

Working with stakeholders:

Communicating with consumers, industry, test laboratories and other stakeholders

Nils Borg, Borg & Co
Stockholm, Sweden
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**Asia-Pacific
Economic Cooperation**

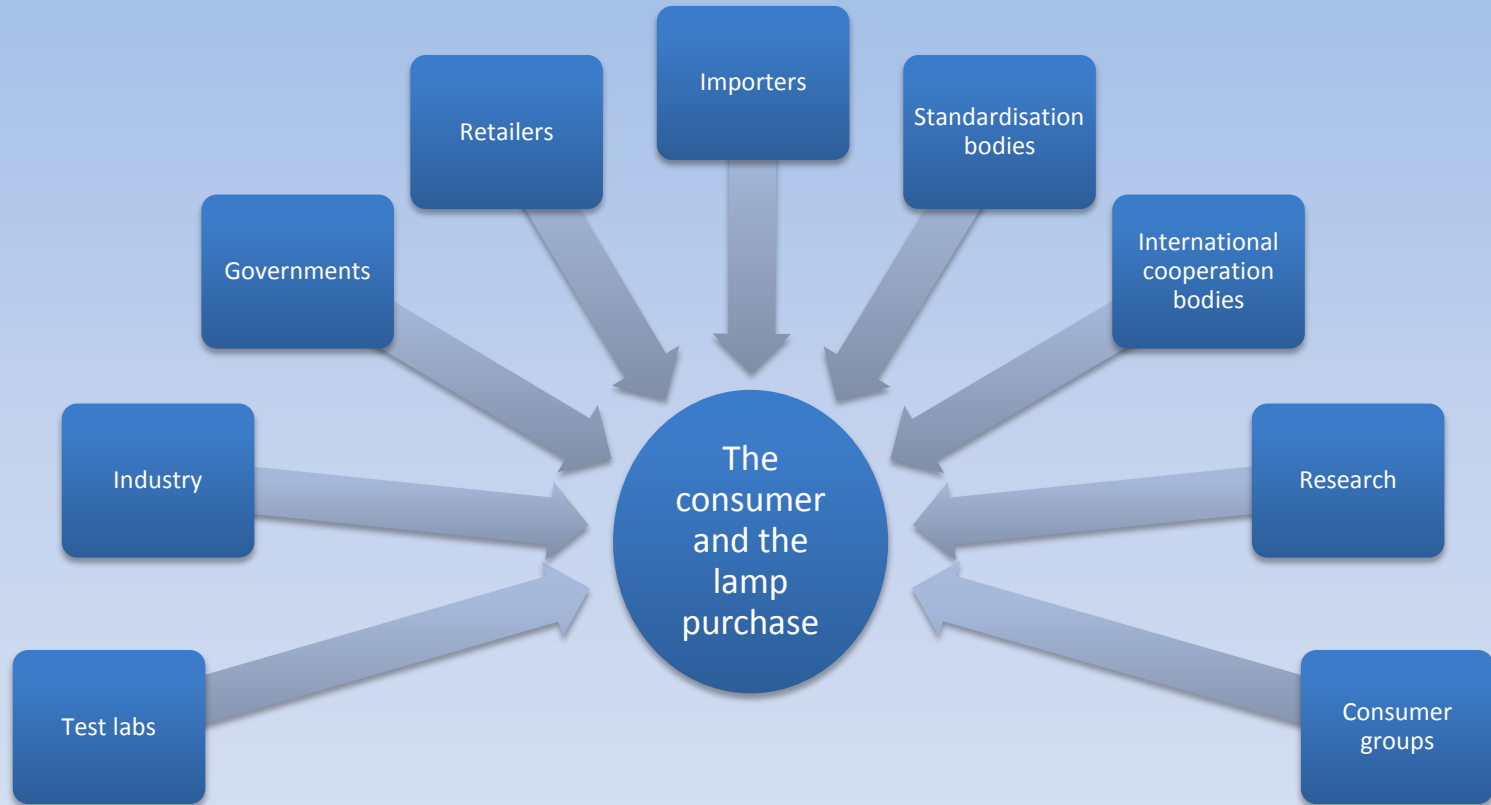
B ● R G ● C ●



Australian Government

**Department of Climate Change
and Energy Efficiency**

How many ... does it take to replace a bulb?



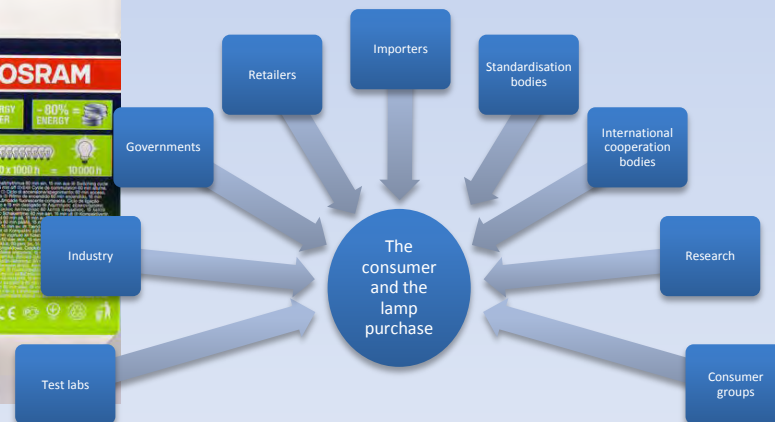
Information to consumer is not just - information

- Primary focus for this talk is consumer information
- Lamp packages, etc.
 - BUT: All actors in the chain need to understand and agree (or at least comply) with what is being told

So in order to get the package right...



All of these needs to get it right



The Scope of information on packages

- Primarily consumer information, but some of the information is very useful for commercial and OEM buyers as well
- Consumer information is competing with brand information and manufacturers' own way of explaining things
- There is *mandatory* and *voluntary* information
- Even voluntary information can be subject to regulation and agreements (CF EU ecodesign requirements for lamps).
- All labelling and marking needs specification, testing and verification.
 - → Not only to verify the product to understand what we are talking about

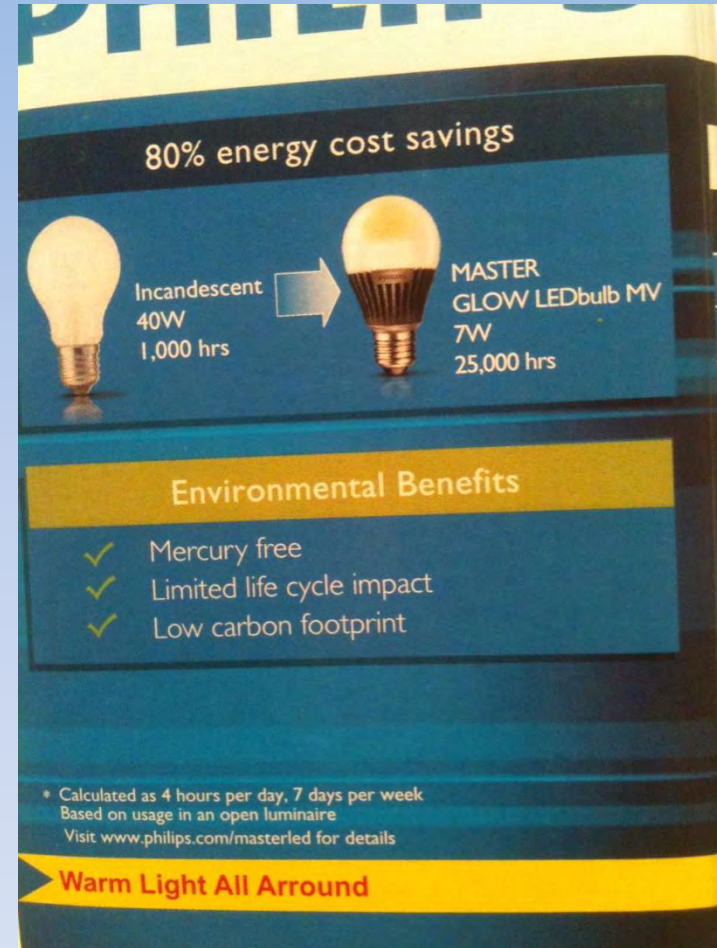
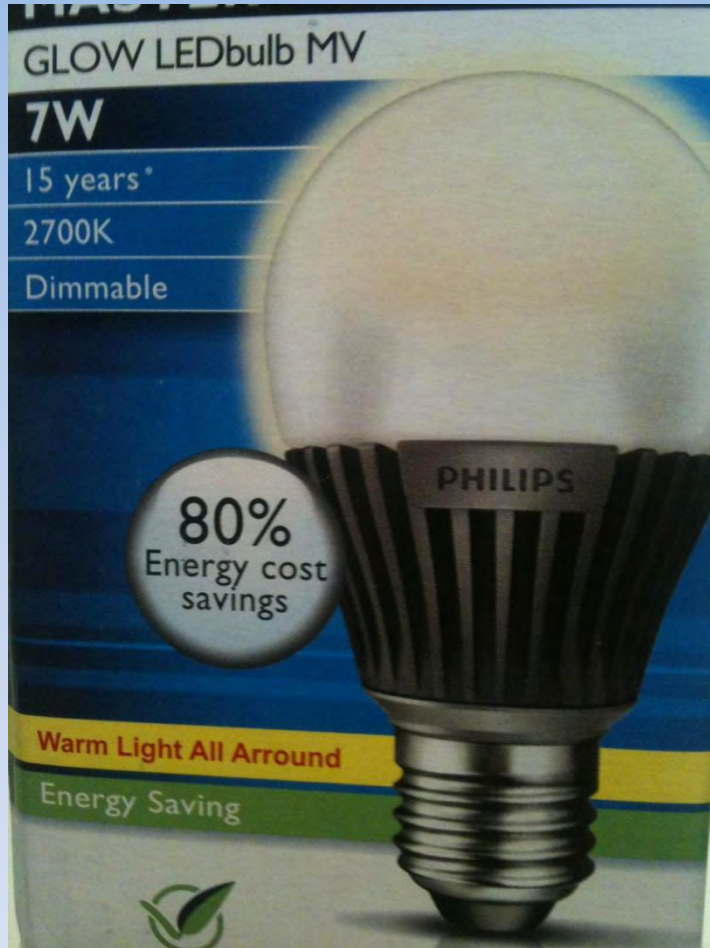
Labelling, Packaging and Marking – What is the Difference?

- The following definitions are used here:
 - **Comparative Labelling:** Some method of demonstrating the relative performance of a lamp
 - X is “better” than Y which is “better” than Z
 - **Endorsement Labelling:** Some method of demonstrating the product has passed some absolute level of performance
 - X is “good”
 - **Packaging:** Requirement for other specific information to be displayed on the product package.
 - **Marking (on the lamp):** Some method of marking the product (and with some or all of the information repeated on the packaging) to demonstrate compliance with predefined criteria

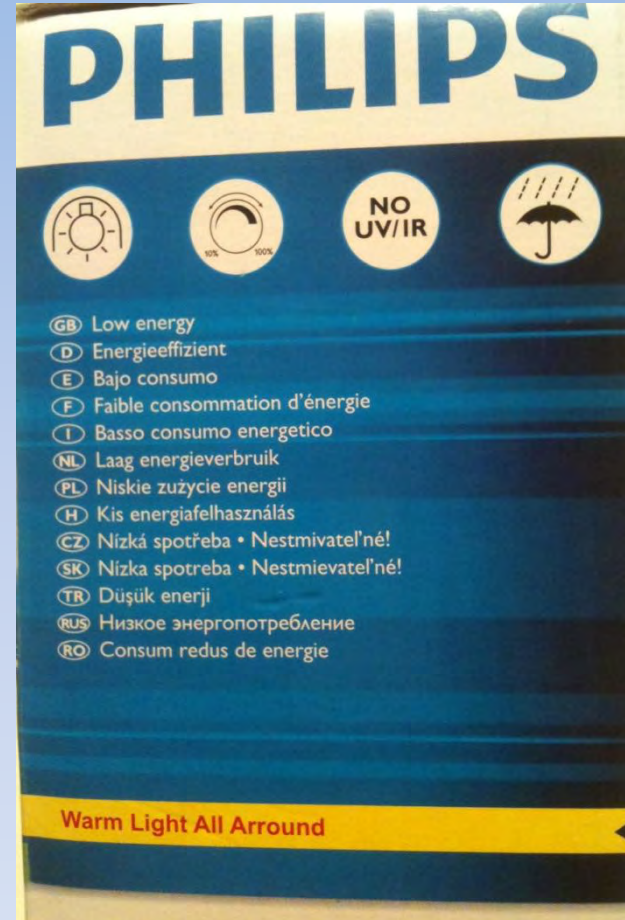
It was already difficult – even more so with LEDs!

- LED industry originally no lighting business
 - Various ways to define how much light an LED produced
 - Little understanding of basic lighting parameters
- Example: Color temperature
 - Warm white 2700 – 3000K
 - But a halogen lamp with 3000K can be marketed as a lamp with “crisp light”, alluding to its cooler light. But it is still warm!
- Perhaps a combination of minimum quality requirements and simplified information on the packaging can work?
- Standards can replace the need for some information and make it easier to focus on other important issues needed to overcome consumer hesitance
- EU faces big challenge in introducing requirements for directional lamps

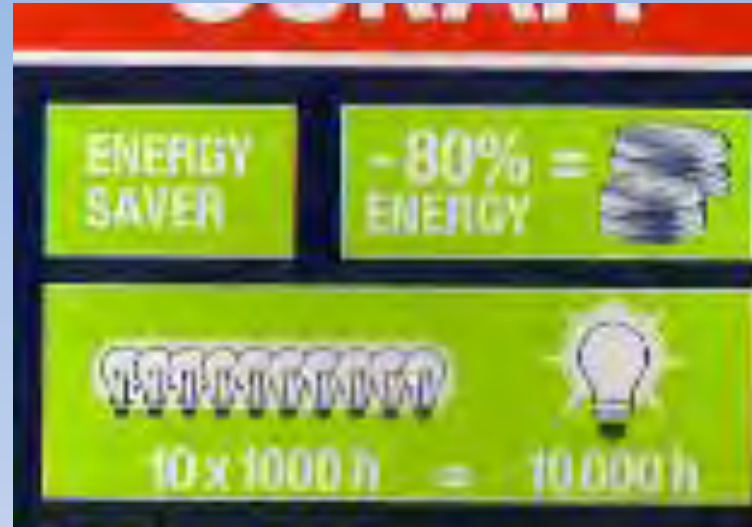
Example of incandescent replacement LED-lamp



Example of incandescent replacement LED-lamp (2)



Packaging: comparing light output, life and money saved



The big question: How do we compare light output when there are no more GLS lamps left for reference?

- Lumens?
- A combination of lm and W?

Packaging: explaining what sort of light colour, application etc...

① **Soft white light** - 2700K - 3000K - Used in areas where electricity is expensive, for example, in a hospital, school, or in a home where the light is used for a long time. The light is warm and comfortable. The light is not too bright and not too dim. It is a good choice for a living room, a bedroom, or a bathroom.

② **Warm white light** - 3000K - 3500K - Used in areas where electricity is not too expensive, for example, in a home where the light is used for a long time. The light is warm and comfortable. The light is not too bright and not too dim. It is a good choice for a living room, a bedroom, or a bathroom.

③ **Neutral white light** - 3500K - 4000K - Used in areas where electricity is not too expensive, for example, in a home where the light is used for a long time. The light is warm and comfortable. The light is not too bright and not too dim. It is a good choice for a living room, a bedroom, or a bathroom.

④ **Cool white light** - 4000K - 5000K - Used in areas where electricity is not too expensive, for example, in a home where the light is used for a long time. The light is warm and comfortable. The light is not too bright and not too dim. It is a good choice for a living room, a bedroom, or a bathroom.

⑤ **Daylight** - 5000K - 6500K - Used in areas where electricity is not too expensive, for example, in a home where the light is used for a long time. The light is warm and comfortable. The light is not too bright and not too dim. It is a good choice for a living room, a bedroom, or a bathroom.



NEW size fits more applications

Ideal for:

- Table Lamps
- Ceiling Fixtures
- Wall Sconce
- Chandelier
- Bare bulb Fixtures
- Recessed Cans
- Floor Lamps

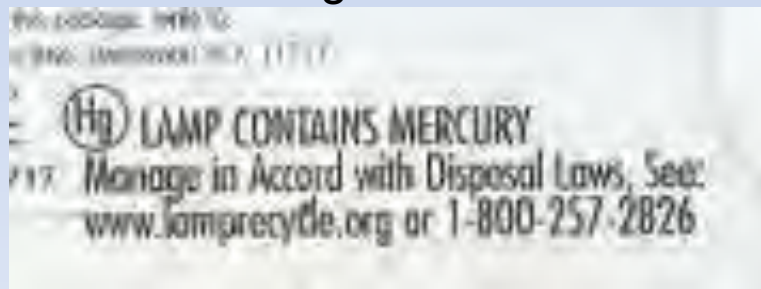
Mandatory information that needs to be there (some of this also appears as marking...)



CE says it fulfills all mandatory requirements (EuP, EMC, etc. etc)



US says: Hg, treat according to law...



WEEE says: Don't throw in the dustbin

3-Way Bulb
(in a 3-Way Socket)

FET ELECTRIC **ECO BULB**
Electronic Energy Saving Bulb

NEW 3-WAY

LASTS UP TO 7 YEARS GUARANTEE

SAVE \$72 PER BULB IN ENERGY COSTS
as compared to using a 100 watt bulb at 12¢ per kWh.

SOFT WHITE LIGHT
Using up to 100% less energy than standard incandescent.

LASTS 6 TIMES LONGER
THAN A STANDARD 100 WATT BULB

LOW 13=30 WATTS

MED 20=70 WATTS

HIGH 25=100 WATTS

CAUTION

NEPTUN LIGHT INC. 1780 1 66096 9

NEPTUN CFL BR-38™
LIGHT
BR38 -19W - DIMMABLE
ADIM - ELECTRONIC BULB
COMPACT FLUORESCENT FLOODLIGHT

Energy Efficiency
As an ENERGY STAR partner NEPTUN Light, Inc. has determined that the product meets the ENERGY STAR Guidelines for energy efficiency as determined by the U.S. Department of Energy.

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Customer and Commerce
America@neptunlight.com
Toll Free 1-888-735-8592

FC Engineered in USA
Assembled in China
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NEPTUN CFL BR-38™
LIGHT
BR38 -19W - DIMMABLE
ADIM - ELECTRONIC BULB
COMPACT FLUORESCENT FLOODLIGHT

DESIGNED FOR USE WITH ALL DIMMERS (***)

COMPARE!
19W CFL-BR-38 vs. 75W BR-38*

Light Output 900 Lumens	Light Output 900 Lumens
Energy Used 19 Watts	Energy Used 75 Watts
Life 8,000 Hours	Life 2,000 Hours
Energy Loss as Heat 8 Watts (**)	Energy Loss as Heat 55 Watts (**)

*** Approximately
***) All dimmers rated 600 Watts or lower, made after 1995

And sometimes the information is too complicated

Sweden: A comprehensive example

- 8-page newspaper supplement to go in all newspapers (Nov 2011)
- 60-W incandescent (by far most common) is being phased out
- Much less focus on consumer finances

Hela denna bilaga är en annons från Energimyndigheten

Hela denna bilaga är en annons från Energimyndigheten

SATSA PÅ EN VINN-VINN-HELG!

FÄRDIG KÄLLA

ENERGIRÅD

HÄR ÄR DIN NEMMA-EL!

RÄTT JULELJUS GÖR STOR SKILLNAD

En 11-arsars tradition innebär glödlampor där 43 gånger mer än de 60 watt lykt till LED-lampor. Det visar sig med ena Energimyndighetens test och jämförelse.

En annan test visar att en ny LED-lampa ger 43 gånger mer ljus än en 60 watt lykt. Detta innebär att du kan spara energi och pengar genom att byta ut dina gamla glödlampor mot LED-lampor. Detta innebär också att du kan spara pengar genom att köpa LED-lampor istället för glödlampor.

LED-lampor ger 43 gånger mer ljus än en 60 watt lykt. Detta innebär att du kan spara energi och pengar genom att byta ut dina gamla glödlampor mot LED-lampor.

LJUSGUIDEN

LÄSLJUS

Väl ljusmängden för arbetsrum, 400–800 lm/2700–4000 K. För de flesta rum är halvdagslampor eller arbetsrumslampor ett bra val.

MIDDAGSLJUS

Väl ljusmängden för kök, 400–800 lm/2700–3000 K. Väl 1200 lm för extra mjukt ljus. För de flesta rum är halvdagslampor ett bra val.

ALLMÄN LJUS

Väl ljusmängden för vardagsrum, 400–800 lm/2700–3000 K. Väl 1200 lm för extra mjukt ljus. För de flesta rum är halvdagslampor ett bra val.

ARBETSLJUS

Väl ljusmängden för arbetsrum, 400–800 lm/2700–4000 K.

BÄDDRUMSLJUS

Väl ljusmängden för sovrum, 400–800 lm/2700–3000 K. För de flesta rum är halvdagslampor eller arbetsrumslampor ett bra val.

MATLAGNINGSLJUS

Väl ljusmängden för kök, 400–800 lm/2700–3000 K.

DIMMERLJUS

Väl ljusmängden för vardagsrum, 400–800 lm/2700–3000 K.

STÄMNINGSLJUS

Väl ljusmängden för sovrum, 400–800 lm/2700–3000 K.

ORD OCH BEGREPP

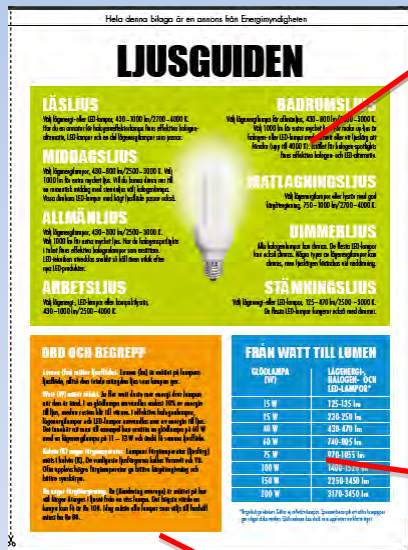
Enligt denna guide bör du välja lampor som ger ett bra ljus och som är energieffektiva. Detta innebär att du väljer lampor som ger ett bra ljus och som är energieffektiva.

FRÅN WATT TILL LUMEN

GLÖDLAMPOR (W)	LÄMNINGSLAMPOR OCH LED-LAMPOR (lm)
15 W	125-135 lm
25 W	230-250 lm
40 W	430-470 lm
60 W	740-805 lm
75 W	970-1035 lm
100 W	1400-1520 lm
150 W	2230-2450 lm
200 W	3170-3450 lm

Energimyndigheten

- Guide to cut out and bring to the shop
- First attempt to market lumen instead of watt.
- Recommendations are based on Kelvin and lumen for various situations



LÄSLJUS
 Välj lågenergi- eller LED-lampor, 430-700 lm/250-1000 lm för extra mycket ljus. Vill du ha en romantisk inredning använd snövit eller vitt Messa dimbara LED-lampor med lågt ljusflöde.

MIDDAGSLJUS
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ORD OCH BEGREPP

Lumen (lm) mäter ljusflödet. Lumen (lm) är mättet på lampans ljusflöde, alltså den totala mängden ljus som lampan ger.

Watt (W) mäter effekt. Ju fler watt desto mer energi drar lampan när den är tänd. I en glödlampa omvandlas endast 10% av energin till ljus, medan resten blir till värme. I effektiva halogenlampor, lågenergilampor och LED-lampor omvandlas mer av energin till ljus. Det innebär att man till exempel kan ersätta en glödlampa på 60 W med en lågenergilampa på 11-13 W och ändå få samma ljusflöde.

Kelvin (K) anger färgtemperaturen. Lampans färgtemperatur (ljusfärg) mäts i kelvin (K). De vanligaste ljusfärgerna kallas Varmvit och Vit.

FRÅN WATT TILL LUMEN

GLÖDLAMPA (W)	LÅGENERGI-, HALOGEN- OCH LED-LAMPOR*
15 W	125-135 lm
25 W	230-250 lm
40 W	430-470 lm
60 W	740-805 lm
75 W	970-1055 lm
100 W	1400-1520 lm
150 W	2250-2450 lm
200 W	3170-3450 lm

*Ärliga värden. Gäller ej reflektorlampor. Spannet beror på att olika lamptyper ger olika värden. Skillnaderna kan dock inte uppfattas av blotta ögat.

**Only possible with common,
agreed definitions and
descriptions. But the solution can
be tailored to the circumstances**

Some experiences (not yet from consumer)

- Very difficult to get marketing people understand light and lighting
- Government takes a leading role and expertise is needed in client role
- How much do you highlight LED products that are still very expensive?
- Will people understand lumen? And if so when?
- Very difficult to understand heat (power) vs lumen in terms of maximum allowed power in a luminaire

Conclusions

- Information to consumers must be reasonably harmonised
- Information must be accurate and relevant
- Information must always be simplified. But simplification helps to create order in chaos

BUT:

- Not only consumers need to understand:
- Governments, regulators need to understand technology and standards – what they can achieve and what they can't
- Mandatory regulation can reduce need for information
- Retailers, importers etc need to understand what the purpose of the information is
- Test labs need to understand the purpose and scope of regulation
- Industry must understand what is being regulated, how and why?

Thank you!

nils@borgco.se
www.eceee.org

PAPER FROM:

**APEC LED WORKSHOP: *POLICIES TO PROTECT AND
EDUCATE CONSUMERS***

APEC#212-RE-04.1

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