

# Energy efficiency in the European Lighting Industry

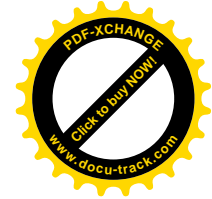
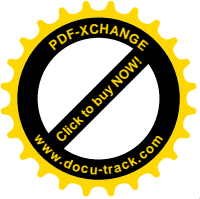
Presentation by  
Gerald Strickland, Secretary General  
European Lamp Companies Federation (ELC)

30<sup>th</sup> January 2008

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Aura Light • BLV • GE Lighting • NARVA • OSRAM GmbH • Philips Lighting • SLI

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# Overview

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- n About the ELC
- n The Case for Energy Efficient Lighting
- n The Barriers to Change
- n The Lighting Industry Strategy
- n Questions and Answers

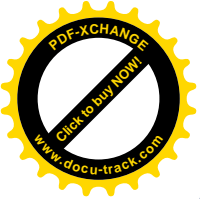


# About the ELC

n 7 Member companies



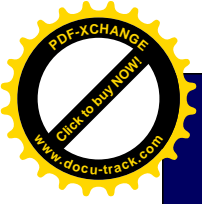
- n collectively employ over 50,000 people in Europe
- n account for 5 billion Euro European turnover
- n [www.elcfed.org](http://www.elcfed.org)



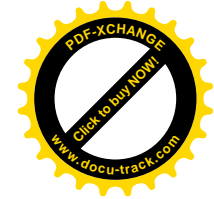
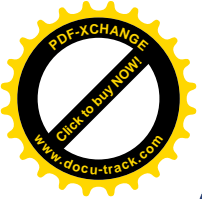
# Working in Brussels and Across Europe through ROMS to..

- n Support European Governments
  - n to develop policy and other measures that deliver CO<sub>2</sub> emission reductions through energy efficient lighting.
  - n to meet their National and European targets in a quick, practical and cost effective way.
- n Help to identify the barriers to becoming energy efficient.
- n Work with a range of stakeholders (our value chain AIE, EUEW, PLDA, CELMA, NGOs & retailers etc) to develop and communicate user friendly information to end consumers
  - n ELC agreement with Eurelectric & Eurocommerce to raise awareness of the benefits of efficient lighting. *(pending guidance letter)*

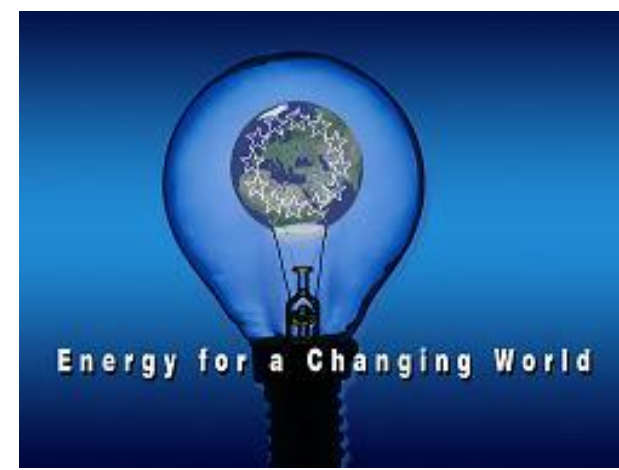




# The Case for Energy Efficient Lighting



# Lamps I CONIC to transition to a Low Carbon Economy...



José Manuel Barroso, President of the European Commission and Andris Piebalgs, Member of the European Commission in charge of Energy at the press conference for the presentation of the Green Paper on Energy. *March 2006*

CE | Brussels - EC/Berlaymont | P-011945/00-03 | 08/03/2006

# Lighting – A Significant Consumer of Energy

- n Lighting consumes 14% of all electricity consumption within the EU and 19% of global electricity consumption

*International Energy Agency*



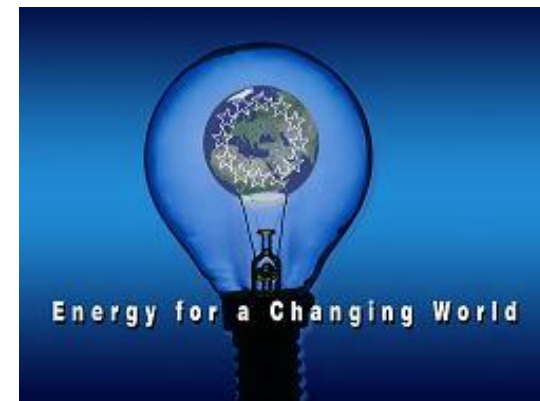
- n "Lighting requires as much electricity as is produced by all gas-fired generation and 15% more than produced by either hydro or nuclear power".

*Light's Labour's Lost – Policies for Energy-efficient Lighting. IEA*



# The Case for Energy Efficient Lighting

- Energy efficient lighting is one of the quickest, most practical and most cost-effective ways for Europe to save energy.
- According to our industry estimates, we could save Europe approximately
  - 42.5 Million tonnes of CO<sub>2</sub>
  - 17.5 billion euros in running coststhrough energy efficient lighting each year (conservative estimates!)



Lamps ICONIC to transition to a Low Carbon Economy...





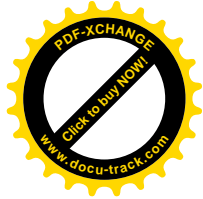
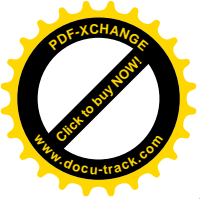
# Estimated savings

	Savings potential (per year) *			
	CO2 (Million tonnes)	Savings potential (KWh) = 0.37 kg CO2/kWh (**)	Savings potential in Euro (***)	Euro/kWh (***)
Domestic Lighting	23	62.2	€9.3 billion	€0.15
Office Lighting	8	21.6	€2.2 billion	€0.10
Industrial Lighting	8	21.6	€2.2 billion	€0.10
Street Lighting	3.5	9.5	€0.9 billion	€0.10
Total	42.5	114.9	€ 14.6 billion	N/A

\* This figure is based on the latest (conservative) industry estimates for the a total switch to energy efficient street, office, industry and domestic lighting in the EU (27). Detailed savings potential figures from each EU member states are in the process of being calculated by the ROMS programme.

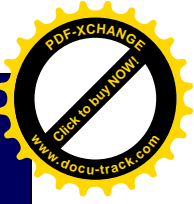
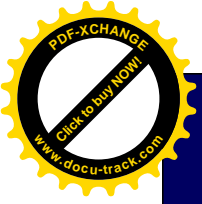
\*\* Figure courtesy of the International Energy Agency - 0.37kg CO2/kWh - CO2 EMISSIONS FROM FUEL COMBUSTION (2006 Edition) - II. 61

\*\*\* Figure courtesy of Philips Lighting B.V



# However... the current situation is not so bright

- n 1/3 of **street lighting** in Europe still based on old, outdated and inefficient technology
  - n current switch over rate is 3% per year - *meaning it will take another generation to upgrade*
  - n average life-time of lighting installation = 40 years
  - n new technology available, more energy efficient & better quality light
  
- n More than **75% of office** lighting systems still inefficient
  - n current switch over rate is 7% per year
  - n average life-time of lighting installation = 25 years
  - n huge differences in efficiency between old and new systems (energy saving potential 30-80%)
  
- n Approximately 85% of lamps currently in EU **homes** are energy inefficient.



# The Barriers to Change

# Budgets

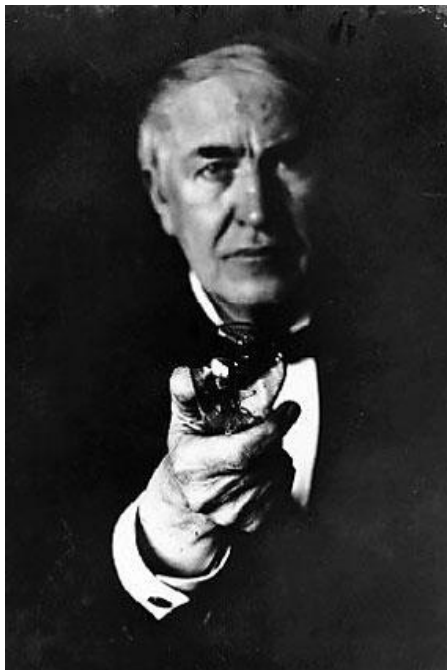
- n Budgets geared towards short term costs rather than long term savings
- n Who pays? Many private and commercial users (people in rented accommodation, offices, small companies) do not pay directly for the buildings' energy use therefore no sense of responsibility
- n Lack of awareness of the cost-effective savings potential of energy efficient lighting technology



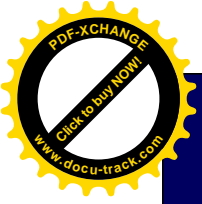
# Why change a habit of a lifetime?

*Thomas Edison*

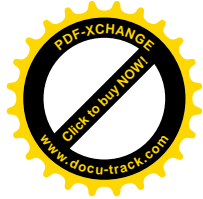
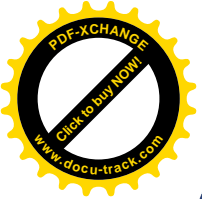
The inventor of the incandescent lamp



- n Consumers worldwide have been using incandescent lamps for over 100 years
- n Although new efficient technology exists, old and/or inefficient technology is still readily available on the market so it is difficult to change their purchasing habits



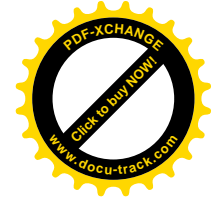
# Our Strategy



# The Lighting Industry Strategy – 3 Simple Steps

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1. EU-wide product standards under the lighting specific implementing measures (IMs) under the *Eco-Design of Energy Using Products Directive* (EuP)
2. National measures to encourage renovation of existing lighting installations - notably under the *End- Use Energy Services Directive* (NEEAPs, ESD) such as:
  1. Green public procurement
3. EU-wide lighting installation design criteria – under new legislative proposal



# 1. EU-wide Product Standards

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- n IMs should be formulated independently for each of the lighting EuP's which are lamps, ballasts, optical systems of luminaires and control systems (standby power)
- n We support an approach based on product technology-categories which are independent of the application (location of use)
  - n IM's should contain generic energy efficiency criteria for the specific product categories listed in the Eco-profile tables provided by ELC and CELMA

## *Labelling*

- n The CE marking is used as the sole means of identification for products on the market that comply with the requirements of Implementing Measure

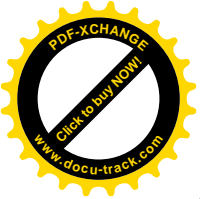


## *ELC Proposals for Public Street Lamps under EUP in more detail...*

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Two phase approach:

- n Phase 1 would set the binding minimum energy efficiency requirements for all HID lamp types used for general lighting purposes within 2 years of the entry into force of the Public Street Lighting Implementing Measure.
  
- n Phase 2 would ensure continual improvement and innovation by raising minimum energy efficiency requirements for high pressure sodium (HPS) and metal halide lamps (MH) within 5 years of the entry into force of the legislation.
  
- n *For detailed information on the energy efficiency requirements for HID, HPS and MH lamps see: [www.elcfed.org](http://www.elcfed.org) (Eco Design)*



## *ELC Proposals for Office Lamps under EUP in more detail...*

- n All linear and compact (non-integrated) fluorescent lamps intended for general illumination comply with minimum efficacy criteria within 3 years of the entry into force of the Implementing Measure
- n *For detailed information on the energy efficiency requirements for HID, HPS and MH lamps see: [www.elcfed.org](http://www.elcfed.org) (Eco Design)*

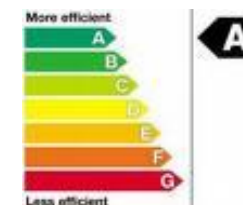


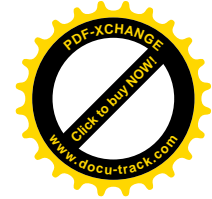
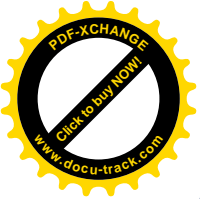
# ELC Proposals for Domestic Lamps under EUP in more detail...

- n 5 phases
- n Starting with highest wattage lamps & gradually covering lower wattages
- n For each phase, there are minimum efficiency specifications based on the existing energy efficiency label
- n For each wattage category, manufacturers call for requirements to become more stringent over time.
- n Step by step approach ensures the availability of practical energy saving alternatives in all domestic applications
  - n Realistic as it safeguards the interests of consumers, employees and Europe's lighting supply chain

Lamp Category	Phase 1 2009	Phase 2 2011	Phase 3 2013	Phase 4 2015	Phase 4+ 2017**
>100W	ABCD EFG	ABC DEFG			
75W+		ABCD EFG	ABC DEFG		
60W+			ABCD EFG	ABC DEFG	
25W+				ABCD EFG	ABC DEFG

*Lamps that do not carry the EU Energy Label are not in the scope of this proposal.*

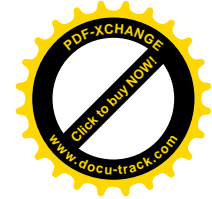




## 2. Renovation of Existing Lighting Installations

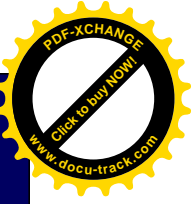
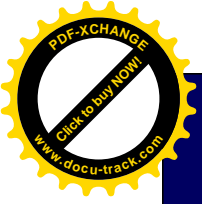
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- n Our goal: The development of complementary national legislation and measures that encourage the renovation of existing low performing lighting installations.
- n Notably but not exclusively, this can be achieved within the framework of the National Energy Efficiency Action Plans (NEEAPs)
  - n Required under the EU's End Use Energy Services Directive.
- n Working with the ROMS network and the *Energy Efficiency Watch* to ensure that all NEEAPs are reviewed & developed to ensure that measures for lighting are IPE
  - n Included
  - n Prioritised
  - n Executed

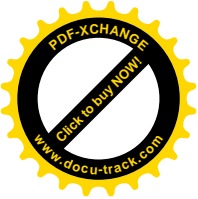


## 3. EU-Wide Lighting Design Legislation

- n Our goal: the development of harmonized EU-wide energy saving and performance criteria for lighting installations, through certification of lighting designs, based on European Legislation
  - n Rules would 'close the loop' by ensuring that light quality is improved whilst achieving energy savings in the most efficient manner through a system approach
- n Binding Lighting Design rules would avoid the risk of 27 divergent national criteria, which would be unnecessary, costly and time-consuming
- n They could also form part of national building codes and public procurement rules or any specific national regulations

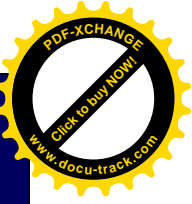
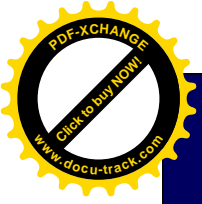


# Other Areas of Activity

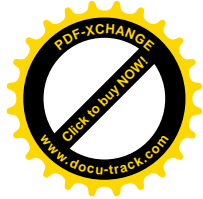
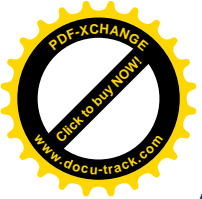


# Other areas of activity EU Funded Programmes





# Questions & Answers



# Some Questions

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- n What kind of information would you find useful from our industry?
- n Are you interested in examples of 'best lighting practice' from elsewhere in Europe?
- n How do you prefer to receive information?
- n ??