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The ETNO CORE Energy Task Force

Goals and main activities

Gianluca Griffa
ETNO CORE ETF Co-chair
gianluca.griffa@telecomitalia.it



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About ETNO

- The **ETNO** (European Telecommunication Network Operator) represents the principal **policy group** for **Europe's leading** networks and services **providers**
- The association (established in **1992**) currently accounts:
 - **40 member** companies in 35 countries
 - a total **turnover** of about **€250 billion** a year
 - **1.000.000 employees**
 - two thirds of total sector investment



ETNO member companies: a long commitment towards sustainability

- ETNO member companies products&solutions (e.g. smart buildings/logistics/grids, videoconferencing, teleworking) **enable energy savings for citizens and businesses**
- Since 1996 ETNO launched its **Environment and Sustainability Charter**:
 - a first **voluntary commitment** in telecoms sector
 - **open to all** players on the market
 - progress monitored through the ETNO bi-annual Sustainability Report



ETNO members' contribution to fight against climate change and resource efficiency

- **20% reduction in CO₂ emissions between 2006 and 2008**
- Development of the **EU Codes of Conducts** on Energy Consumption of BB Equipment and on Data Centres
- 90% of ETNO Charter signatories committed to **improve** the overall **sustainability performance** of their **supply chain**
- **Reduction of waste production by 7%** and an **increase of recycled waste by 10%** between 2006 and 2008.



The ETNO CORE Energy Task Force

- Created since **2004** by the signatories of the ETNO Sustainability Charter
- Currently under the ETNO Sustainability WG
- Focused on the following **goals**:
 1. **decrease** further the **energy consumption** of the ICT branch
 2. **motivate society** to make use of the existing potential of Green ICT
 3. develop new **solutions** to **increase the energy saving** impact of ICT



The ETNO CORE Energy Task Force

- The Group mainly develops **benchmark activities** and shares knowledge/**best practices** among its participants
- The Group has recently officially published its **2010 Energy Report**, containing the most important outcomes
<http://www.etno.be/LinkClick.aspx?fileticket=wun1TH1Kii0%3d&tabid=1925>
- Such **Report** is divided into **two main parts**
 1. a first part dealing with the **main activities** and initiatives **jointly performed** by the Group participants
 2. A second part highlighting the **main energy saving projects** carried on **by single Companies**



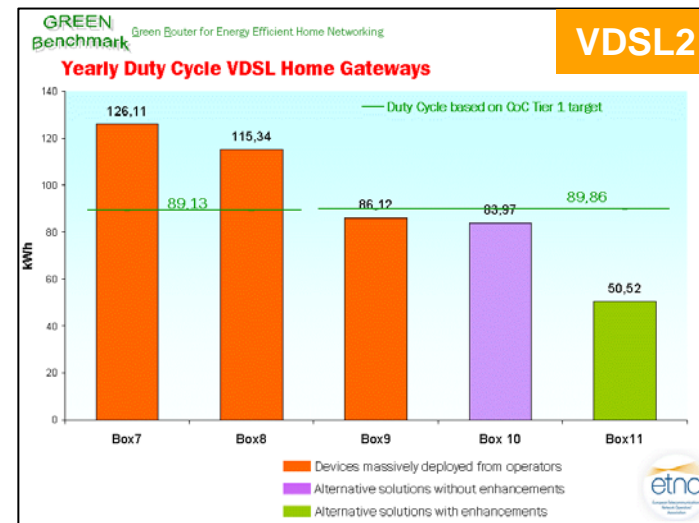
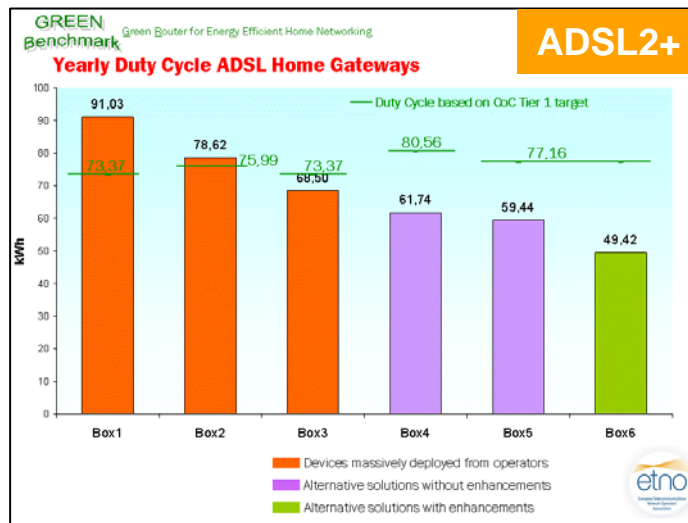
Towards Energy Efficiency

Examples of joint activities



The G.R.E.E.N.^(*) Benchmark initiative

- Goal: to provide a **snapshot** of current state of the art in **energy efficiency of Home Gateways (HG)**
- Developed with the **support** of the Home Gateway Initiative (**HGI**)
- The benchmark also **compares the measures** with the power targets set out by the **EC CoC** on BB Equipment



→ The test results show a **clear improvement trend**



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^(*) Green Router for Energy Efficient home Networking

Benchmarking on most relevant EE Target/KPIs

→ Goal: to have an overview of the most important Target/KPIs on EE and climate protection from European Operators

Target/KPI	A1 Telekom Austria	C&W	KPN	Magyar Telecom	Swisscom	TDC	Telecom Italia	Telenor	Telia Sonera	Telefonica
Signatures of EC Codes of Conduct	CoC DC (2009) CoC BB equipment (2010)	None at present. Seeking to sign the EU DC CoC	CoC BB equipment (2010)	None at present	CoC BB equipment (2009)	CoC BB equipment (2009) CoC DC (2010)	CoC BB equipment (2009) CoC DC (2010)	CoC BB (2010)	CoC BB equipment (2010)	CoC BB equipment (2010) CoC DC (2010)

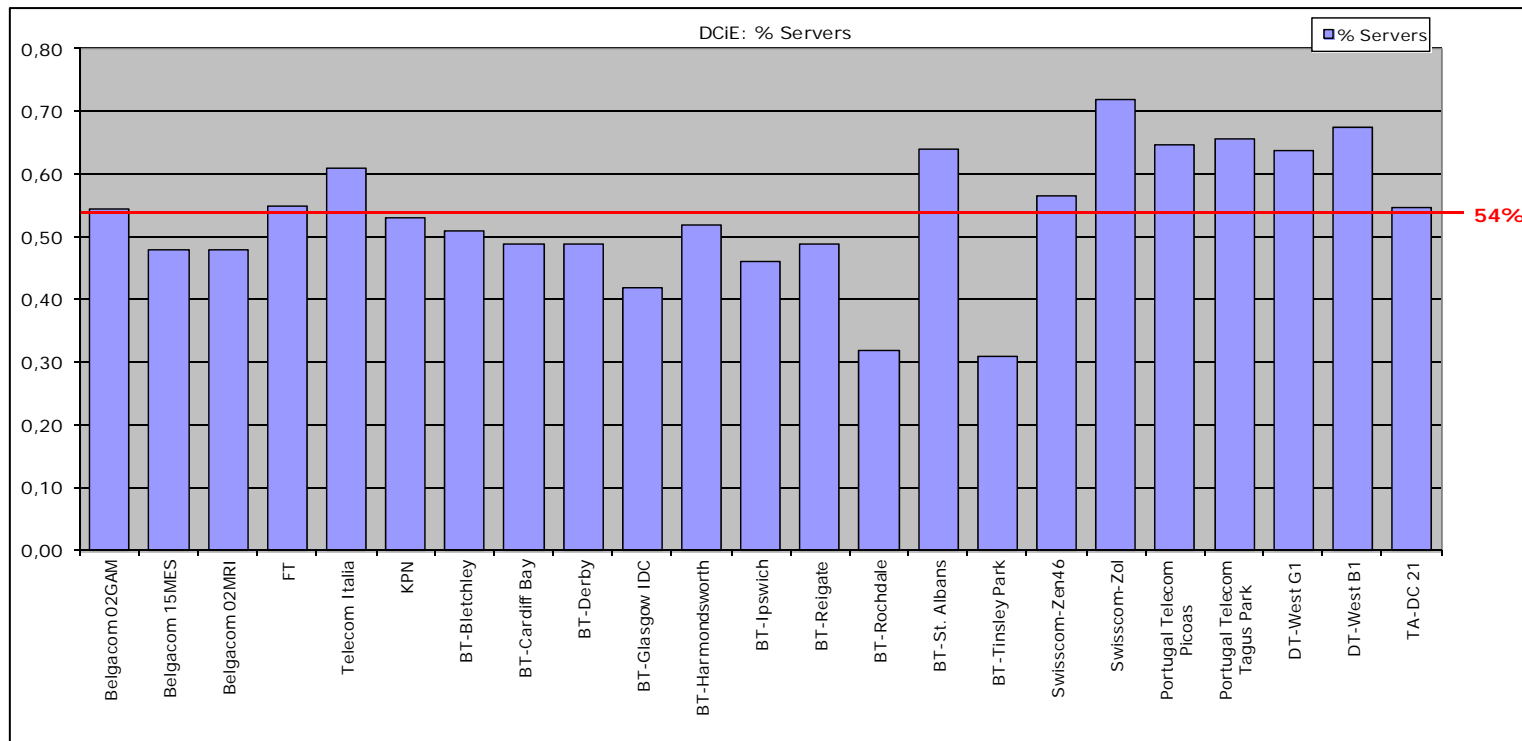
Target/KPI	A1 Telekom Austria	C&W	Magyar Telecom	Swisscom	TDC	Deutsche Telekom	Telenor	Telia Sonera	Telekom Slovenije
CO ₂ eq reduction targets (% and time interval, Scope 1/2/3)	A reduction of 40% of the CO ₂ emissions compared to 2008 could be achieved in 2009. Aim is to keep this standard	Reduce CO ₂ emissions per unit of network traffic and data storage by 20% by April 2015 (from a 2010 baseline) (scope 2)	10% 2008-2011	Reduction of 60% from 1990 until 2015	Reduce CO ₂ of 40% by 2020 (baseline 2010)	Reduce CO ₂ of 30% by 2020 (baseline 2008)	-40% measured as CO ₂ emission intensity by 2017 compared to 2008, includes scope 1&2, and parts of scope 3 (flights and outsourced elements of the core business)	CO ₂ targets are set on country level. Sweden: -4%/annually (Scope 1/2/3)	To be in line with EU - ICT target of -20% by 2015 (separation by scope 1/2/3 not in current Business Plan)
CO ₂ eq reduction per year for the time defined	-40% ("one shot")	-4%	-2.5%	-2.4%	-4%	-2,5%	-4.4%	-4%	-4%
Scope 1/2/3	1+2	1+2	1	-1	1+2+3	1?	1+2+ partly 3	1+2+3	1

→ The outcome highlighted the **strong commitment** of many Operators towards the **reduction** of their **environmental footprint**



Benchmarking on Data Centres

→ Goal: to compare the EE and the technologies/solutions adopted in the Operators' largest Data Centres



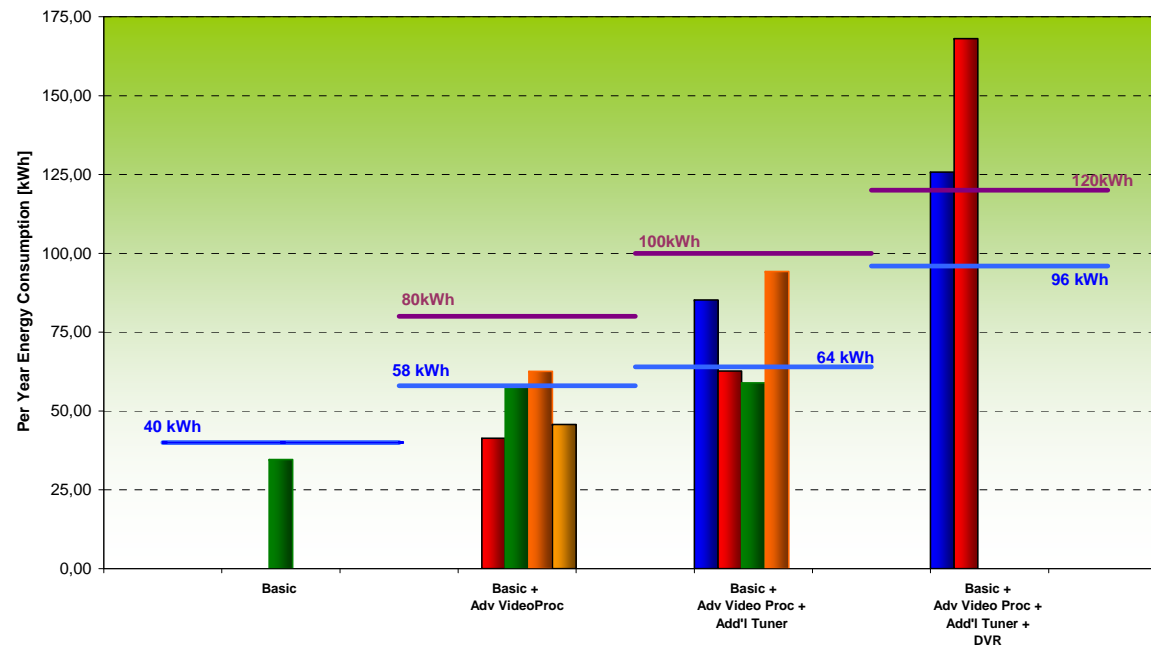
→ The comparisons have consequently brought to new different actions aimed at **improving the DC's performances**



The STB Benchmark initiative

- Goal: to provide a **snapshot** of current state of the art in **energy efficiency** of **Set Top Boxes (STB)**
- **Measures** are also compared with the targets set by the **EC CoC** on STB and with Voluntary Industry Agreement

ETNO STB BENCHMARK vs CoCv8/VIA - June 2011



- The test results show a **clear improvement trend**



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(*) Green Router for Energy Efficient home Networking

Towards Energy Efficiency

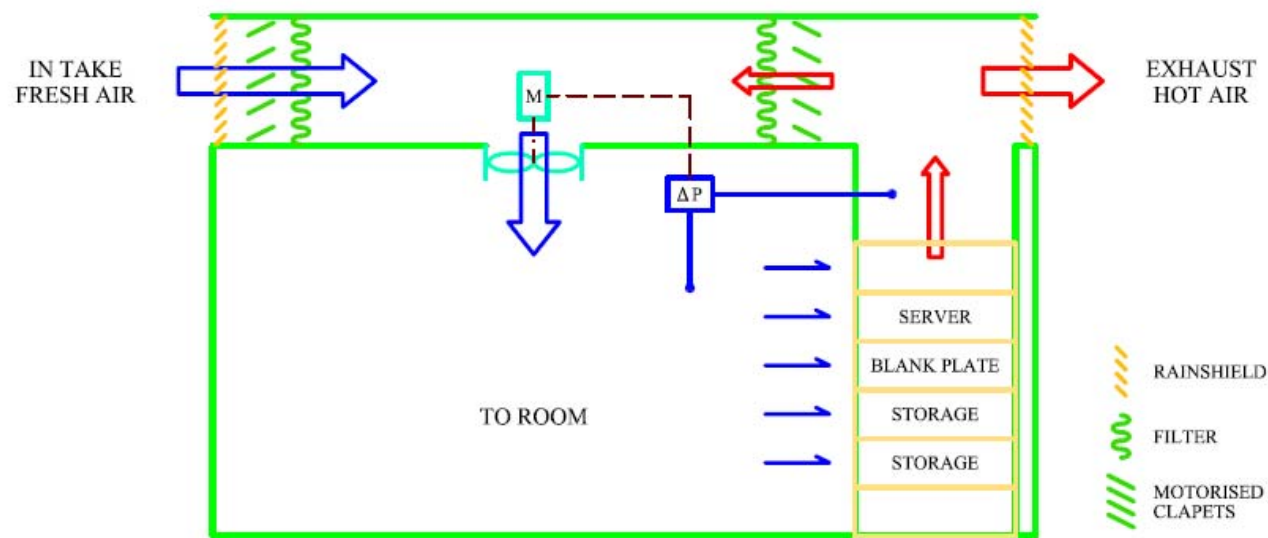
Examples of projects from single Companies



Full Free Air Cooling of Data Centers

belgacom

- A small scale DC has been built by Belgacom & Sun Microsystems, using **Full Free Air cooling** to hugely reduce the energy consumption
- Use of ETSI EN 300 019 class 3.1 (allowing a room **T of up to 45°C**)



- **Expected Energy Saving: -40%** compared to the traditional cooled DC

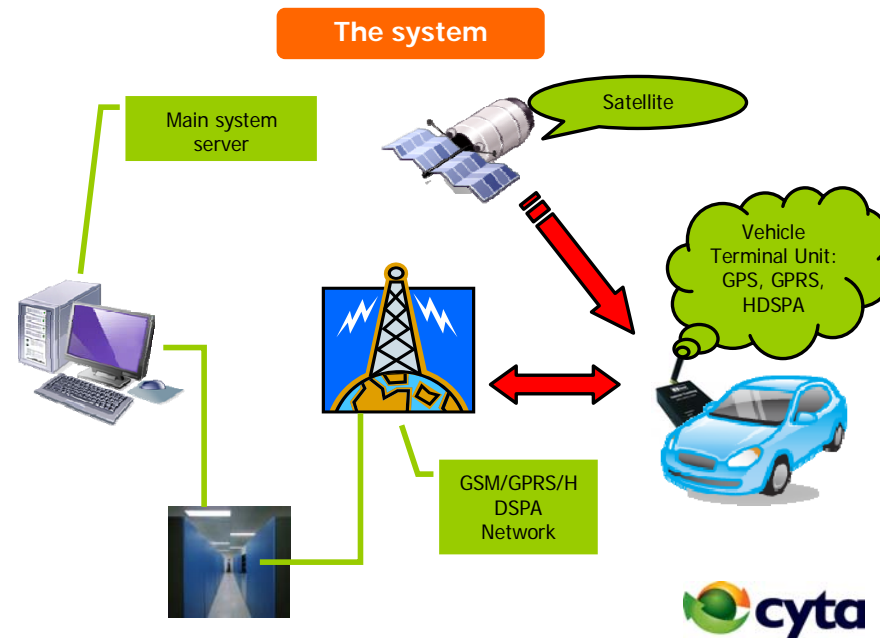


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Cyta Implementation of Vehicle Telematics System on Fleet



- New system integrating navigation, monitoring distance, emergency alarms, vehicle statistics
- Implementation to **100%** of fleet by 2011



- **Expected Benefits:** Fuel and maintenance cost reduction by **10%**



Sustainable solar base stations program



- **1354 solar Base Transmission Stations (BTS)** have been ordered and 1000 are operating across 16 countries in the AMEA region
- Providing **potential coverage to 2.2 million people**
- For each BTS plant producing an average surplus of 25%, Orange will evaluate case by case uses for this energy to meet local needs



- **Expected Benefits: savings of more than 30,000 tons of CO₂**



Green ICT Services: The KPN New Way of Working



- KPN has implemented a new approach in which **employees** are more **measured by their results** and **not by their presence**
- Adjustments to the **virtual workplace** (laptops, conference cards, smart phones, facilities for collaboration and teamwork)
- **10,000 KPN employees involved** with 15,500 videoconference meetings



- **Expected Energy Saving: almost 6%** for the entire Dutch offices assets



Telecom Italia Green Logo



- 2011: Launch of Telecom Italia's first line of environmentally friendly products.
- The first "Telecom Italia Green" product is the new **ADSL Home Access Gateway**.



Mean **energy consumption** per product **reduced by 42,9%**

Power consumption:
ON state = 7W
low power = 4,45W

Compliant with future regulations on power consumption for the **OFF state**

Material used for the case **homogeneous, recyclable, and halogen-free**

Weight of **plastic** used for the case **reduced by more than 60%**

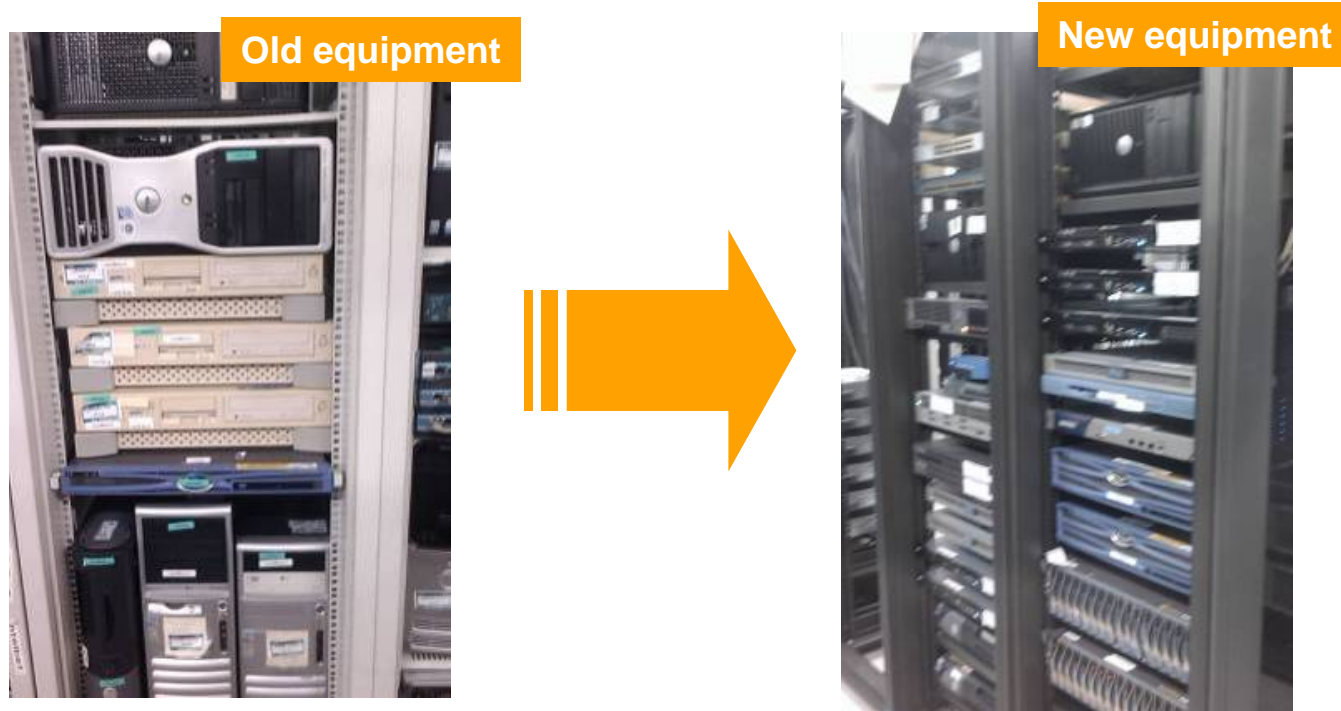
Cardboard used for the package **not plasticized and 100% recycled**

Disassembly time reduced by more than 70%



Telefónica Green Datacentre Virtualization

- Telefónica has developed a project aimed at **eliminating all the non-working servers** and re-use sub-used equipment
- 860 equipment analysed along 2010, removing **517 equipment**



→ **Expected Energy Saving: 732.000 KWh/year**



Hot topics and future activities

- **Workshop on HVDC and geocooling** (Stockholm, November 10th – 11th)
- **Cooperation with GeSI** on
 - KPIs for fixed network
 - calculation methods for the savings through the use of Green ICT
- **Second phase of the G.R.E.E.N. Benchmark** on Home Gateways
- **Benchmark on :**
 - internal activities and projects towards **smart services**
 - **energy management** systems and processes
 - **fresh air** cooling solutions implemented





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