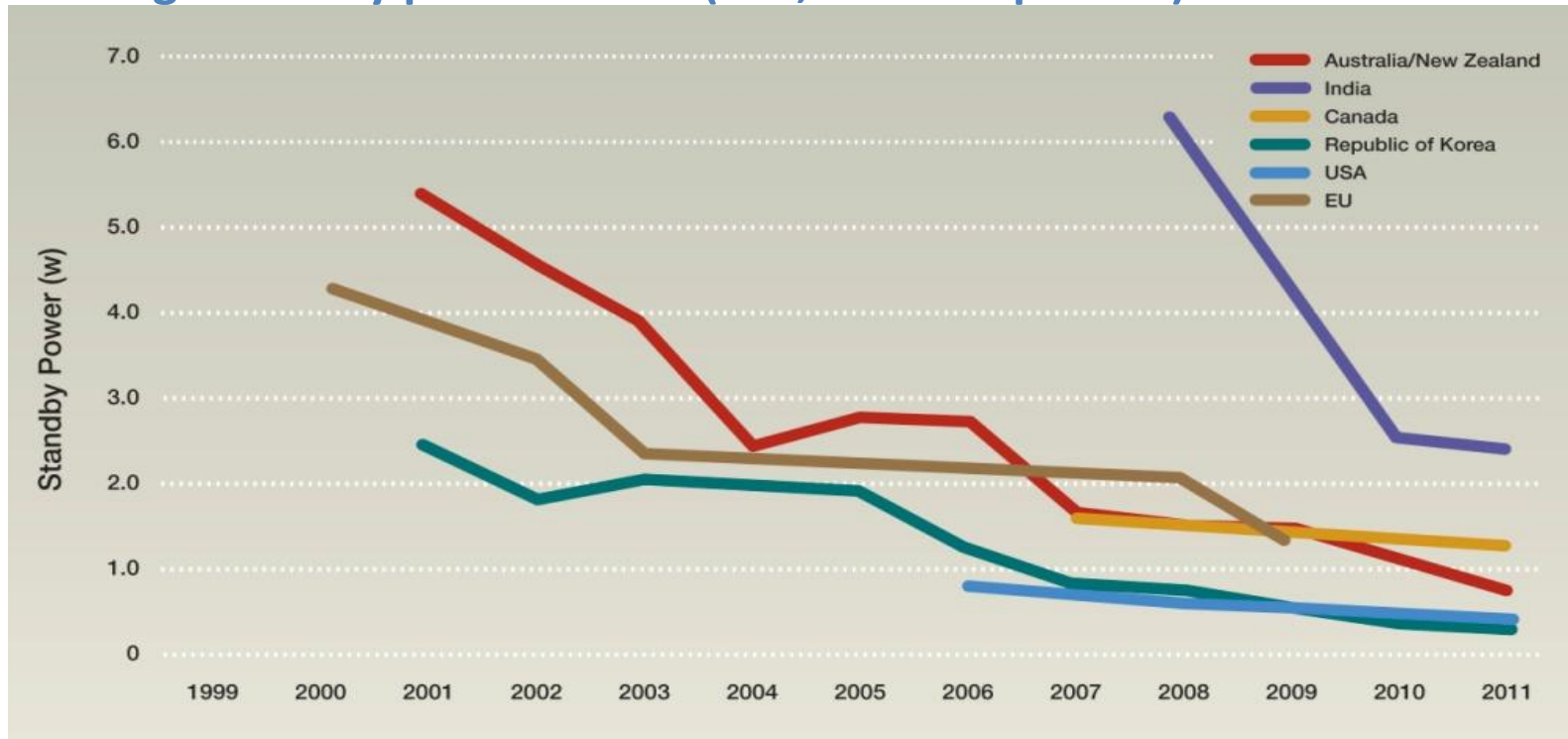
- **Network connectivity** is a good thing – opportunity for new functions, services including energy saving
- But if left un-managed – energy **efficiency opportunities will be missed**
- **Network standby** is a topic of growing importance
- There is an **urgent** need for a policy response
- There are technical and policy **solutions**
- No need to start from scratch – but instead **opportunity to build on existing initiatives**
- Network standby is one issue – more work is needed on **promoting energy efficiency in networked systems and environments**
- Opportunities to utilise **energy saving opportunities** that networks can unlock should be identified and pursued

Trends

- **standby energy use is increasing**
- **uptake of electronics is increasing**
- **energy demand of electronics is increasing**
- **products are increasingly networked**
- **product development is increasingly at a rapid rate**
- **ICT energy consumption is projected to grow at a rapid rate**

Regular standby – progress

Average standby power of TVs (CRT, LCD and plasma)

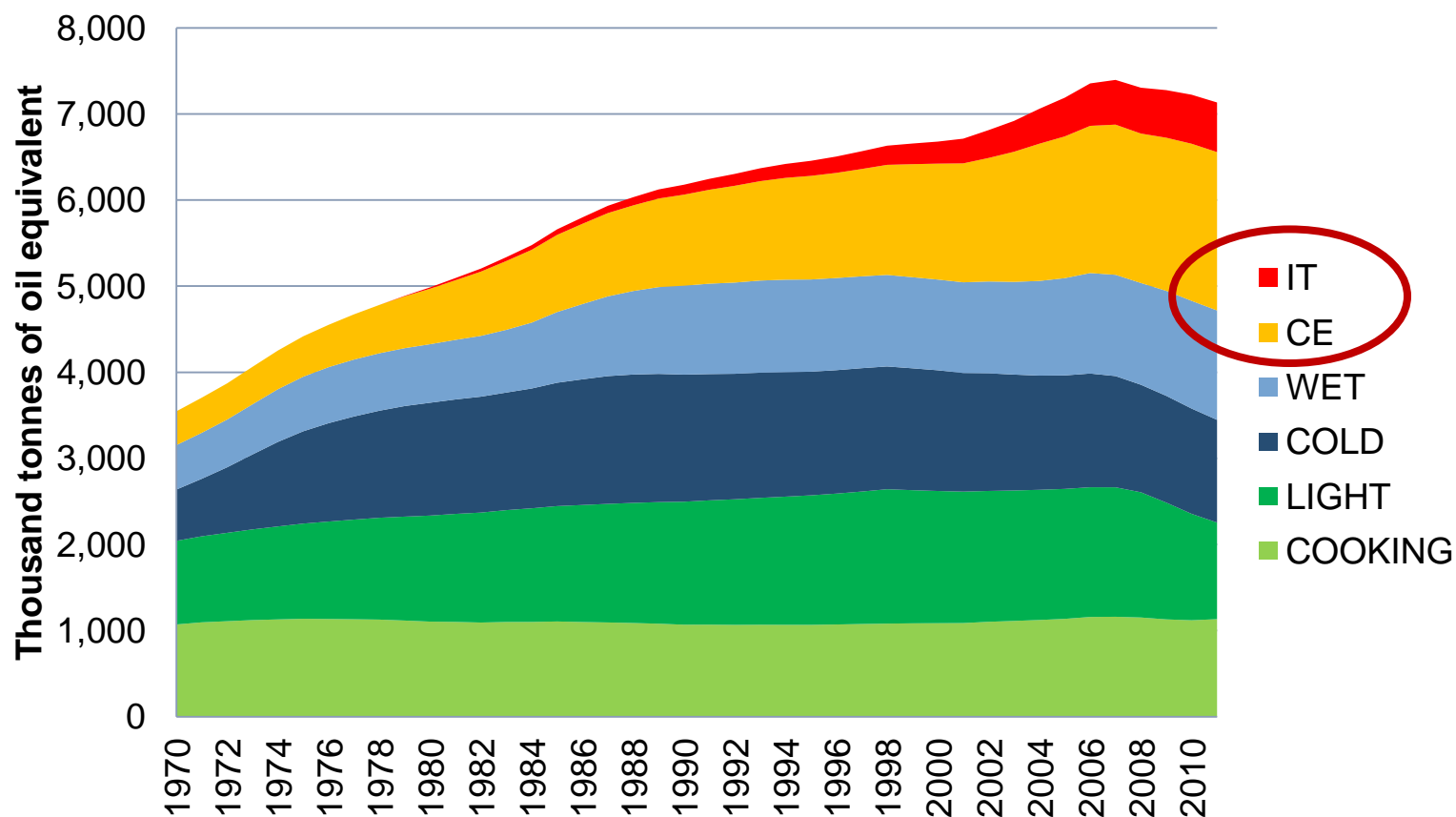


Source: IEA Implementing Agreement for Efficient Electrical End-use Equipment (4E), Mapping and Benchmarking Annex 2012.

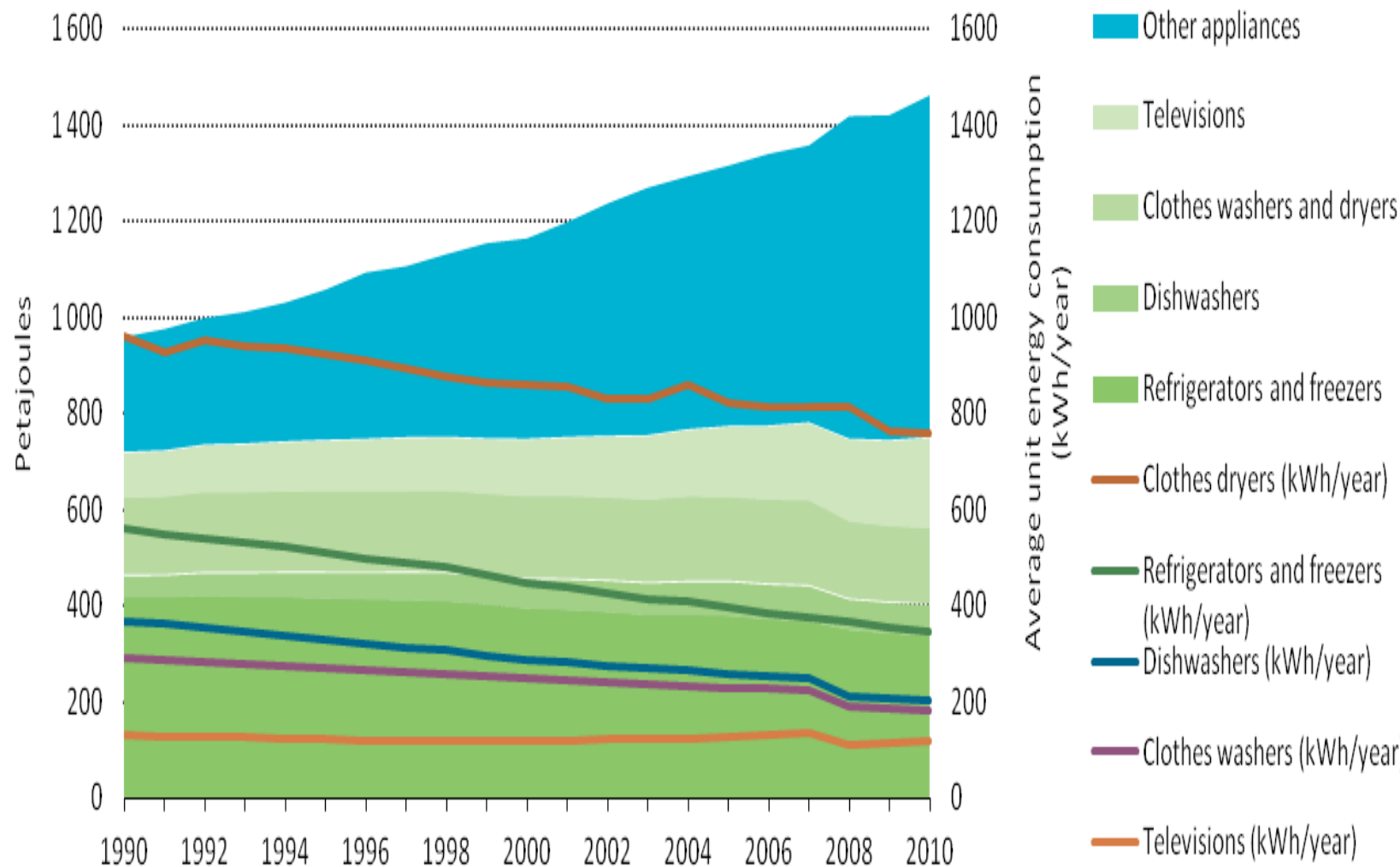
But standby energy consumption is increasing – in some countries up from 10% of total residential demand to 16%

Appliances and equipment – where to focus future efforts

UK total electricity consumption by household domestic appliances 1979 to 2011

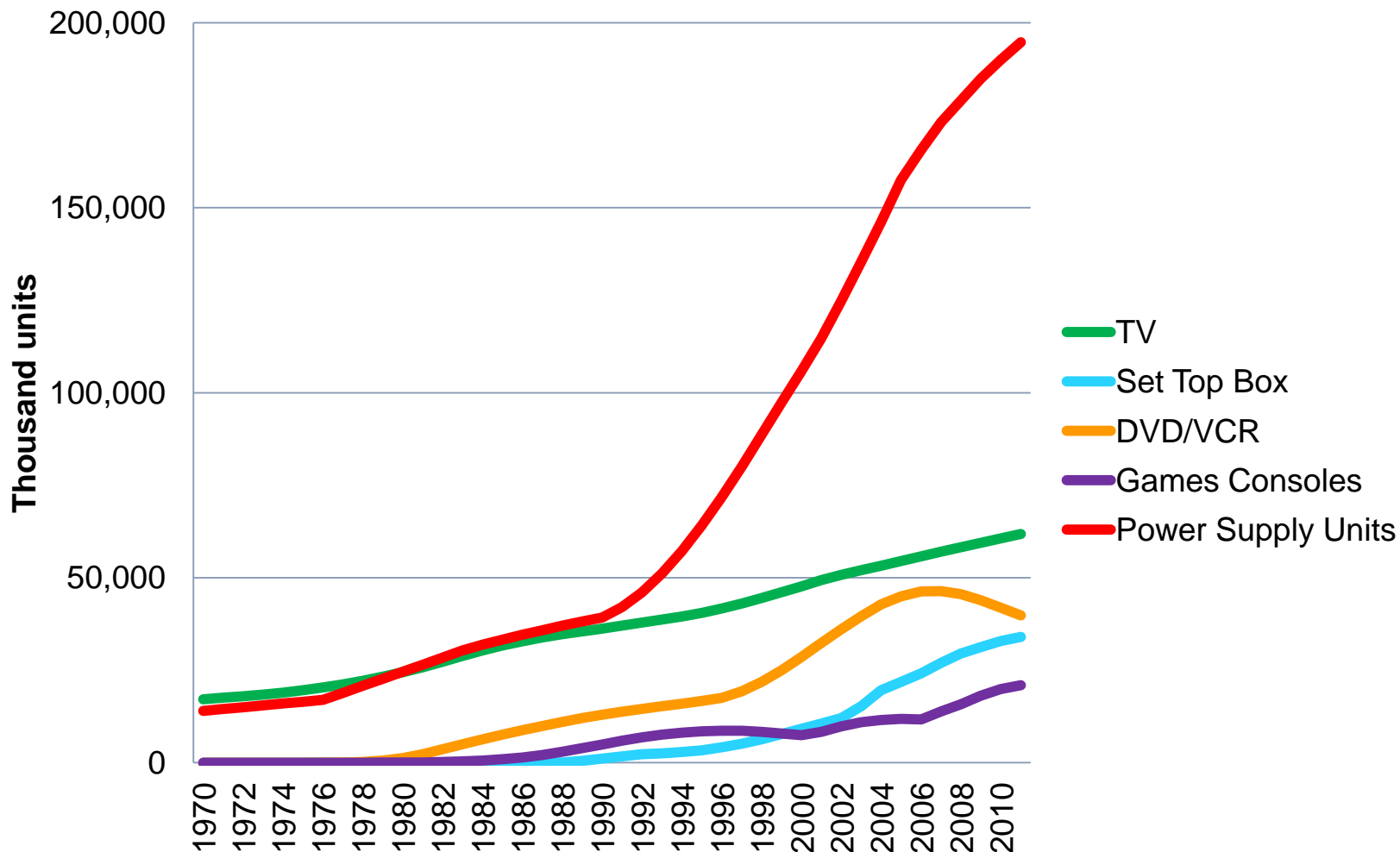


In selected OECD countries



Consumer electronics

Number of CE appliances owned by UK households 1970-2011



Everything is becoming “smart”



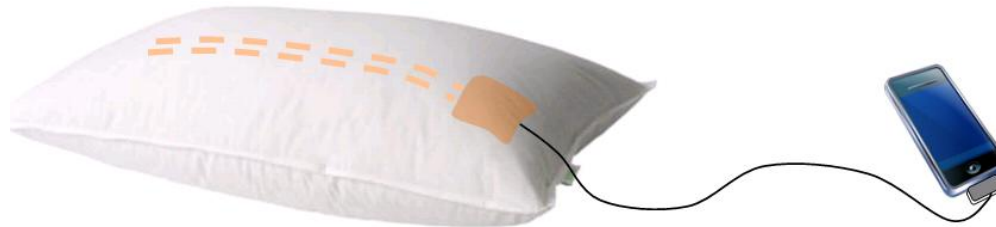
Sensors that collect and send data



Smart metering



Smart glasses

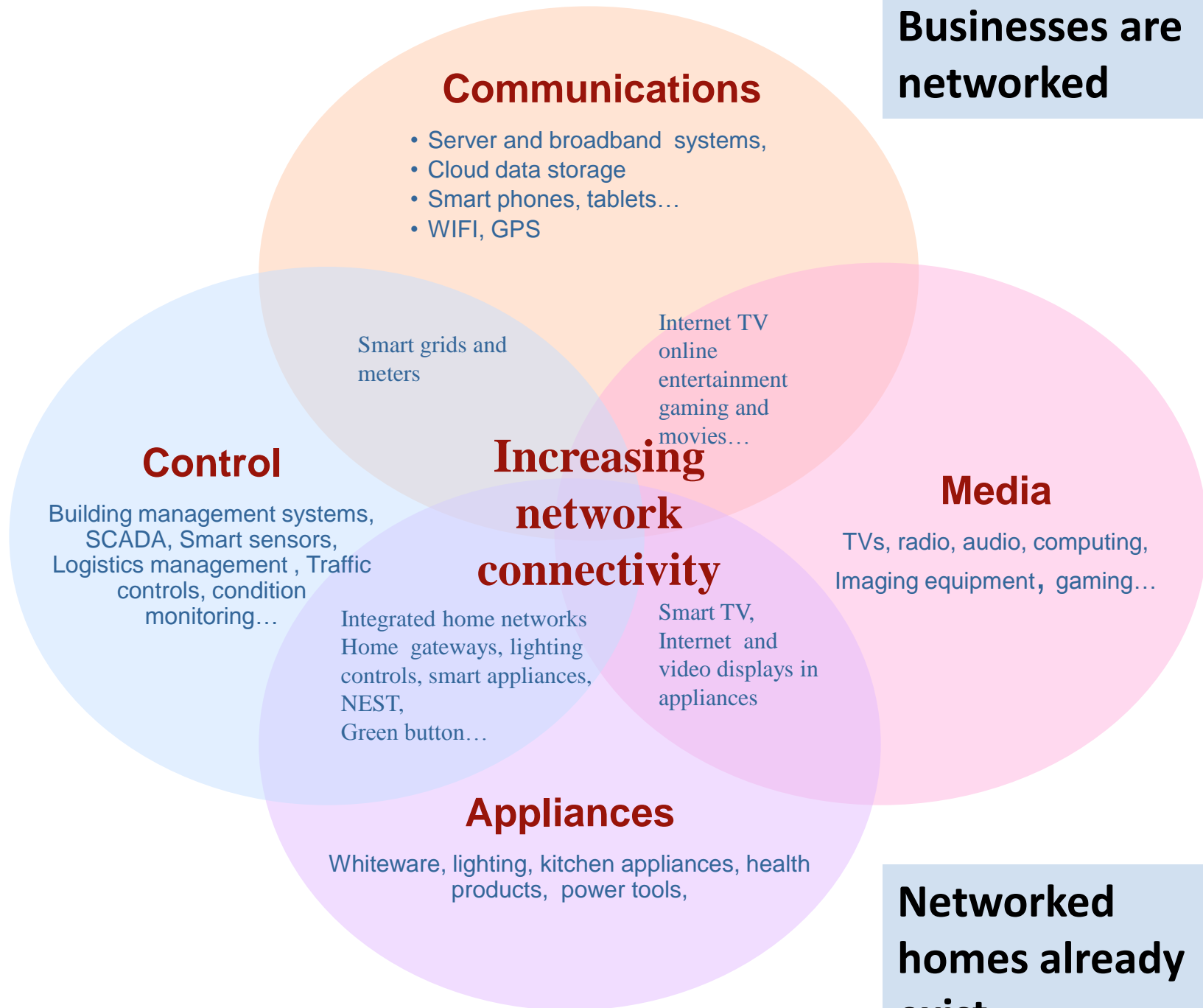


Pillows for healthcare and communication



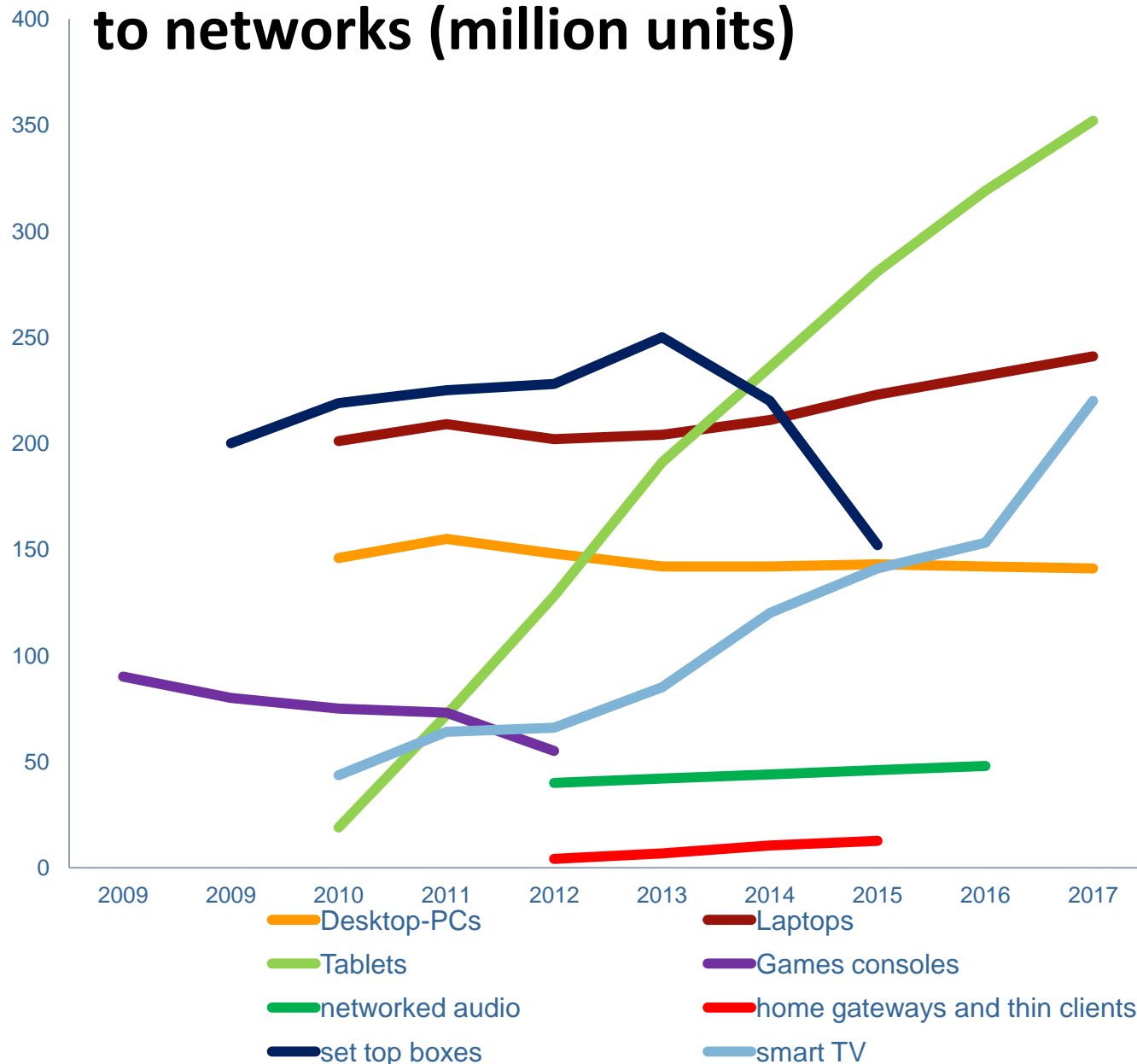
Smart coffee table

Businesses are networked



Networked homes already exist

Sales and forecasts of products that can connect to networks (million units)



On (in use
or active)
mode



Performing tasks

Low power
modes with
network
connectivity



Establishing
a link



Sending/receiving
information



Checking
Activation
requirement

Network standby

- **Getting products to power down**

- **Reducing energy consumption in low power modes with network connectivity**

Active
Standby(or
idle)
mode



Awaiting further
instruction

Passive
Standby (or
sleep)
mode



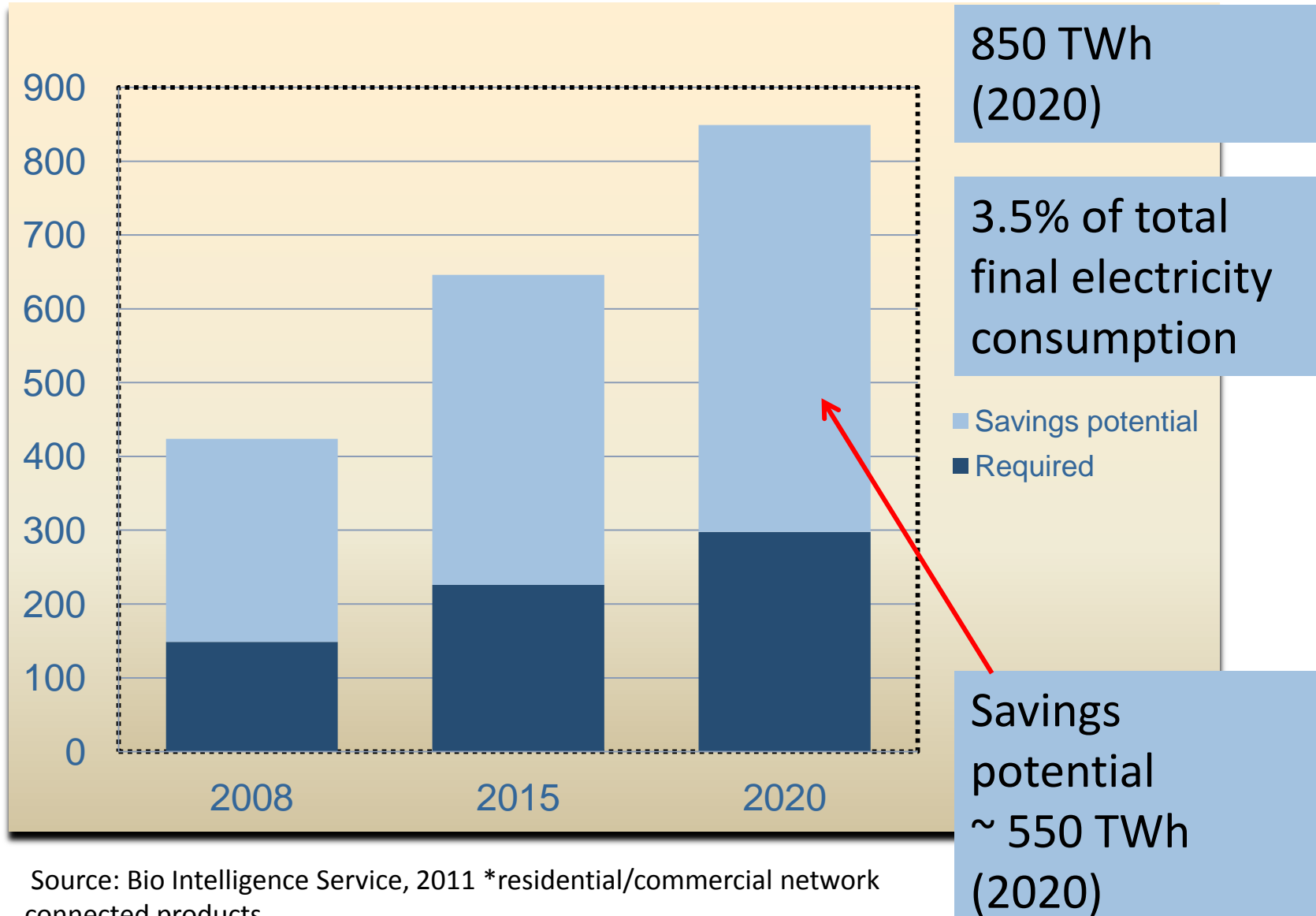
Asleep, ready for
reactivation

Off mode

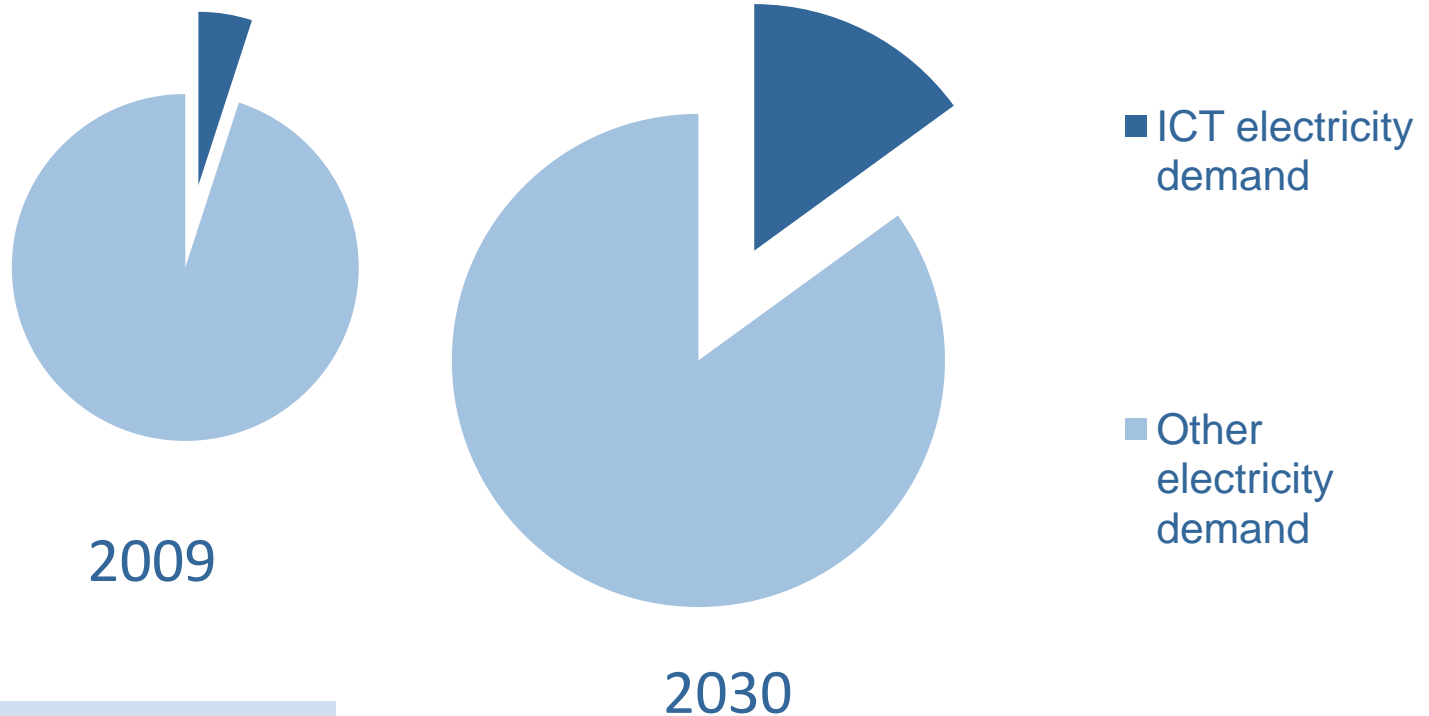


No tasks undertaken

Global estimated savings potentials (TWh)*



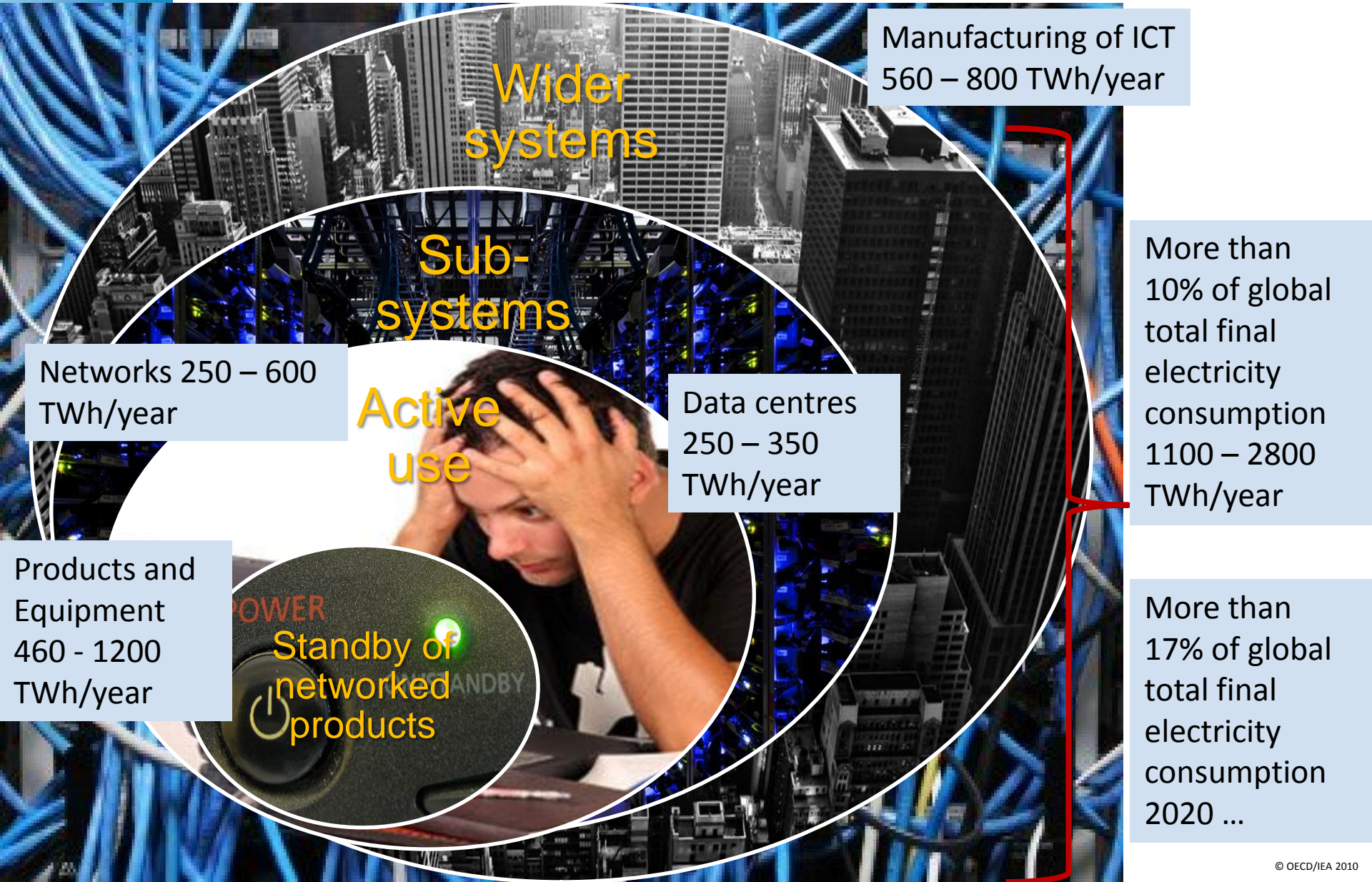
ICT energy demand is increasing



Globally nearing 10% today – could be 17% by 2020

Or could grow at an even faster rate....

Need for energy efficiency from standby to systems



Recommendations

- Develop and implement policies (building on existing initiatives/approaches or aligning where possible)
 - Utilise and scale up existing fora for knowledge exchange
- Ensure a robust technical foundation
 - Data collection strategy
 - Support greening communication protocols
 - Support development of international test procedures
- Work towards promoting energy efficiency throughout network connected systems
- Through vigilance and concerted positions – be in a position to utilise energy efficiency opportunities

Importance of international cooperation

Why?

- Sharing experiences & practices in policy making
- Resource sharing, accelerating progress & leapfrogging
- International technology standards
- Globally traded products – need aligned approaches

How?

- Get the topic on the agenda of key international processes: IEA Governing Board, Clean Energy Ministerial and G20
- Support existing platforms such as 4E and SEAD
- Ensure wider opportunities for engagement of stakeholders – industry, research , policy makers

Global call for action

Digital energy efficiency plan calling on governments to:

(1) Develop policies that:

- Promote power management in network connected products
- Stimulate a reduction of energy consumption in low-power modes with network connectivity
- Help consumers reduce the energy consumption of their networked products
- Stimulate the development and uptake of solutions that promote energy efficiency in network connected products and systems

(2) Intensify international cooperation to develop technical foundations:

- Data collection and data sharing
- International test procedures

(3) Work towards establishing or supporting international initiatives to promote energy efficiency in the broader context of digital economies