Networked Standby Policy Framework Workshop

Relevant Policies of the European Union

Toronto, 7-8 March 2013

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BIO in a nutshell

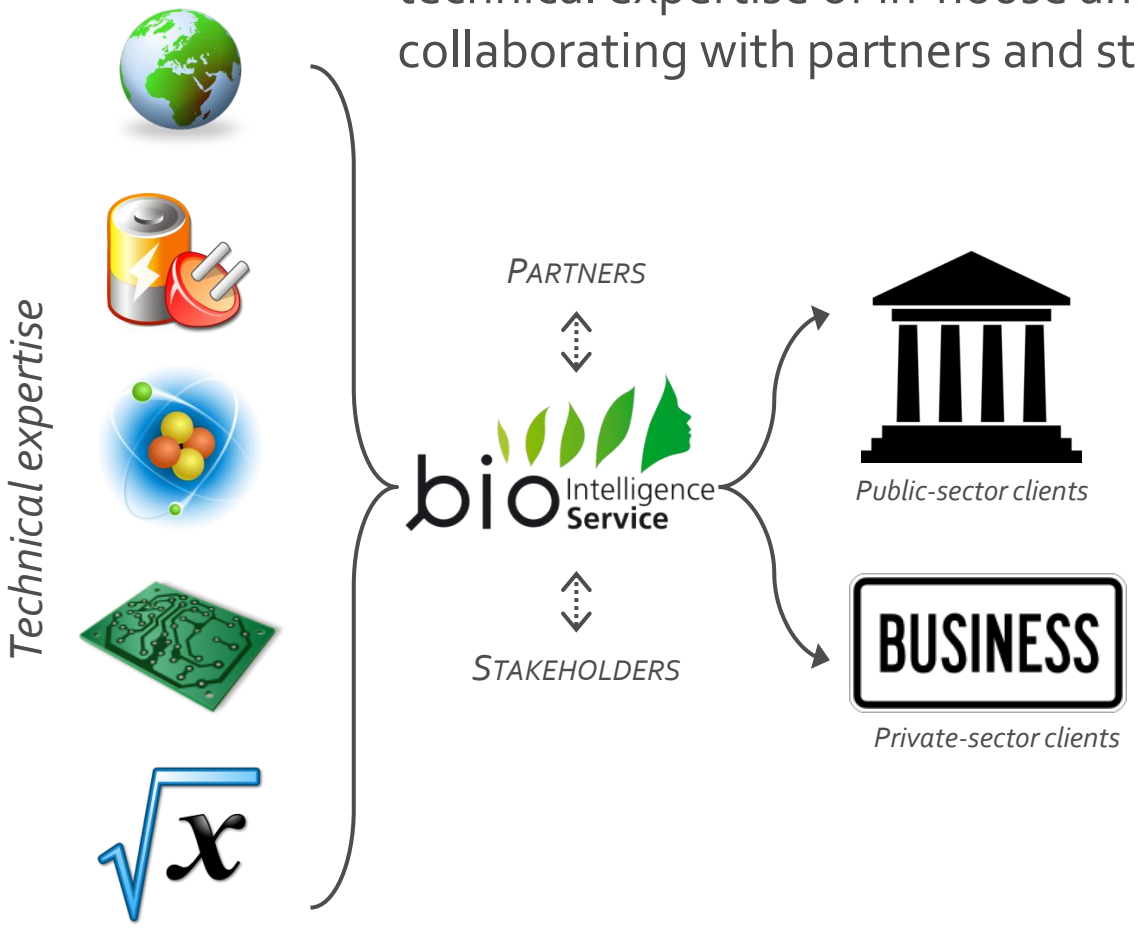
Established in 1989, BIO is a leading research and consulting company in the field of environmental and health evaluation of products and services and in improving the science-policy interface.

BIO supports its clients through:

- Knowledge management
- Methods & tools
- Analytical assessment
- Communication support

Integrating Expertise

BIO brings value to its clients by bringing together the technical expertise of in-house and external experts, collaborating with partners and stakeholders



Always a pioneer

BIO has executed a significant number of landmark projects

1990 — 2005 — 2009 — 2012

Towards more Sustainable Consumption and Production

1989 - 2004	2005-2009	2010 – 2012
•1st LCA in France (Heineken) • "Green Building" French standard definition •1st French "Green Procurement" Program for public administration •Study on external environmental effects related to the life cycle of products and services in Europe (EC)	•20 Preparatory studies on Energy Using Products (EuP) Directive •1st large scale carbon labelling project (Casino) on 800 products •1st environmental labelling project in the electronic sector (Orange)	•Environmental labelling Pilot project on 300 consumer goods •LCA of French Biofuel supply chains •Carbon Footprint assessment of Paris •LCA of Ariane 5 space launcher •EC : Review of the Thematic Strategy on the Sustainable Use of Natural Resources and defining the EU Roadmap for Resource Efficiency

More than 500 life-cycle assessments (LCAs), LCA reviews and Carbon footprints

More than 100 projects for the European Commission (EuP, SCP Action Plan…)

Ecodesign experience

BIO has been the key actor in the development of EU's product specific standards

Simple set-top boxes	**Refrigerating and freezing equipment**	**Domestic and commercial ovens**	PC and computer monitors	**Imaging Equipment**	**Consumer electronics: TV**	Laundry driers	**Battery chargers and external power supplies**
Office lighting	**Solid fuel small combustion installation**	Room air conditioning appliances	Motors	**Commercial refrigerators and freezers**	Domestic refrigerators and freezers	Domestic washing machine and dishwashers	Street lighting
Standby and off-mode losses	Vacuum cleaners	**Complex set-top boxes**	**Domestic lighting**	**Local room heating products**	**Central heating products**	Water Heaters	**Domestic and commercial hobs and grills**
Professional washing machines, dryers and dishwashers	**Non-tertiary coffee machines**	**Networked standby losses of energy using products**	Boilers and combi-boilers	**Transformers**	Sound and imaging equipment	Uninterruptible power supplies	Air conditioning and ventilation systems
Industrial and laboratory furnaces and ovens	Special motors	**Pumps for waste waters**	Machine tools	**Large pumps and pumps for pools, fountains, aquariums**	Compressors		

Other relevant experience

- **Three studies for IEA-4E during 2011-12**
  http://standby.iea-4e.org/reports
  - List of technical standards for equipment connected to energy-using networks
  - Estimate of the Energy Wasted by Network Connected Equipment
  - Horizontal policy approach to standby power
- **Intelligence Energy Europe projects**
  - Prime Energy IT - Energy efficient data centres
    http://www.efficient-datacenter.eu/
  - ComplianTV – about to start
  - YAECI (not directly related to the standby issue)
    http://www.appliance-energy-costs.eu

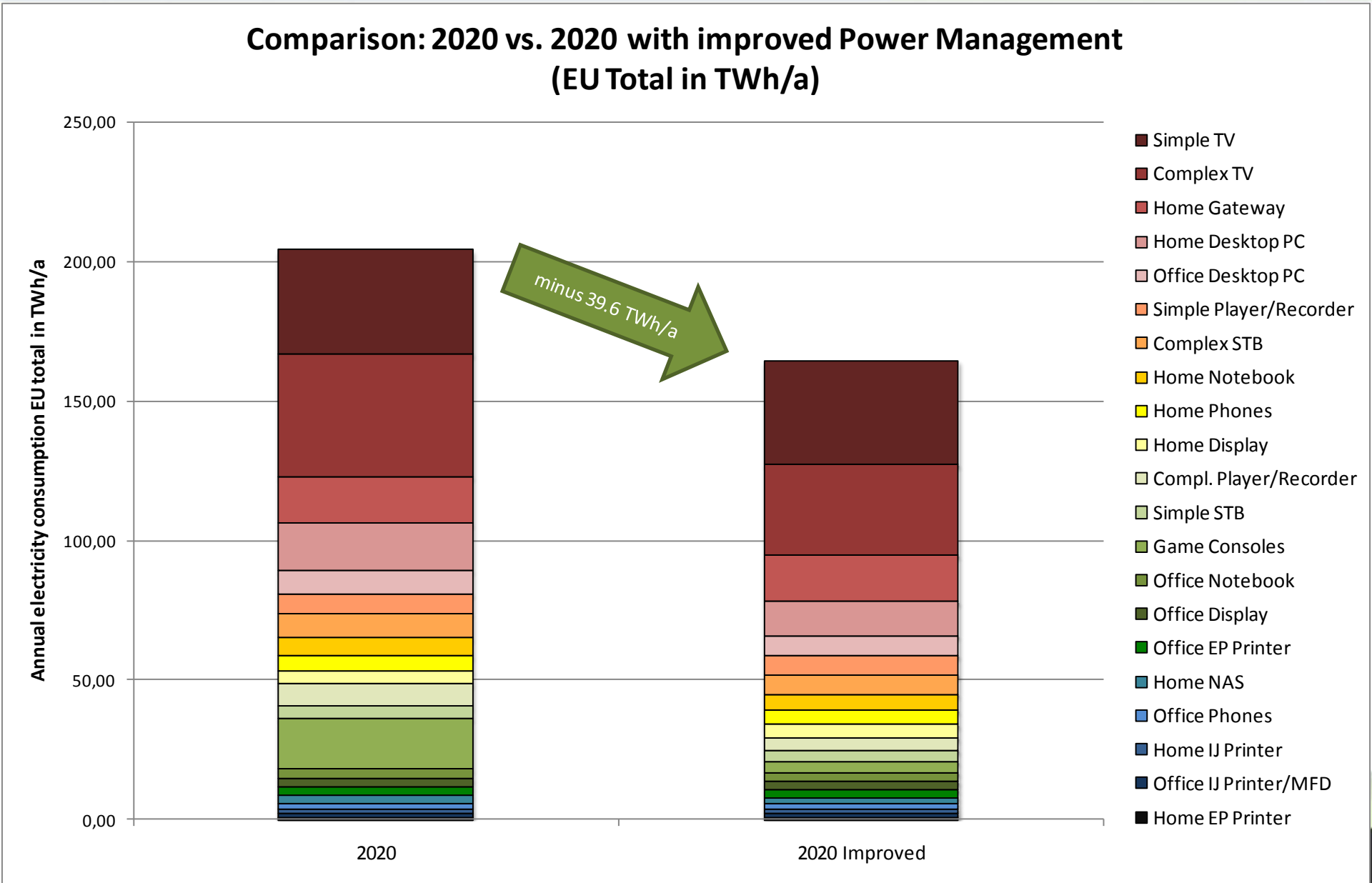
A brief history

- **DG TREN Lot 6** – Standby and off-mode losses
- Completed in October 2007
- Networked standby was identified as too complex too be addressed in the scope of Lot 6
- **Codes of conduct –** Broadband equipment and Digital TV services (2008)
- **DG ENER Lot 26** Networked Standby launched in June 2009
- Completed in June 2011
- Introduced concept of "network availability", a quality-of-service approach

Current EU Regulation

- **Commission Regulation (EC) No 1275/2008**
- Entered into effect in December 2008
- Set two-tiered requirements:
  - December 2009:
    - Off-mode: 1W limit
    - Standby: 1W limit (without status display), 2W limit (with status display)
  - December 2012
    - Off-mode: 0.5W limit
    - Standby: 0.5W limit (without status display), 1W limit (with status display)

Lot 26 – Improvement Potential



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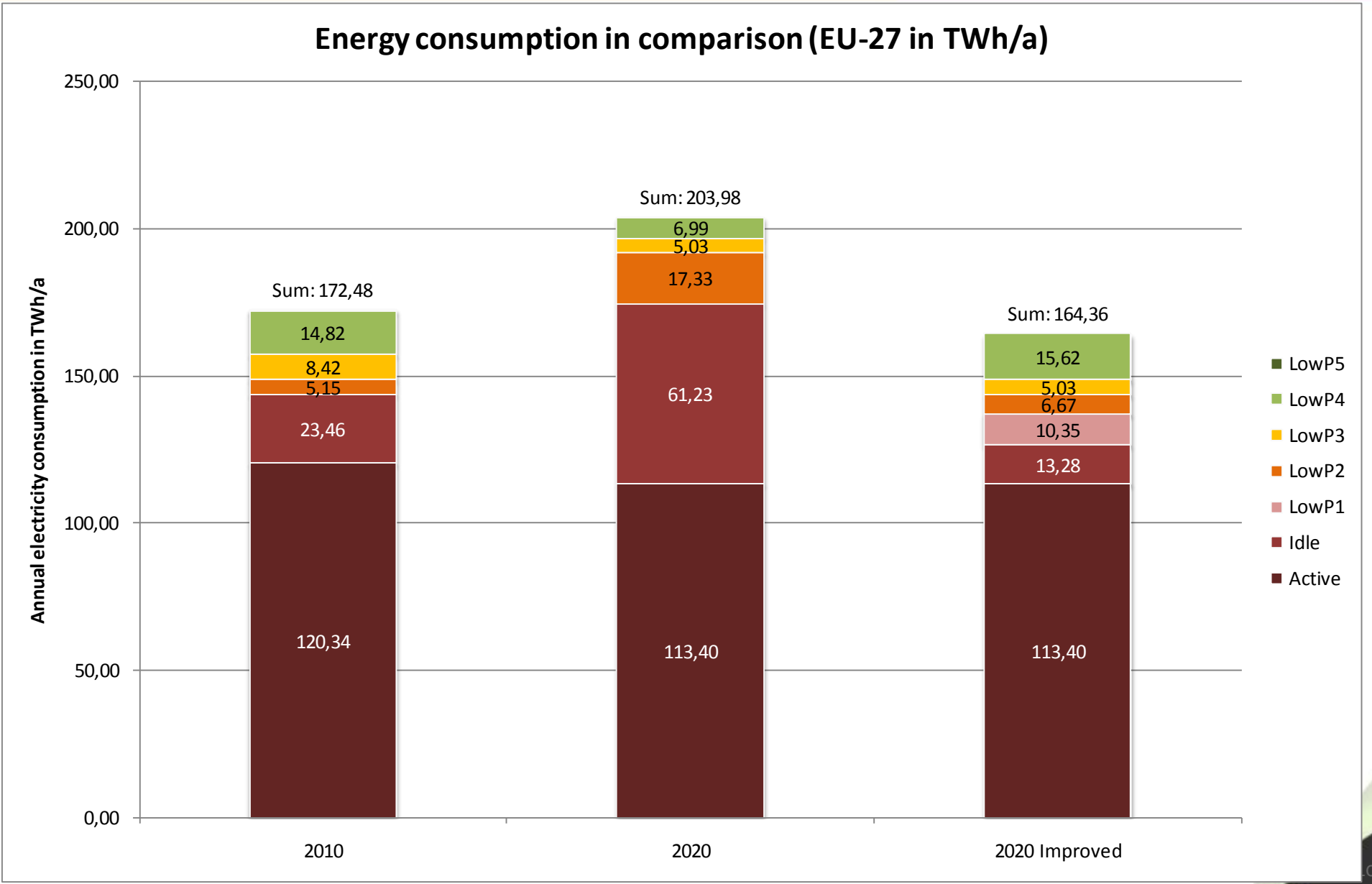

Lot 26 – Reactivation modes

Active

Idle = HiNA (mostly to high for 24h network service

LowP 1 = HiNA (the lower power idle solution [e.g. half of idle])

Millisec.

LowP 2 = MeNA (sleep with remote wake-up-capability)

LowP 3 = NoNA (sleep, no remote wake-up-capability)

<10sec.

LowP 4 = LoNA (lowest power with remote wake-up-capability)

LowP 5 = NoNA (soft off, no remote wake-up-capability)

>>10sec.

Future EU Regulation (1/3)

- **Amendment to EC No 1275/2008,** currently in draft form, up for vote on 21 March 2013, applicable 2015, review 2016
- A "networked standby" condition that maintains a certain level of network connectivity but deactivates main function(s) could decrease overall energy consumption of a "networked" product significantly. Brings new definitions and distinguishes between products with HiNA/LoNA and with HiNA functions
- Adds requirements for networked standby under:
  - **High Network Availability** (HiNA)
  - **Low Network Availability** (LoNA)

Networked Standby Condition	1 January 2015	1 January 2017	1 January 2019
HiNA	12 W	8 W	8 W
LoNA	6 W	3 W	2 W

Future EU Regulation (2/3)

- **Special case of TVs and coffee machines**
  - TVs – amend vertical regulation, network standby will bring additional 10 TWh saving
  - Coffee machines – power management for automatically switching off, a potential saving of 2 TWh
- **Power management**
  - Possibility of deactivating wireless network connection
  - Power management for networked equipment, default delay time < 20"
- **Some exceptions:**
  - large format printing equipment
  - printing equipment with a power supply larger than 750 W
  - tele-presence systems

Future EU Regulation (3/3)

- **Measurement and verification**
  - Repeals paragraph on measurement uncertainties (EN 50564)
  - Verification procedure indicated in Annex III but countries can use supplement with methods if they become available
- **Information provision**
  - Power consumption data
  - Default delay time
  - Conformity assessment procedures
- **Some possible issues**
  - Product vs. system optimization (extended product approach?)
  - Delay time being horizontal across all products and not taking into account load and functionalities may bring inefficiencies
  - How to extend the automated power down for other products?

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