How efficient lighting contributes to sustainability

Circular Economy Office
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ETAP
EXCELLENT LIGHTING, SAVING ENERGY

Excellent lighting, saving energy

COMPANY PROFILE

ETAP LIGHTING

- ❑ **General Lighting**
- ❑ **Emergency Lighting**
- ❑ **Energy saving systems**

1. Founded in 1949
2. Annual turnover: 50-55 mio €
3. +/- 500 employees
4. 7 % of annual turnover invested in R&D every year
5. R&D in Belgium
6. Sales units across Europe and Dubai
7. ISO9001
8. ISO14001

General Facts on Energy Consumption:

1. Reduction in EU greenhouse gas emissions from 1990 levels: 20% by 2020 and 40% by 2030 (source: European Commission – 23/10/2014)

2. Worldwide about 20% of overall energy consumption is related to lighting applications
→ depending on the type of building and activity it can be as high as 35% or even more

=> Lighting has a very high saving potential
=> Energy efficient lighting = save on cooling installation due to decrease in heat burden (= double dipping)

→ The highest ecological impact from lighting comes from energy consumption during normal use of the installation

ETAP'S VISION IN LIGHTING

ENERGY - **E**COLOGY - **E**RGONOMICS

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Our vision in Lighting

3 E's :

ENERGY
ECOLOGY
ERGONOMICS

ENERGY:
Achieving the required lighting solution using less power

ECOLOGY:
By installing less power contributing actively to the drop-down of the emission of CO_2

ERGONOMICS:
Reaching the desired result in the most comfortable way for the customer

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- In order to provide customers with the most energy efficient lighting installation we follow 4 steps.

- By following these 4 steps, customers can save up to 75% on the energy consumption of their lighting and thus contribute to a greener, more ecological and more sustainable environment

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STEP 1 : Well designed energy friendly luminaires (guarantee for high light output)

Enables the customer to install less power (80% less since 1975)

Use of the best optical systems

- Reflectors (fluorescent lamps)
- LED+LENS ™ (LED)
- Innovative diffusor materials

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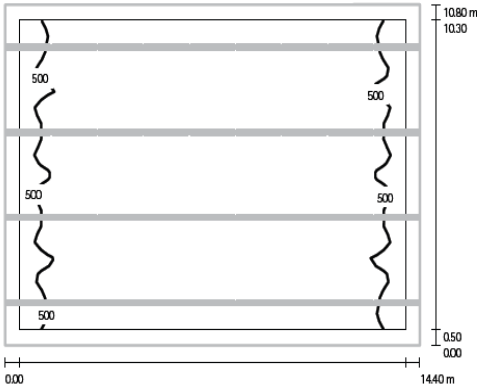
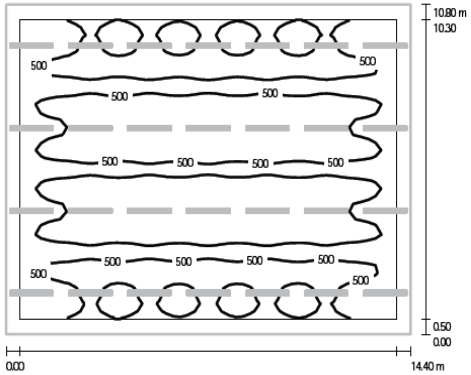
Calculation example

- Room 14.4m by 10.8m
- 500 lux desired
- Lamps: 1 x 35W





HR Silver:

1. **HR SILVER : 28 luminaires needed.**
2. **Standard aluminium: 36 luminaires needed.**

SAVINGS: 22%

CO^2 emission: 0,43 kg./kWh less !

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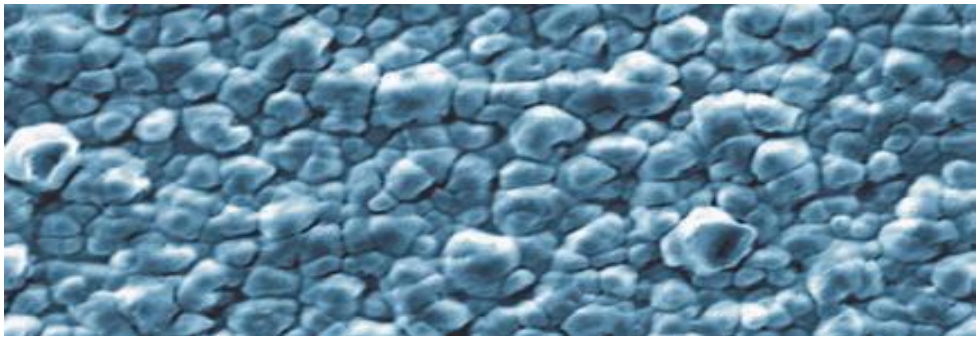
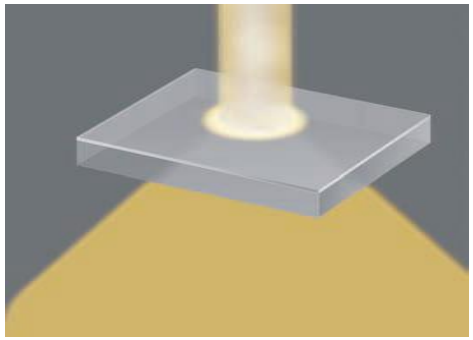
MesoOptics™





Traditional diffusion with 30 % loss of light

MesoOptics™ allows 92 % light transmission.

MesoOptics™

1. Microscopic structure allows controlled light distribution -> no scattering of light

2. **Efficiency : 30% higher** compared to traditional diffusor products

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STEP 2 : Intelligent lighting design for your project

Enables the customer to install less power

High-output luminaires being installed intelligently (savings of up to 50%)

Reducing the number of luminaires through bigger interdistances lower ecological footprint = reducing emission greenhouse gases

So far, we achieved the intended lighting quality with the lowest possible installed power

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STEP 3 : Light control at luminaire and room level
(e.g. daylight sensors, motion detection sensors)

Enables the customer to use the lighting installation as energy efficiently as possible

By integrating sensors into the luminaires the light can be dimmed locally or switched off whenever little or no artificial light is required (savings up to 30 - 50%)

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STEP 4 : Light control @ the building level

Enables the customer to use the lighting installation as energy efficiently as possible

Lighting energy savings can be further increased with advanced hard- & software
→ This requires an advanced integrated system that is able to tackle various energy management systems (savings up to 70%)

STRATEGIES

STRATEGIES

FLEXIBILITY		ENERGY SAVINGS	
	Evolve with the building		Movement and presence detection
	Personal control		Intelligent time control
	Scenario setting		Peak load shaving
	Integrate with other technologies		Task tuning
	Easy to use and to maintain		Daylight dependent regulation

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Emergency Lighting:

1. LED: long lifetime & better light control
2. NiMH batteries: lower carbon footprint

Green Safety

Maximum sustainability in emergency lighting

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Emergency Lighting:

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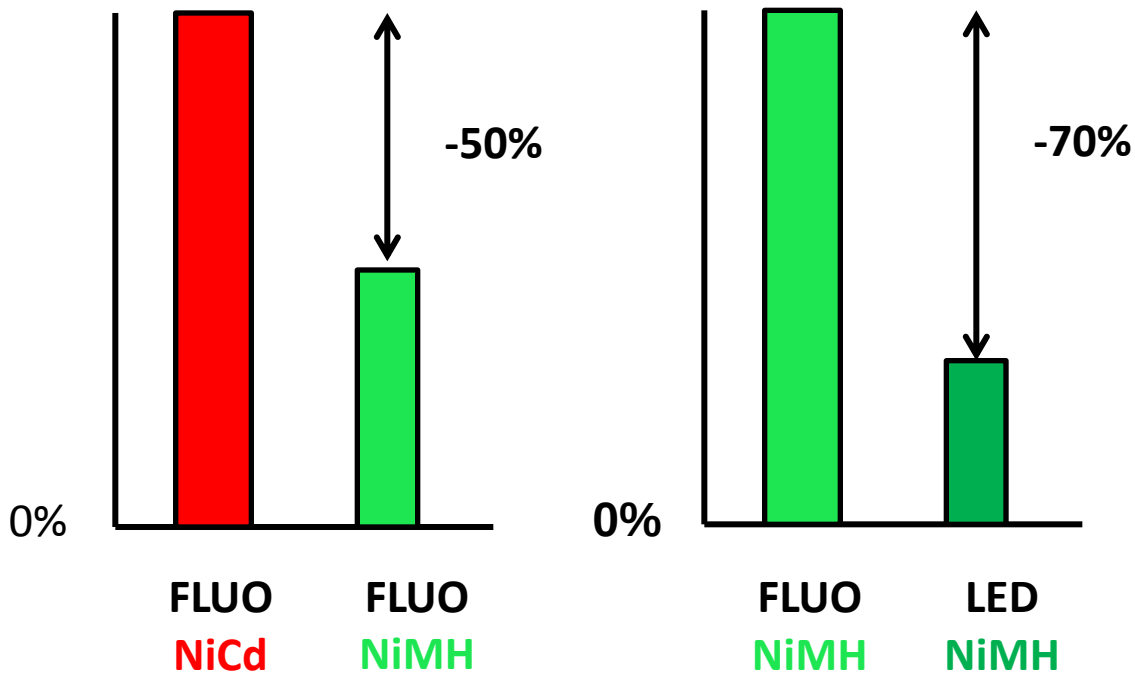

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Conclusion:

Lighting= huge potential for energy savings & contribution to sustainability (also through using recyclable materials)

* use of well-designed energy friendly luminaires
* intelligent lighting design (less luminaires to attain the desired result)
* light control at luminaire and room level
* light control at the building level
* use of greener materials (e.g. NiMH batteries instead of NiCd batteries for Emergency Lighting)

* from a business perspective, new economic models such as the leasing of a lighting installation are under investigation

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