

PHILIPS

sense **and** simplicity

The Economic & Ecological benefits of Energy Efficient Lighting *- A Triple Win for the Hospitality Sector -*

Harry Verhaar

Sr. Director Energy & Climate Change – Philips Lighting

Opportunities & Challenges in the Tourism Lodging Sector

INTO - Palma de Mallorca, Oct 23, 2008

asimpleswitch.com 

Philips is serious in Hospitality

- Philips announced in August 2008 the creation of a dedicated **Hospitality Business Unit**
- Business unit aims to help our customers in the hospitality market with **integrated solutions** in ambiance & infotainment.
 - Lighting, TV's, kettles, heart start, control systems, ...
- Business Unit is organized around the **customer** (in stead of products) with Philips support available locally in the countries
- Two major – interconnected - themes to make this a success:

Ambiance & Sustainability

Introduction

Regional and Country Profiles

Indicators and

UNITED NATIONS DEVELOPMENT PROGRAMME

the **SUSTAINABLE DIFFERENCE**

UNDP

Local Governments for Sustainability

Global

SEATTLE

Greg

Seattle City Light

about ICLEI

BBC NEWS

UK version International version About the versions | Low gr

Last Updated: Monday, 30 January 2006, 11:00 GMT

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Stark warning over climate change

By Richard Black
Environment Correspondent, BBC News website

Rising concentrations of greenhouse gases may have more serious impacts than previously believed, a major scientific report has said.

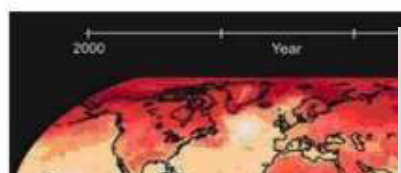


- Biographies
 - Photos & Images
 - Video Library
- Community
- Employee News
- Learn More

Modeling of long-term fossil fuel consumption shows 14.5-degree hike in Earth's temperature

LIVERMORE, Calif. — If humans continue to use fossil fuels in a business-as-usual manner for the next few centuries, the polar ice caps will be depleted, ocean sea levels will rise by seven meters and median air temperatures will soar to 14.5 degrees warmer than current day.

More Information



These are the stunning results of climate.

CNN.com

U.S. > story page

Future energy shortages predicted

Study faults U.S. power preparedness

July 28, 1999
Web posted at: 3:34 p.m. EDT (1534 GMT)

In this story:

Why?

RELATED STORIES, SITES

Headline: Deep heat

July 28, 1999

CNN network

CNN website

at: ar: hometable

and: 400

CNN WEB SITES

myON.com CNN

Done

Extreme heat may lead to power loss in some sections of the nation, as demand exceeds supply

VIDEO

CNN's Bill Delaney looks at how the heat wave may affect the country's power supply

Windows Media 22K 80K

ALSO:

Another scorcher

U.S. drought worsens

BOSTON (CNN) -- This summer's withering heat has forced some power companies to warn they are on the brink of running out of electricity. And just because it hasn't happened near you doesn't mean it

Climate change

request for Greenhouse Gas Mitigation

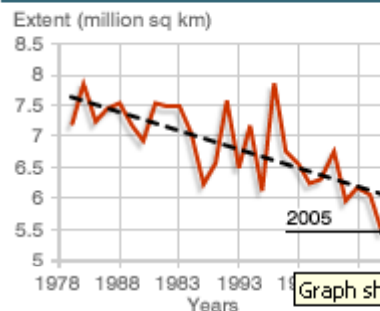
at Proposal Requesting Project Summary

Warming higher than expected

suggests the earth's average temperature

2000 if fossil fuel consumption keeps rising

ARCTIC SEA ICE EXTENT - SEPTEMBER TREND, 1978-2005



Graph showing ice decline

SOURCE: National Snow and Ice Data Center (NSIDC)

- ♦ The straight line tracks a more than 8% decline per decade

The Heritage Foundation

POLICY RESEARCH & ANALYSIS

Heritage home Heritage Research press room

The Heritage Foundation > Research > Energy and Environment > Energy Shortages In Energy-Rich America

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RESEARCH

energy and environment

Energy Shortages In Energy-Rich America-- Why?

by The Honorable Denise A. Bode
Heritage Lecture #692

November 16, 2000

Now here, you see, it takes all the running you can do to keep in the same place. If you want to get somewhere else, you must run at least twice as fast.

--Lewis Carroll, *Through the Looking Glass*

The above quote rings in my mind as I view the latest numbers on oil and gas production here in Oklahoma. In spite of the fact

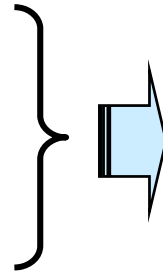
Study Shows Escalating Climate Change Impacts on Human Health, the Environment

NEW YORK-November 1, 2005-The Center for Health and the Global Environment at Harvard Medical School, the Swiss Re and the United Nations Development Programme, today released a study showing that the health of humans and ecosystems and these impacts will have economic consequences.

Energy & Climate Change

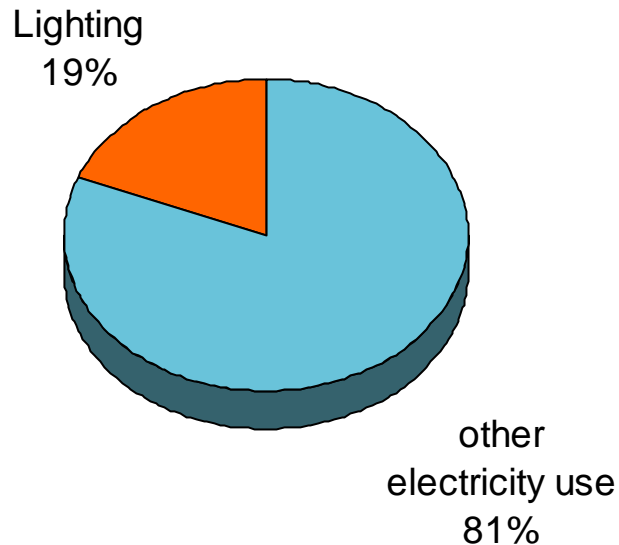
Four drivers for action

- Rising energy prices
- Climate change / Kyoto
- Security of Supply
- Economic Growth

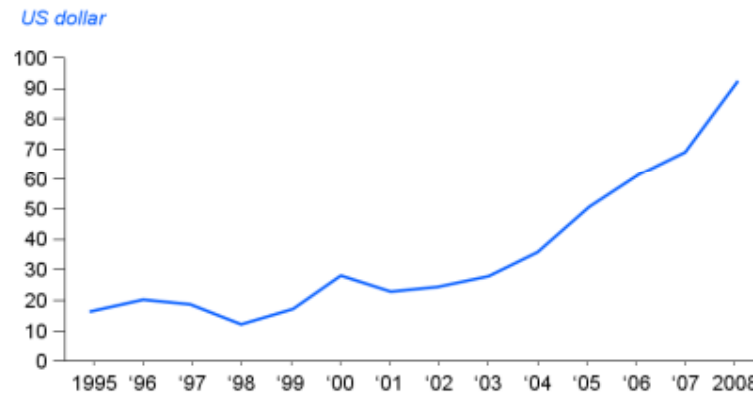


Our value proposition

Energy Efficient
Lighting Solutions



Oil at historical high, yearly av.price (US\$)*

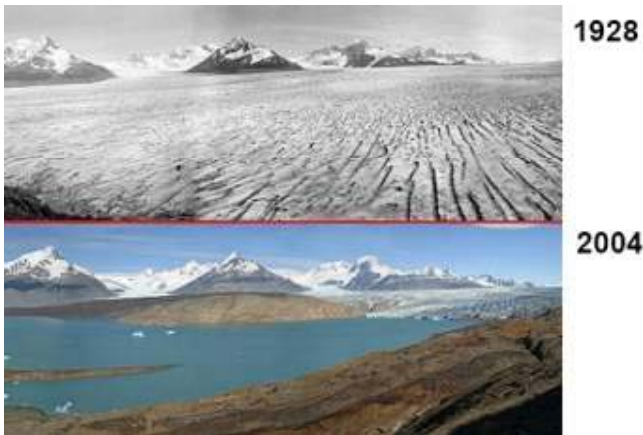


* Source: OPEC Reference Basket (ORB), www.opec.org

Climate Change

The Consequences are already visible

Patagonian Glacier



Arctic Ice cap melting



New Orleans 2005



Global weather instabilities



Tour boat on the Amazon



Philips EE Lighting, Oct 23 2008

Droughts in C-Africa



How does this relate to EE Lighting ?

Current lighting market situation

- Up to **75%** of all lighting currently installed is old less energy efficient
- New energy efficient **solutions exist** for all segments
- Tomorrow we will have even more solutions (LEDs)

But:

The current market **renovation rates** are too slow !
(e.g. Outdoor 3%, Buildings 7% etc)

Huge potential for energy saving

Area of lighting	Energy saving	CO ₂ savings per light-point per year
Road lighting	57%	132 kg CO ₂
Retail & Hospitality Lighting	80%	140 kg CO ₂
Office & Industrial Lighting	61%	93 kg CO ₂
Home Lighting	80%	41 kg CO ₂
LEDs	80%	41 kg CO ₂

Potential savings

- 106 billion Euros in electricity **cost**/year
- 555 million tons of **CO₂** emissions/year
- 1560 million barrels of oil eq/year
- Output of more then 530 **power plants** at 2 TWh/yr



Global support to phase-out Incandescent Lamps

Following Philips call for phase-out on 7 December 2006

Philips call to phase-out incandescents

- 7 Dec 2006
- Replace by EE alternatives
 1. CFL
 2. Other lamps (Halogen; LED)

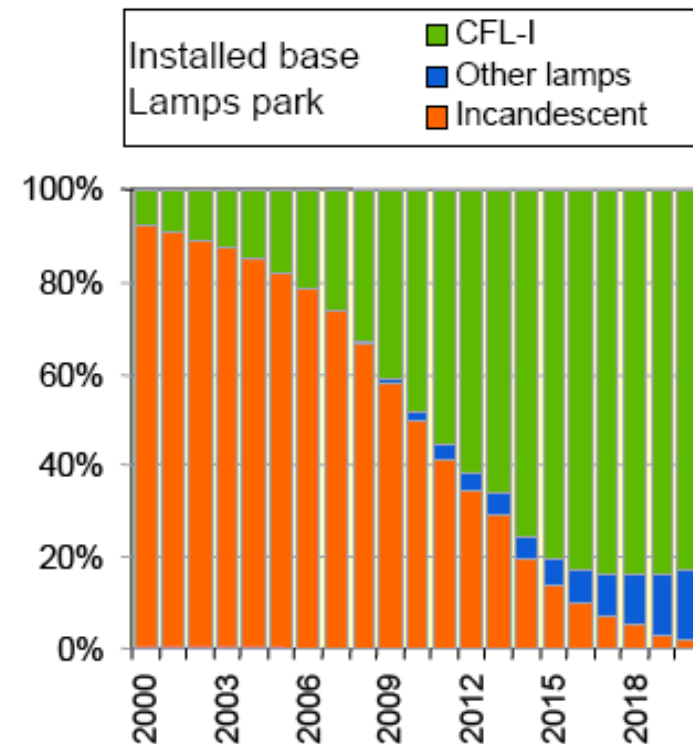


GLS phase-out now global process

- EU27 (announced)
- USA/CAN (2013)
- AUS/NZ (2009/10)
- Cuba (done)
- BRA/ARG (announced)
- Others in discussion



Phase-out of incandescent lamp park



* This plot is only relevant for the GLS / CFL category, not Fluo, HID etc.

Energy Saving Options replacing incandescent



1. Compact Fluorescent Lamps

- 80% Energy Savings
- Major improvements last few years (size; light; cost; ..)
- Need to balance demand and global industry capacity

2. Energy Saving Halogen

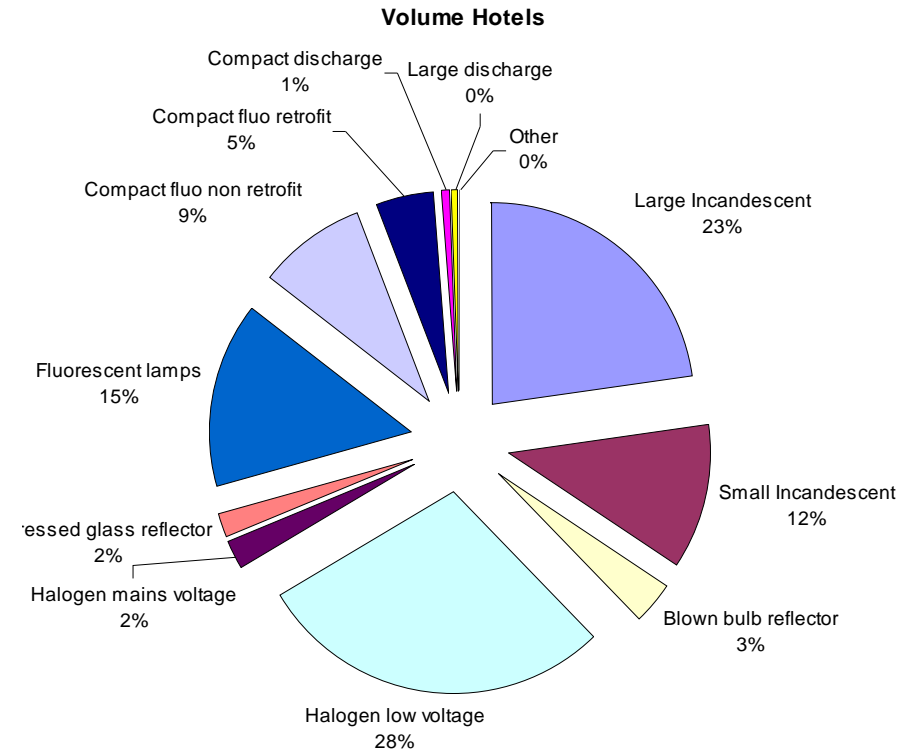
- Up to 50% Energy Savings; high light quality
- Replacement range in launch phase

3. Solid State Lighting (LED`s)

- Currently for decorative replacements
- Today limited but fast improving light output

Most commonly used lighting concept in hotels

- Incandescent 40%
- Halogen 30%
- Fluorescent (TL) 15%
- Compact Fluorescent (CFL) 15%



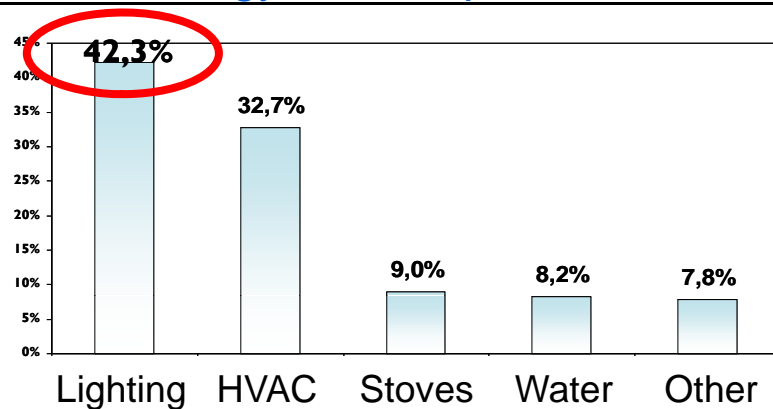
- Meaning a lot of possibilities to save!!

Why so inefficient light sources?

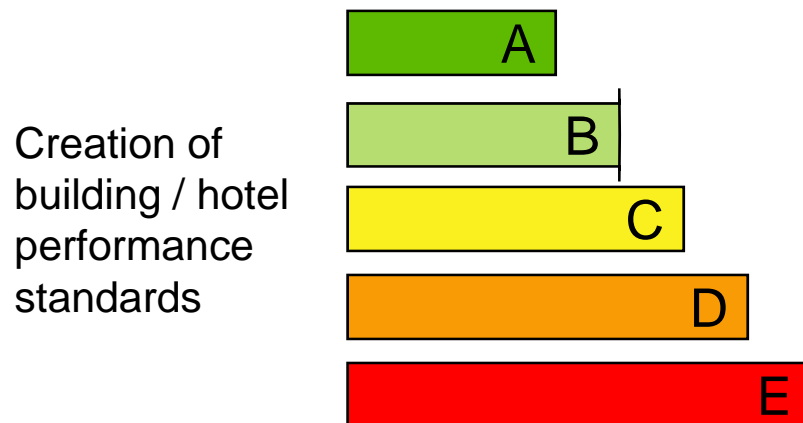
- Not conscious enough about the energy costs
- Too much initial pricing focus
- Other light quality of energy efficient sources
- New energy efficient light sources from Philips comply to;
 - Acceptable price
 - Same or better quality of light
 - Environmental friendly
 - The best energy saving possibility in the market
 - Cheaper in integral pricing compared to its predecessor

Hotels – enhanced energy savings through system approach and renovation focus

Hotels energy consumption



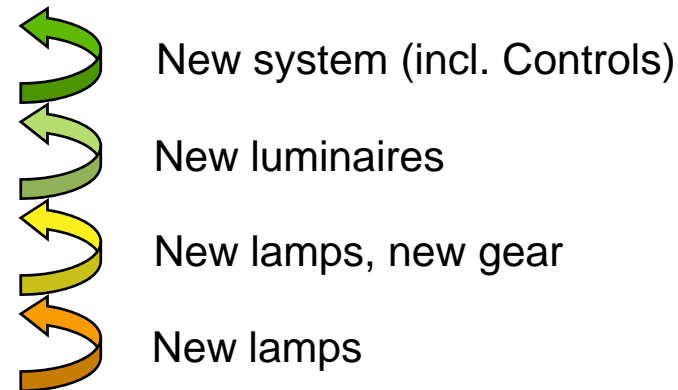
Environmental efficiency metrics



Energy saving opportunity

Up to 60 to 70% of savings feasible on lighting energy consumption in offices, schools, hotels, hospitals, etc. through Energy Efficient Lighting system upgrades

System approach



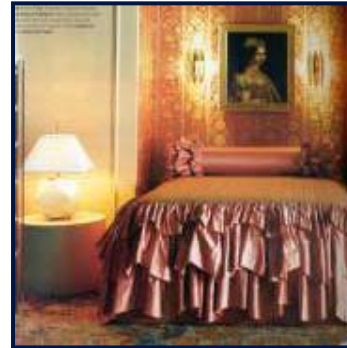
Hotels – areas with focus on ambiance & savings



Lobby, foyer,
lounge, reception



Corridor and stairs



Guest rooms
and bathrooms



Restaurant



Bar



Recreational areas



Offices and
conference center



Service areas

Example Total Hotel

Example Total Hotel Spain

- Auditing the total Hotel per room
- Analyse:
 - What is installed
 - How long is is burning
 - What are the energy costs
- Propose energy saving lighting

The bottom screenshot displays the following data:

TYPE	QTY	W	h day	TYPE 2	W	h day	Cost	TYPE 2	W	h day	Cost	B. Savings	C.M.
HALOGEN	40	1	100W/100h	LED	200	100	3.00	MASTER LED FS	10	100	9.00	1,619.00 €	000.00 €
HALOGEN	20	8	100W/100h	LED	100	100	8.00	MASTER LED FS	8	100	17.60	1,863.20 €	1,204.20 €
												14,161 €	13,329 €
												27,490 €	

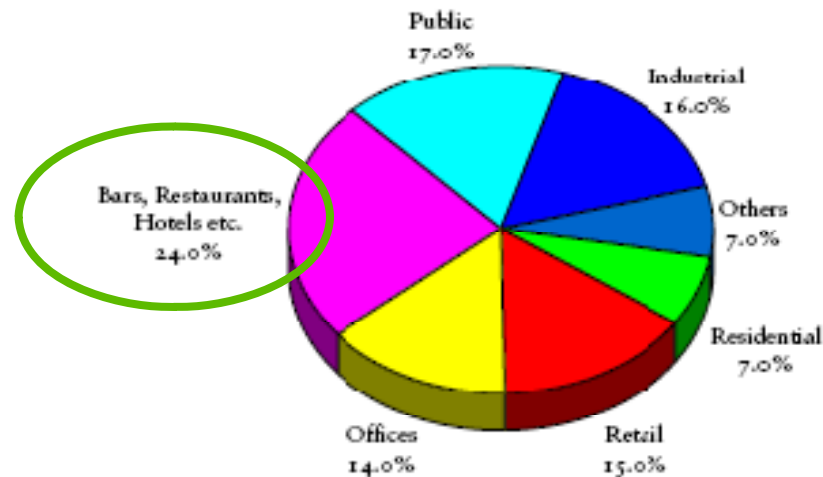
D. PAYBACK Difference between the installed power in the current situation and the proposal considering the burning hours a year		SAVING COST IN A YEAR		3,022 €	1,945 €
C.M.: Labour cost to replace a lamp = Cost of the Lamp		SAVING COST IN A YEAR X 10		3,022 €	1,945 €
Lamp Cost / Lamp	2.38 €	100h	0.38 €	TOTAL ANNUAL SAVINGS 4,967 €	

**SAVING OF 55.000 EUR PER YEAR
FOR TOTAL HOTEL**

But there is more...

- Solid State Lighting solutions are entering the market
 - Hospitality market first market to adopt LED's
 - Lower light levels in Hospitality
 - Higher need for ambiance solutions and colour changing
 - High awareness of cost saving possibilities

Light Emitting Diodes Market: Revenue Share by Type of Application (Europe), 2007



Note: All figures are rounded; the base year is 2007. Source: Frost & Sullivan

Examples of LED lighting



Lobby, foyer, lounge, reception



Restaurant



Shopping arcades



Mood setting / variation



LED Produkte

Indoor



eW Downlight



Spot LED



Fugato LED



eW Cove
Powercore



iColor Cove MX
Powercore

Outdoor



LEDline²



iColor Accent
Powercore



Color Blast 12
Powercore



LEDflood



iColor Flex



Urban Line

EE Lighting Opportunity for Hospitality



Technology

- EE Technology exists today
- Tomorrow even more solutions exist (LED`s)
- Good energy saving projects are being realized (with 40 to 70% energy savings !!)

Balanced `public / private` approach

- Value Chain
- Policy Measures / Legislation



Unique Triple Win

1. **End-Users / tax payers:** lower cost & better light quality
2. **Environment:** lower energy use & CO₂ emissions
3. **Business:** better image / ambiance; customer preference

Acceleration needed !

- Current switch too slow
- Global CO₂ emissions still increasing
- Need to move faster **from `talking` to `acting`**

Philips, your partner in sustainable business!

Philips can:

- Help you to make a selection in **leading sustainable lighting solutions** that reduce environmental impacts, save cost and improve quality light
- Support you in finding **business opportunities** using energy efficiency as a key driver for better lighting
- Guide you in merchandising **responsible corporate citizenship** and meet Sustainability objectives



