Hochleistungstechnologien für Energieeffiziente Produkte

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e2050 Energie und Endverbraucher,
November 26, 2007

Never stop thinking

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- **Infineon Technologies – Short company overview**
- **Worldwide energy and electricity needs**
- **Electricity savings potential**
- **Infineon‘s contribution to energy efficiency**

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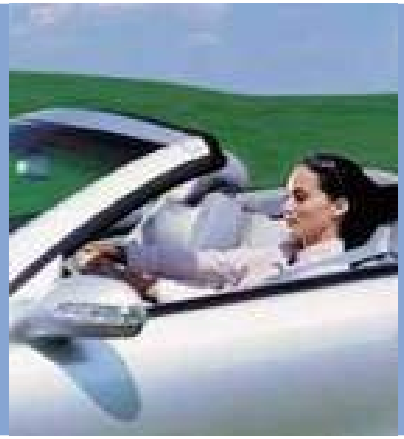
Infineon – a Semiconductor Company Overview

- More than EUR 4 bn in revenues in the fiscal year 2006
- Approx. 30,000 employees (incl. 6,000 R&D staff) as of March 31, 2007
- Strong technology portfolio with about 22,900 patents and applications; more than 35 major R&D locations worldwide
- Focus on Energy Efficiency, Connectivity & Security
- Majority holding of Qimonda

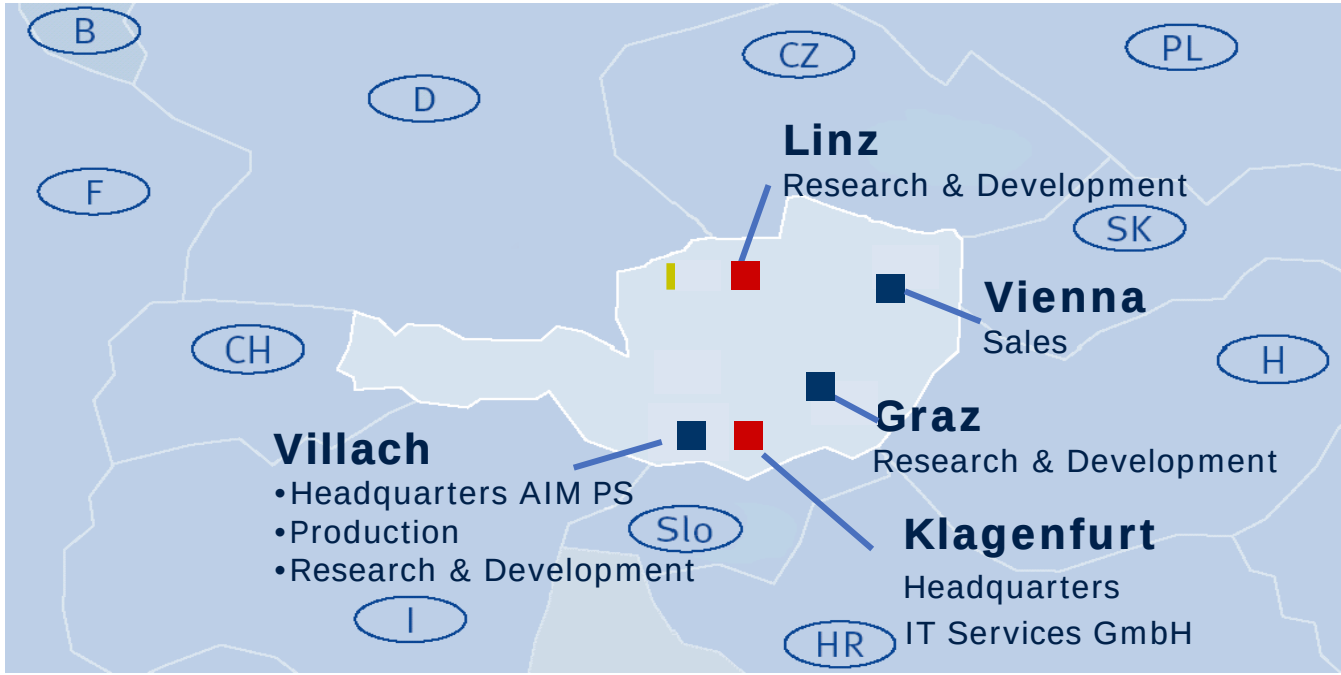
After carve-out of the memory business, Infineon organized in two business groups: AIM and COM

Business Groups		Applications
AIM Automotive, Industrial & Multimarket		**Car Electronics** (powertrain, safety management, body & convenience, infotainment), **Power control** (distributed power generation, automation / motor control, transportation, power supplies, medical, building control), **Chipcard & Security** (communications, payment, identification, entertainment)
COM Commu-nication Solutions		Mobile telephone systems for major standards (GSM, GPRS, EDGE, UMTS), cordless telephone systems for major standards (WDCT, DECT), RF connectivity solutions (Bluetooth, GPS, etc.), cellular base stations, traditional telecom and enterprise equipment, broadband access solutions for central office and customer premises equipment, home networking equipment.

Customers

Infineon Austria - Company Overview

Infineon Technologies Austria AG incl. subsidaries & holdings



Production

Research & Development

Infineon Gains Worldwide Market Leadership in Power Semiconductors

Global Power Semiconductor Market Ranking

Rank 2004	Rank 2005	Supplier	2005	2004	Change
(1)	**1**	**Infineon (incl. eupec)**	**9.4%**	**8.4%**	**1.0%**
(3)	2	Fairchild	7.2%	7.6%	-0.4%
(2)	3	IR	7.1%	7.8%	-0.7%
(4)	4	STM	6.9%	7.0%	-0.1%
(5)	5	Toshiba	6.2%	6.5%	-0.3%

Market size 2005: USD 11,320 m
2004: USD 11,278 m

Source: IMS Research, Global Market for Power Semiconductors, September 2006

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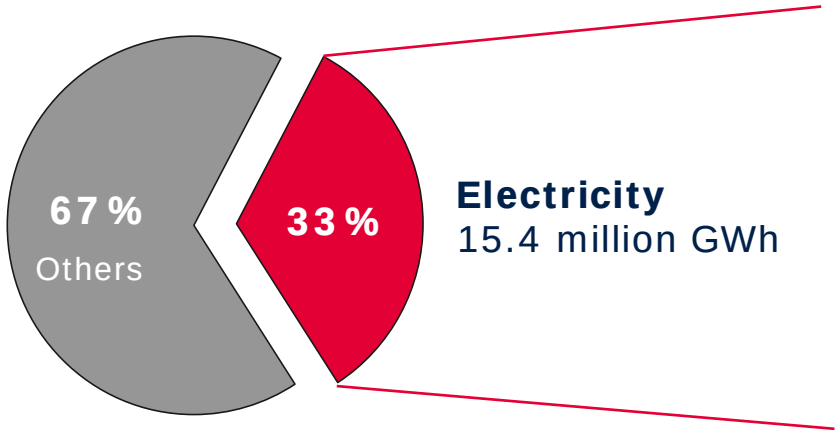
About one third of the global energy use is based on electricity

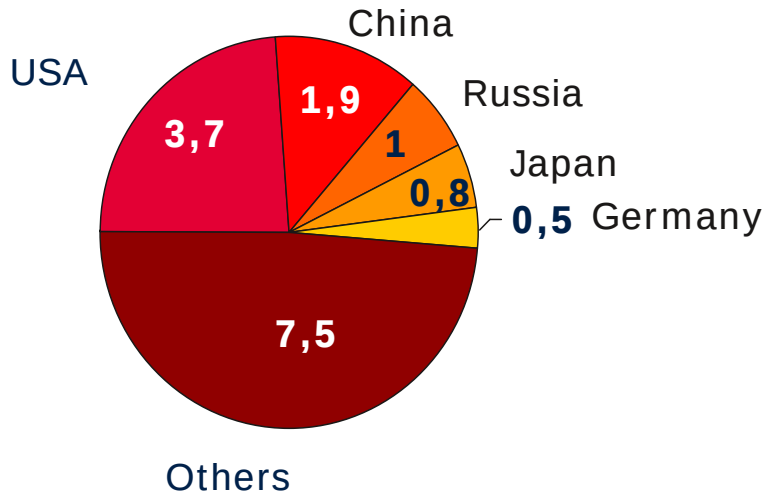
~1/3 of **global energy consumption** is electricity

Global energy consumption 2004



USA und China are the **largest consumers of electricity**

Global electricity consumption 2004
total 15.4 million GWh



The **easy control of electrical energy** offers **great potential for efficiency increase**

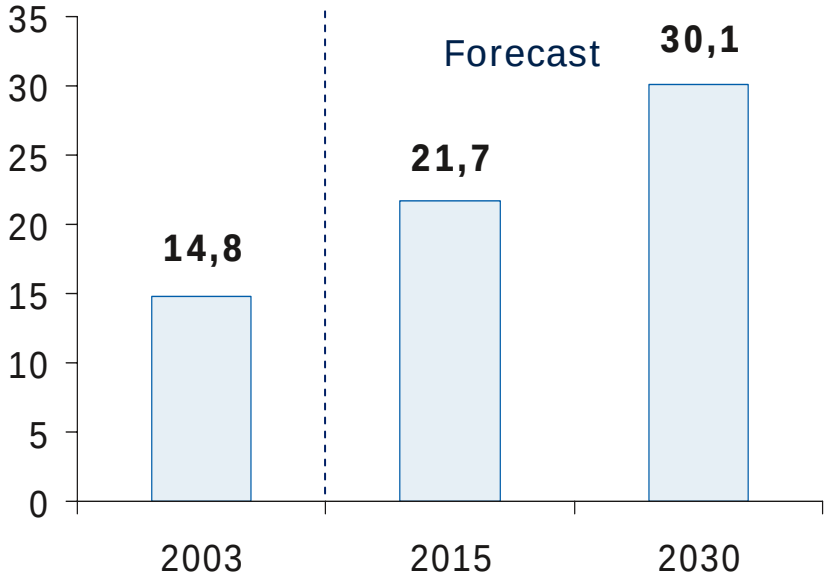
Source: BP World Energy report; Energy Information Administration (EIA) – International Energy Outlook 2005

Global demand for electricity is expected to double until 2030

Annual increase in global electricity demand of 2.7%

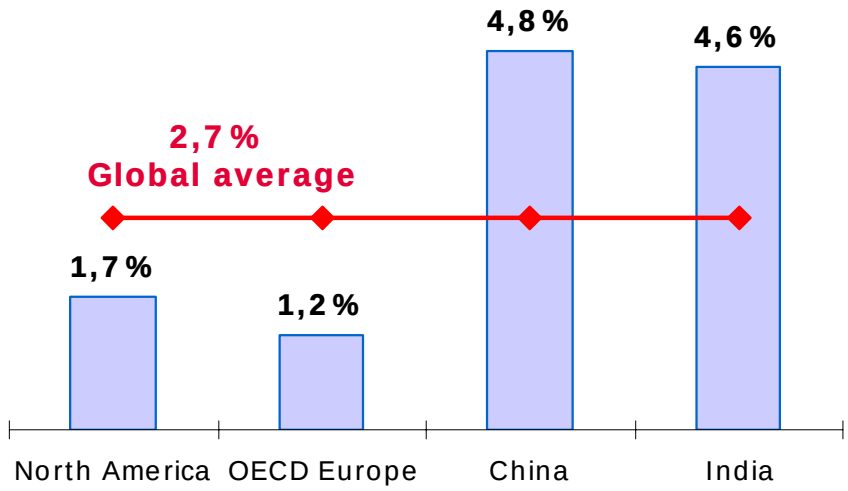
Global demand for electricity doubling until 2030

Global consumption of electricity
2003 – 2030
in million GWh



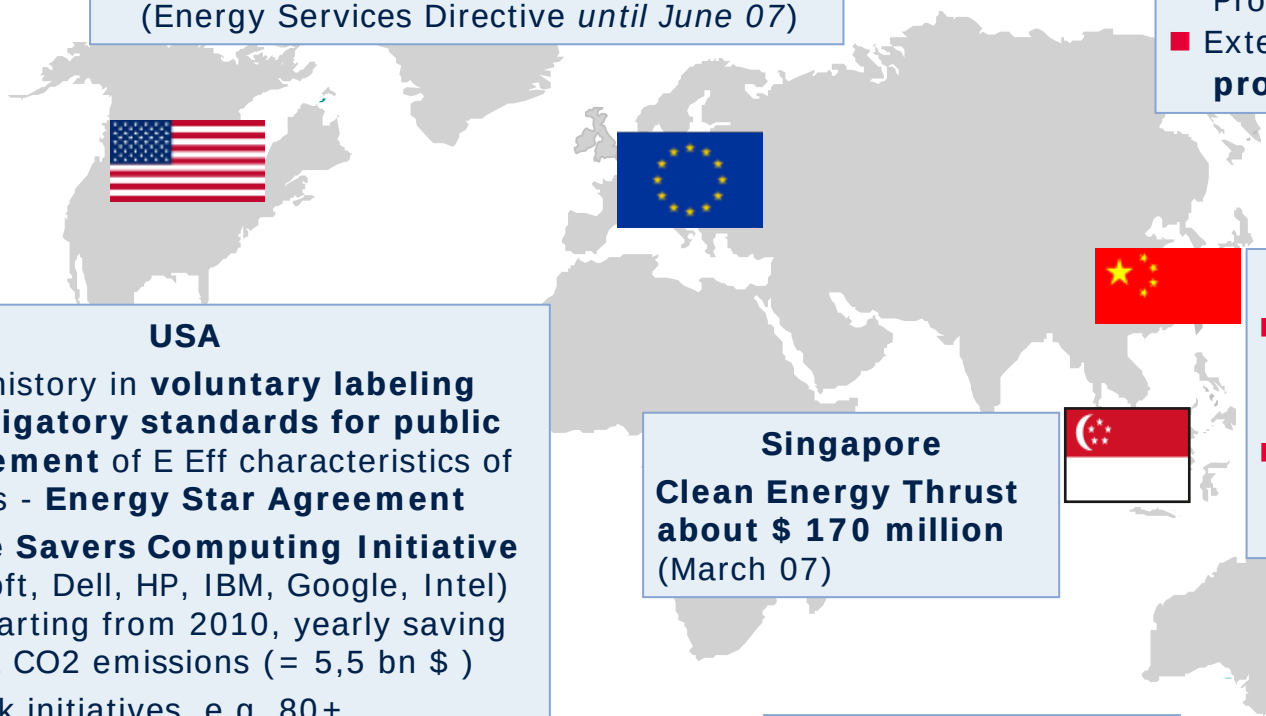
China and India main drivers of demand

Annual increase of electricity demand
2003 - 2030
in %



Source: Energy Information Administration (EIA), International Energy Outlook 2006

Energy Efficiency – not just a new buzzword, but a reality



EU

- **EU Action Plan** 'Realizing the Potential' with 10 priorities; Goal: 20% savings until 2020 *(released Oct 06)*
- **Set up of** national Energy Efficiency Action Plans by EU Member States (Energy Services Directive *until June 07*)

Japan

- **Energy Conservation** Law
- **Energy Savings Labeling** Program (2000)
- Extend to **13 target products groups** (2004)

China

- Energy Efficiency – a central topic in the 11th **Five-year-plan**
- 10 **Energy Savings Priority Groups** (incl. E.g. Green Lighting)

Singapore

Clean Energy Thrust about $ 170 million (March 07)

USA

- Strong history in **voluntary labeling and obligatory standards for public procurement** of E Eff characteristics of products - **Energy Star Agreement**
- **Climate Savers Computing Initiative** (Microsoft, Dell, HP, IBM, Google, Intel) Goal: starting from 2010, yearly saving of 54 Mt CO2 emissions (= 5,5 bn $)
- Pay-back initiatives, e.g. 80+
- **Wal-Mart** demanding **scorecard on energy efficiency** for all electronic products (starting from 2008)

Australia

Ban on conventional light bulbs from 2010 on *(Feb 07)*

Examples

Source: press articles

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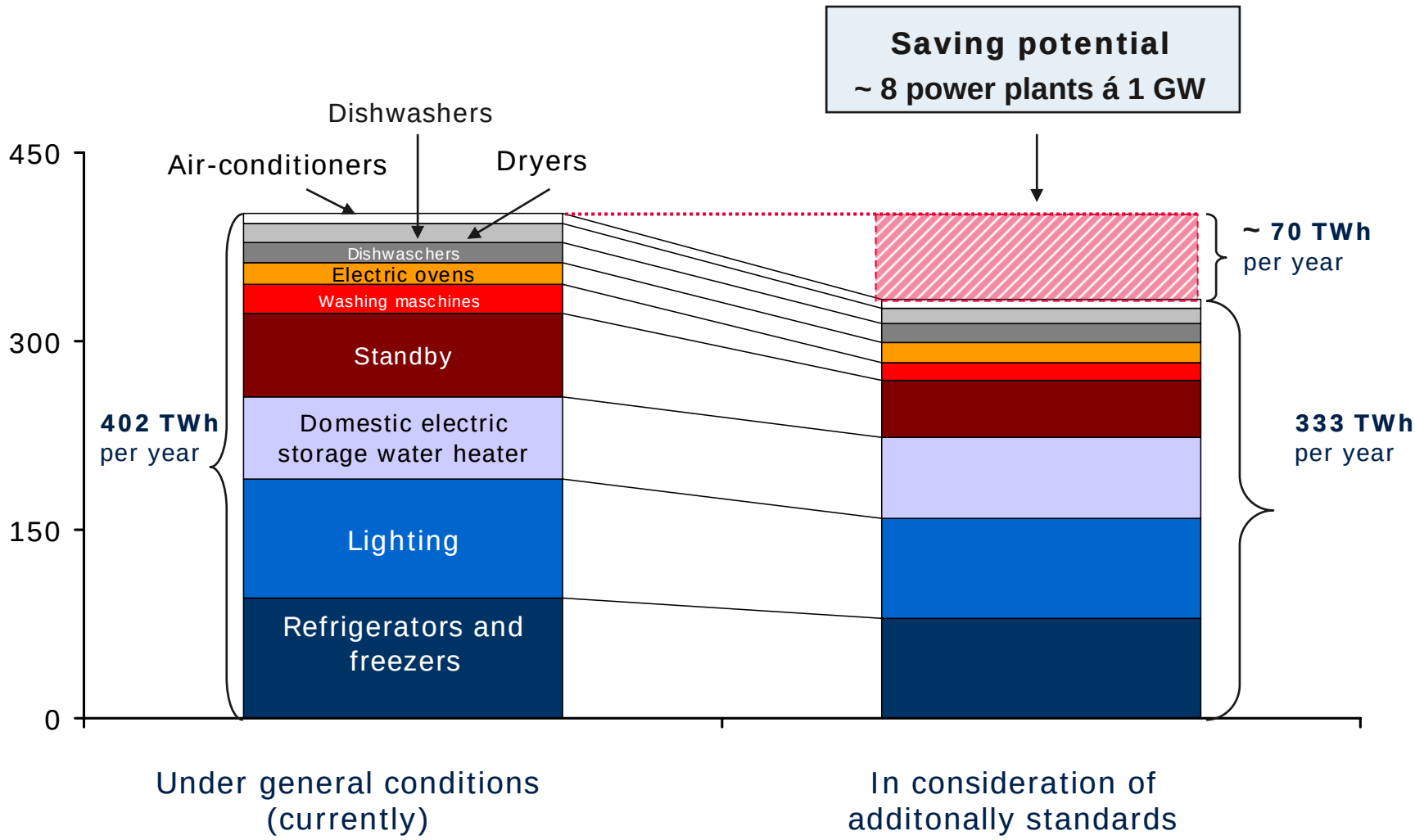
Saving Potentials using Power Electronic based solutions is possible to be achieved today!

POWER SUPPLY	LIGHTING	INDUCTIVE COOKING	TRACTION DRIVES	MOTOR CONTROL	AIR CONDITIONER	STAND-BY POWER (TV)
up to 40 % Saving Potential	**25 % Saving potential**	**25 % Saving potential**	**20-30 % Saving potential**	**30-40 % Saving potential**	**30-40 % Saving potential**	**90 % Saving potential**
~6% of total electricity consumption	~5% of total electricity consumption	(using induction instead of electric ovens)	(using power semiconductors e.g. recuperation of braking energy)	~40% of total electricity consumption	(using Intelligent Compressor Control)	(using auxiliary power supplies)
						

Sources: eupec GmbH; BVG- Berlin; Siemens / ECPE, 10/2005

Enormous savings potential in households: White goods, standby operation & lighting

Power consumption in European households in TWh (Forecast 2010)



Quelle: Wal, Kern 2004

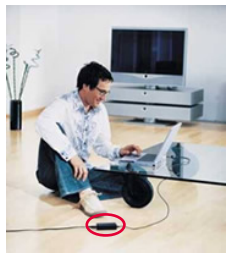
How Much Money Can a European Household Save?

Average European Household

Energy efficiency
due to
innovative technology

+

Energy Savings
due to
energy-saving behavior



Average energy saving potential up to 1000€ p.a. *

*Source: BMU, Energie effizient nutzen , 2006

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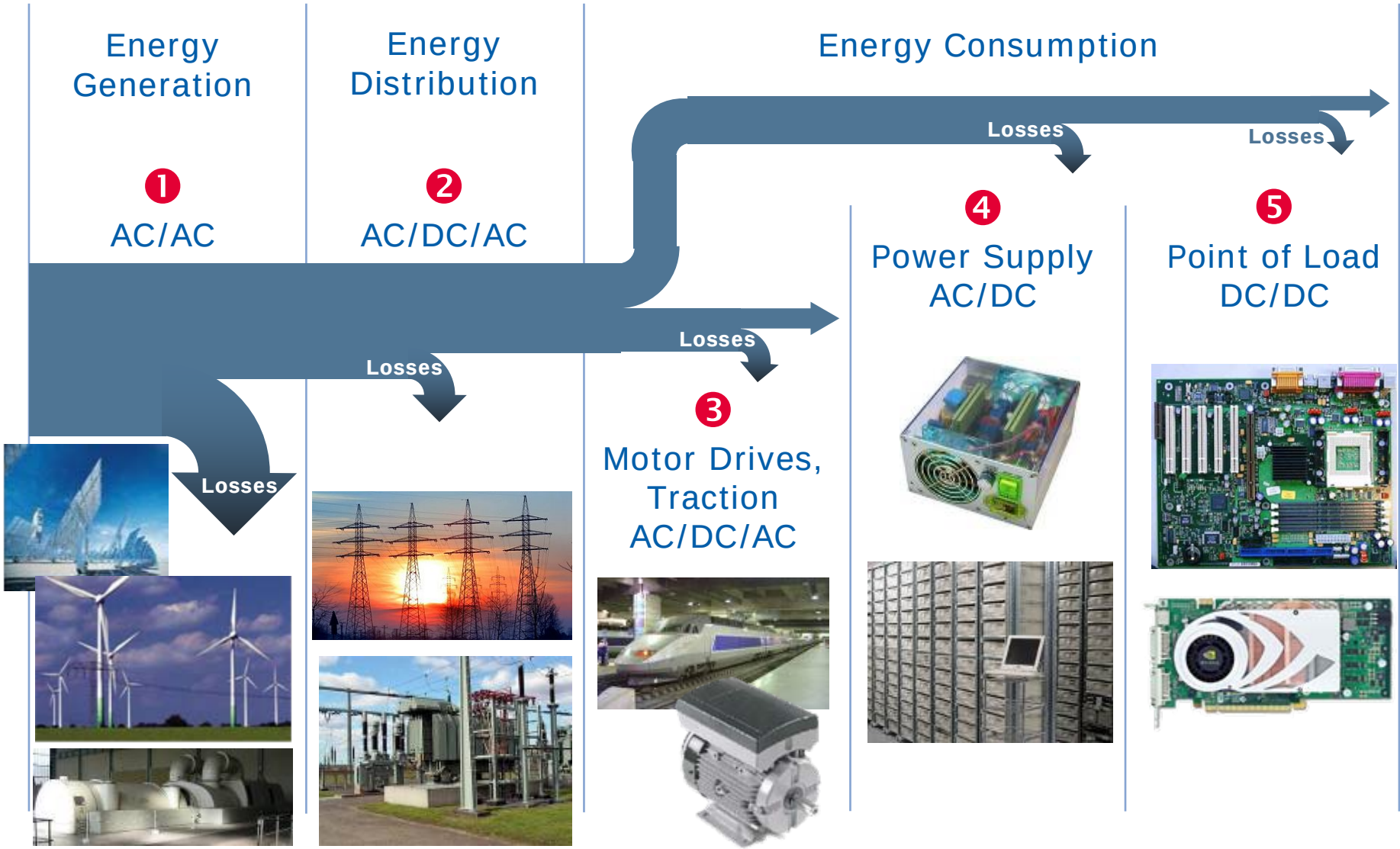
Our Products Help Reduce Losses Along the Entire Energy Distribution Chain



Higher energy efficiency through new AC/DC power supplies

Miniaturization, reduced losses, wider input range

Yesterday

Today

Vision

Massive energy waste during stand-by! Example: Television

Europe: ~ **200 million TV sets**

consuming **2 GW during stand-by** of 20h

(with about 200Wh/day per set)

IEA recommendation: Up to **90 % savings possible**

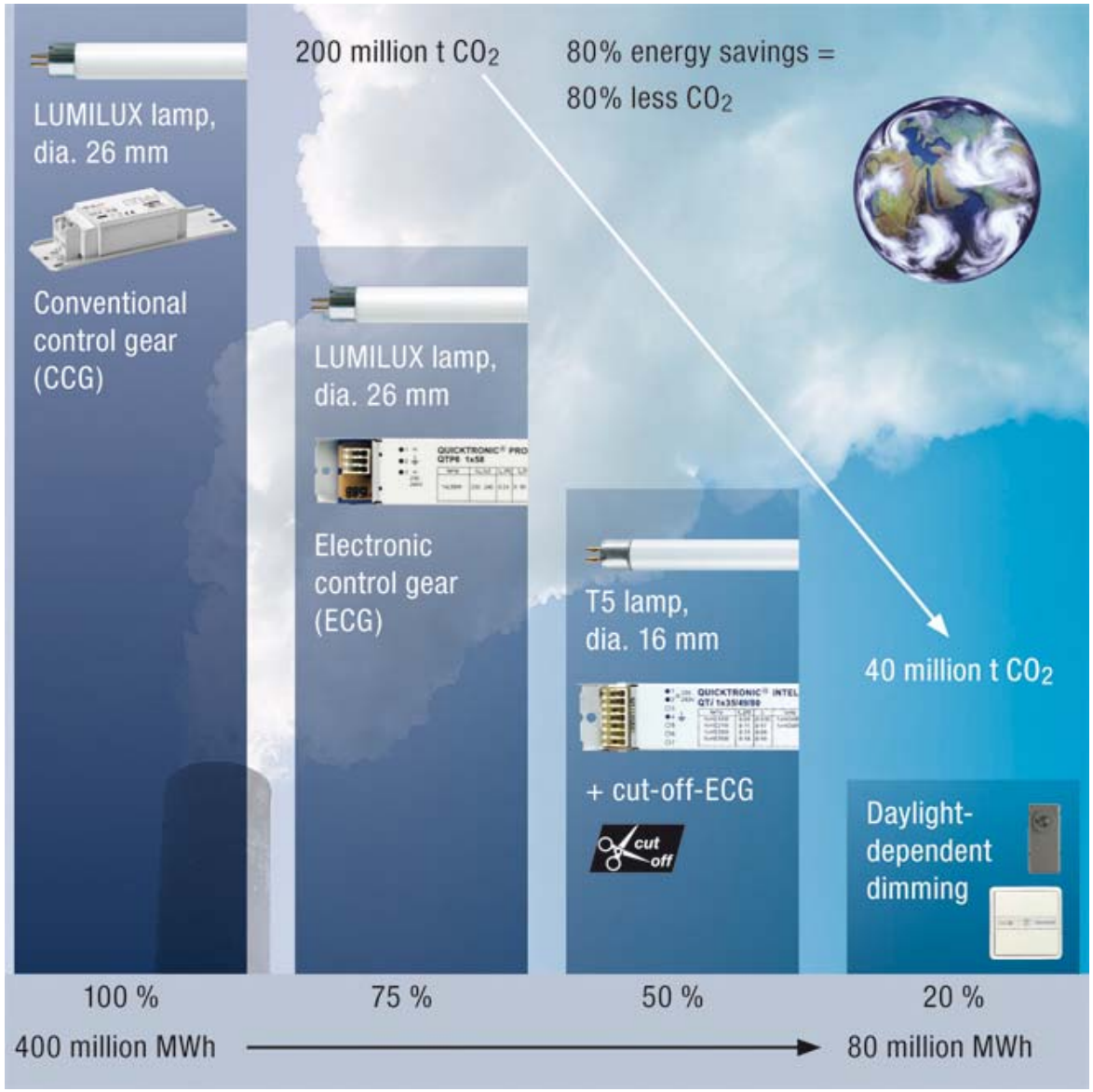
European TV stand-by

power consumption p.a.

Rated Output Power	Phase 1 Jan. 2001	Phase 2 Jan. 2003	Phase 3 Jan. 2005
> 0.3W and < 15W	1.0W	0.75W	0.30W
> 15W and < 50W	1.0W	0.75W	0.50W
> 50W and < 75W	1.0W	0.75W	0.75W

Implementation of IEA recommendation would **save power of 1 nuclear power plant** (1,8 GW)

Lighting Applications- High Energy Saving Potential
Electronic Control of Lighting and Switching Reduces Energy



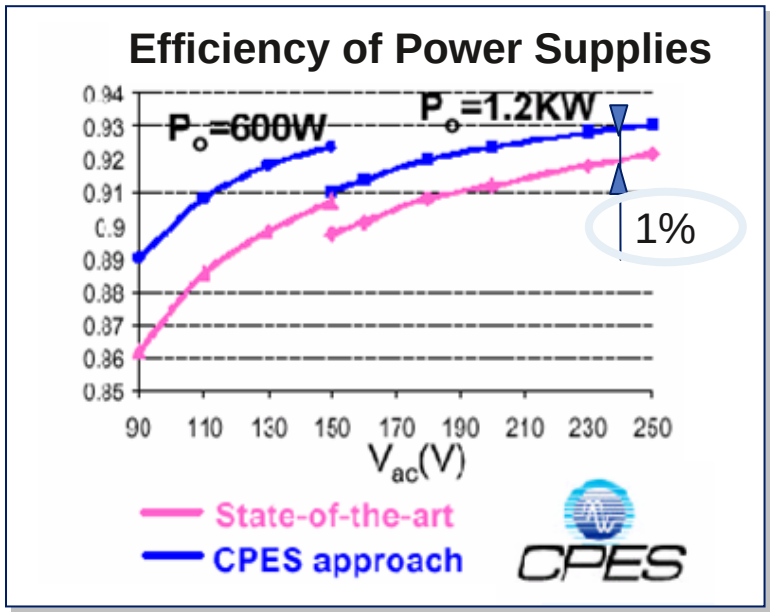
Source: Osram GmbH; evg-spot 1/2007

15% of worldwide electrical energy is used by lighting

Energy Saving in Server Power Supplies

Higher Efficiency Factor in Power Supply Units through COOLMOS™

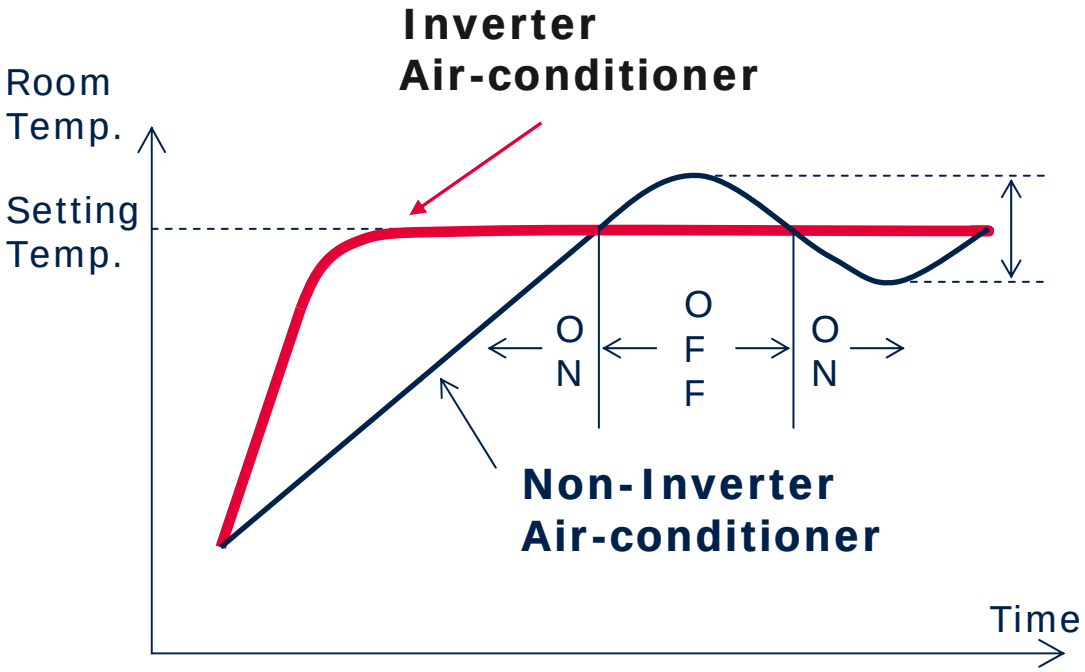
Amount of server ww in 2006*	~9.5Mio
Amount of server (additionally) until 2011	~30Mio
Ø Electric power consumption of one server	~1200W
Total electric power consumption server ww	36.000MW



- 1% saving is equivalent to a hydroelectric power plant (360MW)
- Additionally you can save the cooling power

Source: Darnell, Power Factor Correction, 2006; CPES Bing Lu – APEC Proceedings 2002

Air-conditioners – Infineon products enable improved efficiency and convenience



- Takes 1/3 less time to achieve the desired temperature
- Energy savings up to 30 – 40%
- Permanent control without disturbing noise and constant draft

Source: eupec GmbH, 2005

Infineon –
Never stop thinking

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