

Evaluation of the European GreenLight Programme 2000-2008

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- Introduction to the GreenLight Programme
- Expansion of the GreenLight Programme
 - Composition of participants
 - Energy savings
- Changes in technology
- Participants' motivation & experience
- Summary

- **To convince users to adopt efficient lighting technologies and systems and achieve a long lasting market transformation, the European Commission launched in 2000 the European GreenLight Programme.**
- **GreenLight promotes energy efficiency in non-residential lighting, based on a voluntary participation. The Programme is managed by the Joint Research Centre.**

The GREENLIGHT Programme

Voluntary Programme

OK to install energy-efficient lighting where:

- 1) it is PROFITABLE and
- 2) lighting quality is maintained or improved



GreenLight is open to all private and public organisations willing to improve their lighting systems in a cost-effective (short payback time, high IRR) way, including street lighting;

Organisation joining GreenLight may start with a single project/buildings, also already completed projects can be submitted to join GreenLight;

A company joining GreenLight becomes Partner (with the associated benefits and additional visibility);

Companies and organisations promoting efficient lighting to their clients may join GreenLight as Endorsers;



Evaluation of the GreenLight Programme

JRC Scientific and Technical Reports

The European GreenLight Programme 2000-2008

- Evaluation and outlook -



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I. Energy savings –
Rita Werle

II. Changes in technology –
Perry Sebastian

III. Motivations & experience –
Vassilios Karavezyris

Partners self-report savings

Barrier in evaluation: missing data

GREENLIGHT REPORTING FORM

Facility Name: _____ Street: _____ Street Number: _____ PO Box: _____ Postal Code: _____ Town/City: _____ Country: _____	Main type of facility (see list A): _____ Total area owned or on long term lessee (in m ²): _____ Floor area upgraded (in m ²): _____ Date of the upgrade: _____ Baseline lighting concerns (see list B): _____
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	Baseline Lighting ¹			Post-Installation Lighting ¹		
	Luminaire 1	Luminaire 2	Luminaire 3	Luminaire 1	Luminaire 2	Luminaire 3
Location (see list C)	_____	_____	_____	_____	_____	_____
Nb. of luminaires	_____	_____	_____	_____	_____	_____
Nb. of lamps per luminaire	_____	_____	_____	_____	_____	_____
Type of lamp (see list D)	_____	_____	_____	_____	_____	_____
Luminaire total power ²	_____	_____	_____	_____	_____	_____
Type of ballast (see list E)	_____	_____	_____	_____	_____	_____
Luminaire reflector (see list F)	_____	_____	_____	_____	_____	_____
Type of control system	(tick below)	(tick below)	(tick below)	(tick below)	(tick below)	(tick below)
General manual switch						
Localised manual switch						
Occupancy linking						
Time scheduling						
Daylighting responsive						
Other (specify below)						
Other savings measures	(tick below)	(tick below)	(tick below)	(tick below)	(tick below)	(tick below)
Delamping						
Localised lighting						
Raising users' awareness						
Tuning of lighting control system						
Regular maintenance plan						
Other (specify below)						
Yearly burning hours	_____	_____	_____	_____	_____	_____
Synthesis Baseline Lighting			Synthesis Post-installation Lighting			
Total lighting installed power (in W)	_____			_____		
Lighting electricity use per year (in kWh/year)	_____			_____		
Initial cost (including equipment & installation)	_____	_____	_____	_____	_____	_____
Yearly running cost	_____	_____	_____	_____	_____	_____
Benefits of Post-installation Lighting versus Baseline Lighting						
Lighting electricity savings per year (in kWh/year)	_____					
Savings in running cost per year	_____					
Compared to baseline, lighting quality of post-installation is (see list G)	_____					
Payback Time (in years)	_____					
or Internal Rate of Return (in %, over 15 years)	_____					
or Net Present Value ³	_____					

Public sector		Private sector		Public + private	
Public Buildings		Airports		Car Parks	
Educational Buildings: schools, universities		Hotels/ Restaurants		Hospitals	
Street Lighting		Production			
Public Transport: railway / metro stations		Retail: super markets, commercial centres			
		Services: bank / insurance / etc.			
		Utilities/ Telecommunications			
		Other			

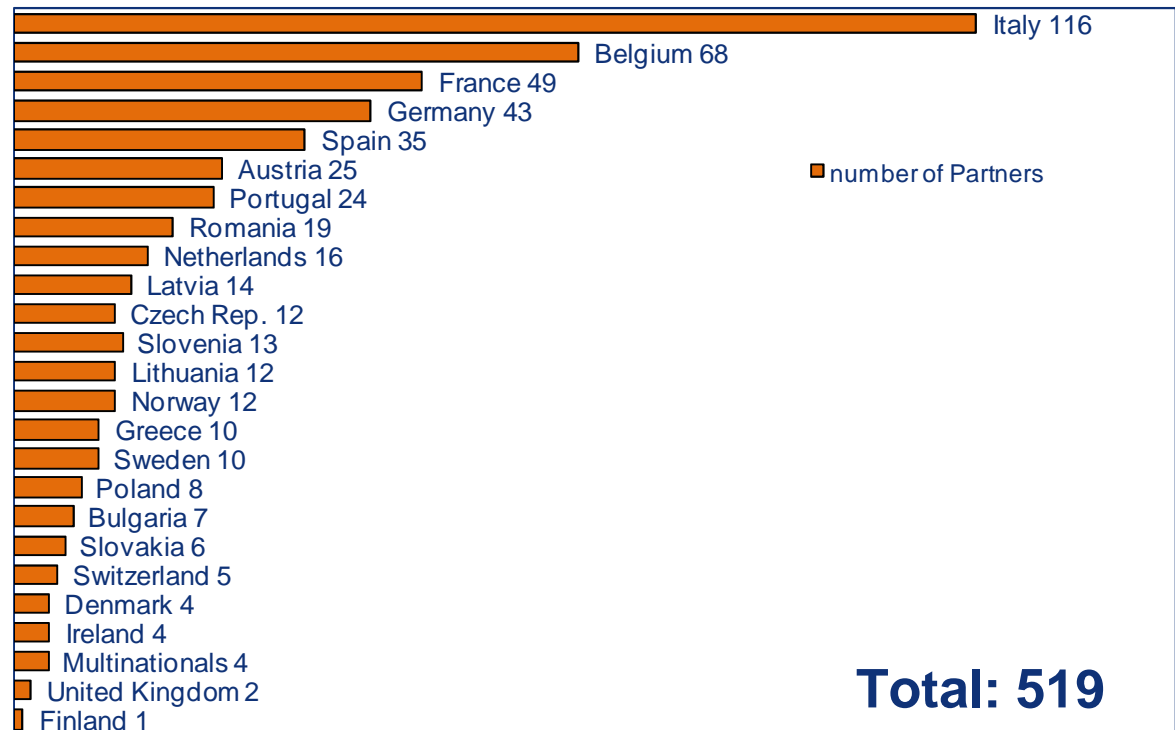
Expansion of the GreenLight Programme

Italy

- administration located in Italy
- many Partners approached at start

New GreenLight

Number of Partners per country in 2008



Italy

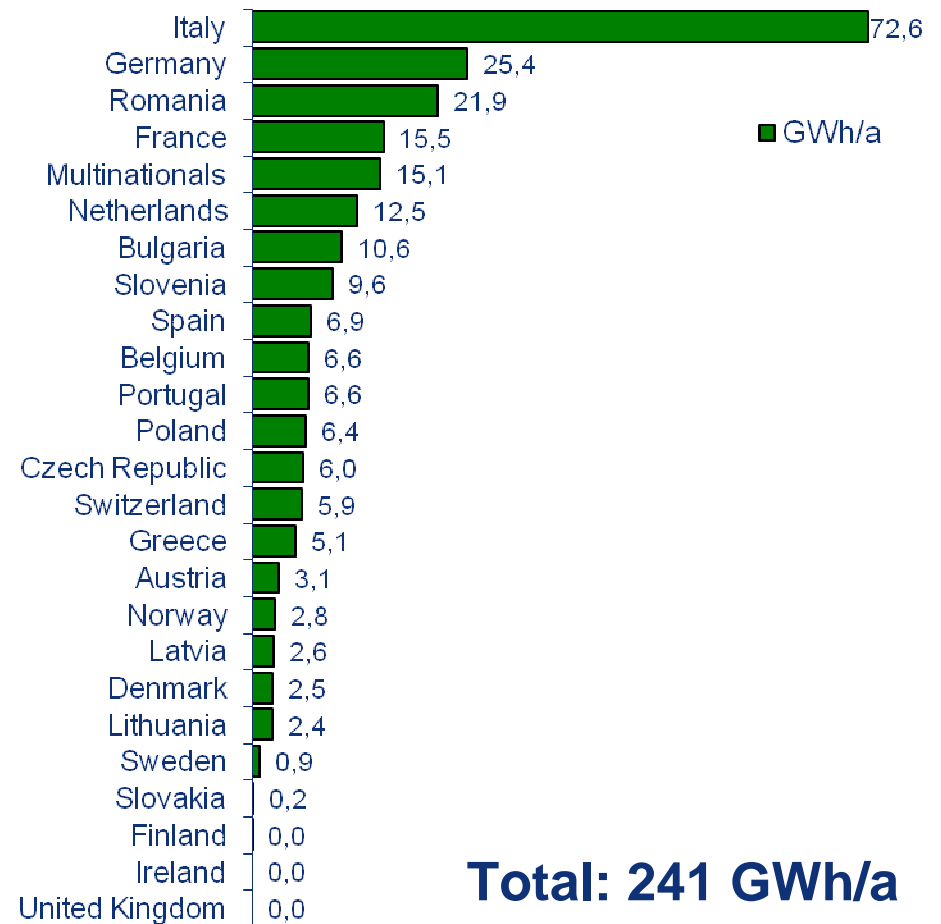
Coop + Carrefour Italia:
52.1 GWh/a > 70%

Germany

Hamburg: 10.3 GWh/a ~ Bulgaria

Romania

Total savings per country



Retail

- Coop + Carrefour Italia
- + Distribution Casino France:
61.6 GWh/a > 80%

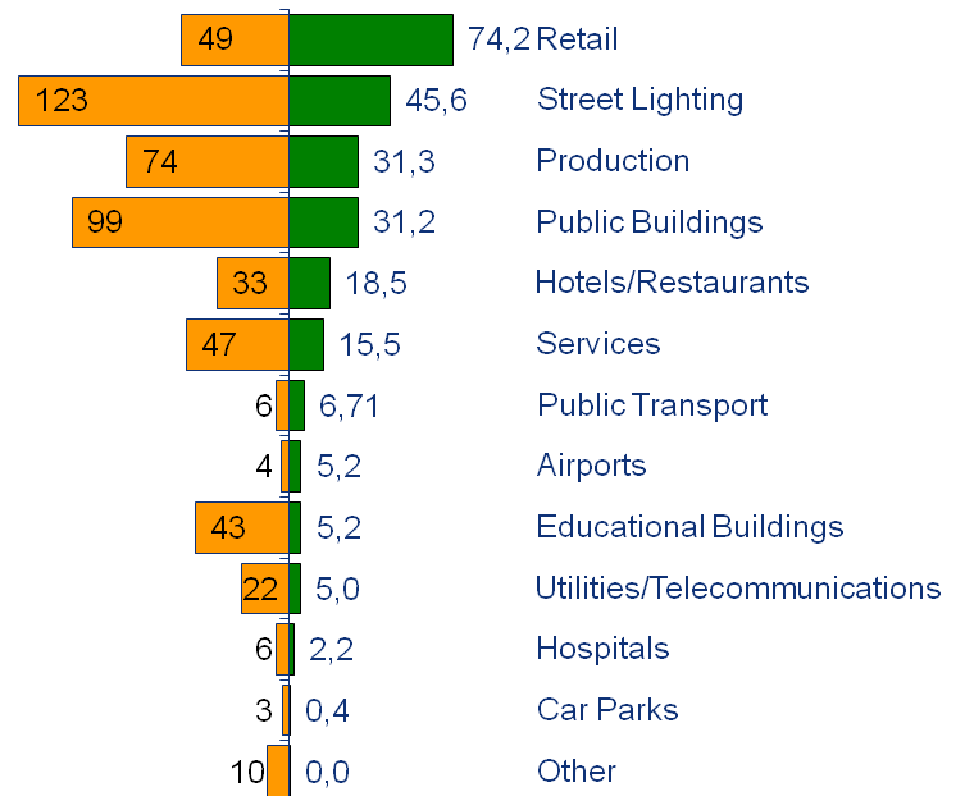
Street lighting

- most Partners
- no adequate data for over 40%

Airports

- savings per Partner: 1.3 GWh/a

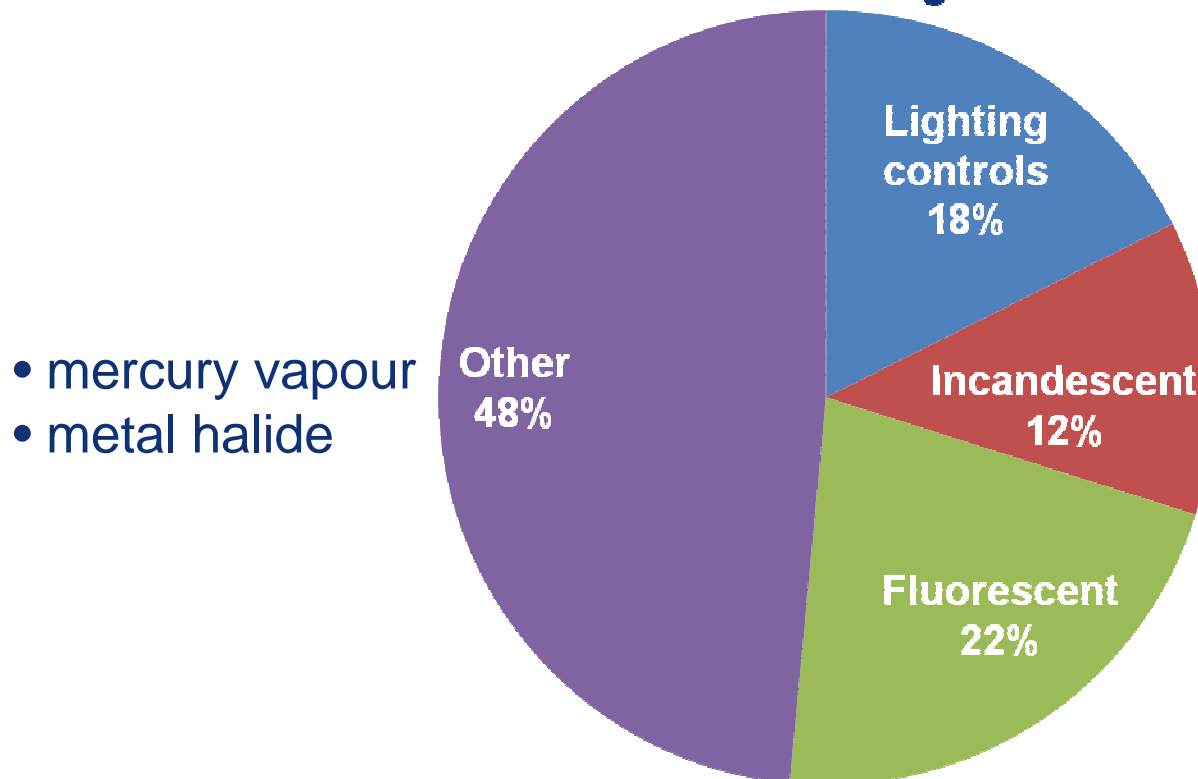
Total savings per category



■ number of Partners ■ GWh/a

Changes in technology

Retrofit categories



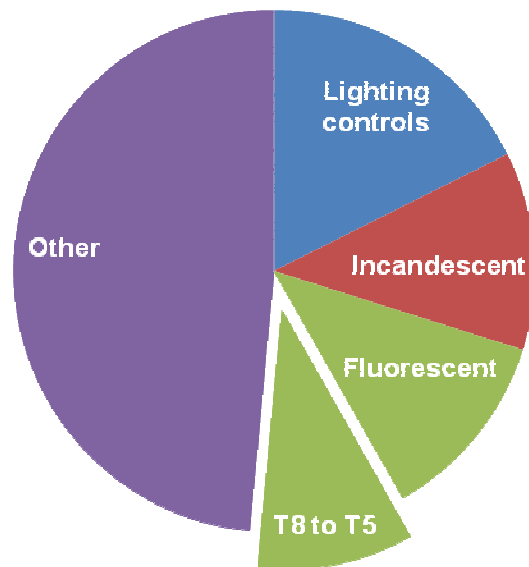
fixture-to-fixture analysis

savings from ballast & luminaire changes included

T8 → T5

- smaller lamp size – less waste
- same quantity of light
- electronic ballast:
- 10%

less energy per fixture
better lighting quality





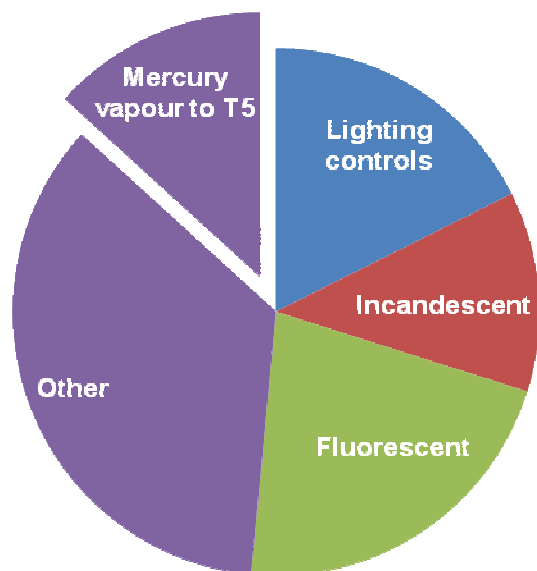
mercury vapour → T5



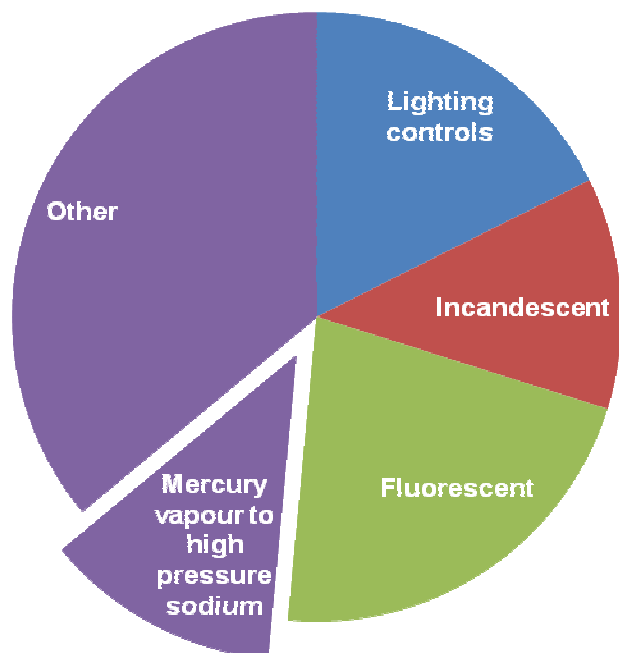
- conversions of other lamps to T8 not significant

- lighting industry migrates to T5

- 13%

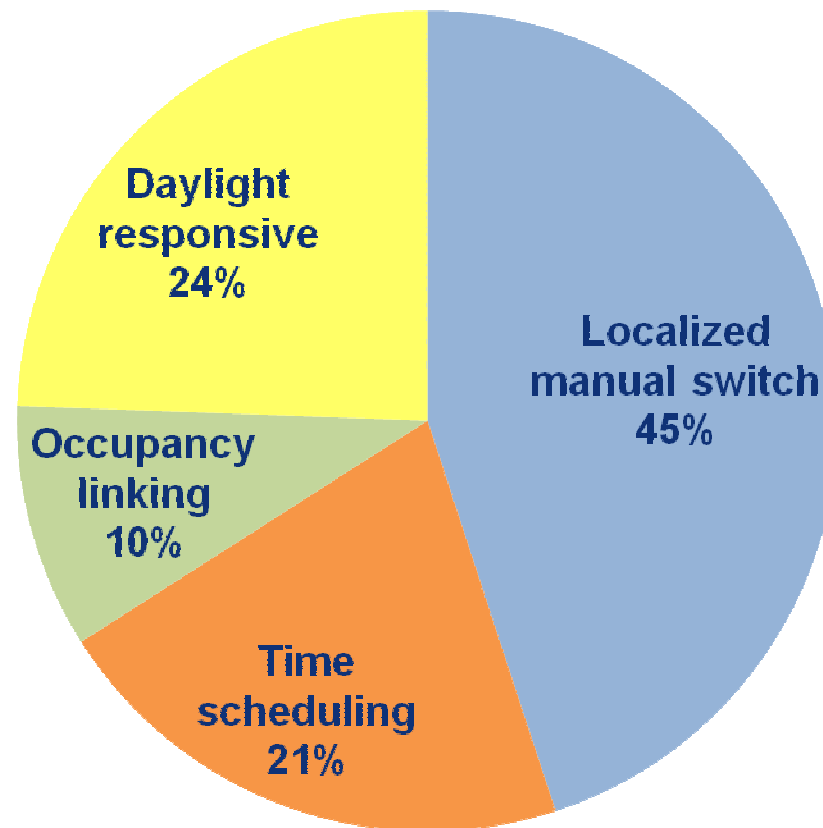


mercury vapour → high pressure sodium



- exterior lighting projects
- 100% by public Partners
- 12%

Lighting Controls



incandescent lamps



older fluorescent lamps with magnetic ballast



mercury vapour lamps



fluorescent lamps with electronic ballast



T5 fluorescent tubes



lighting controls



Motivations & experience

Paris, 9 July 2010

- 2008/2009

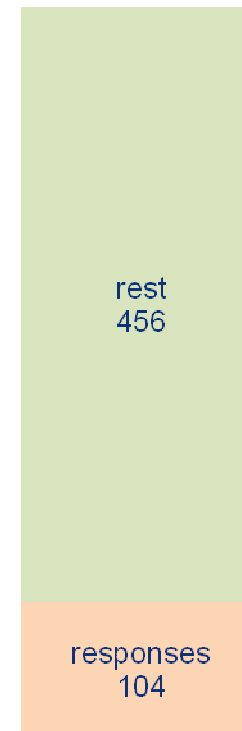
sample:

- 20% of Partners
- countries and project types well represented
- minor variations

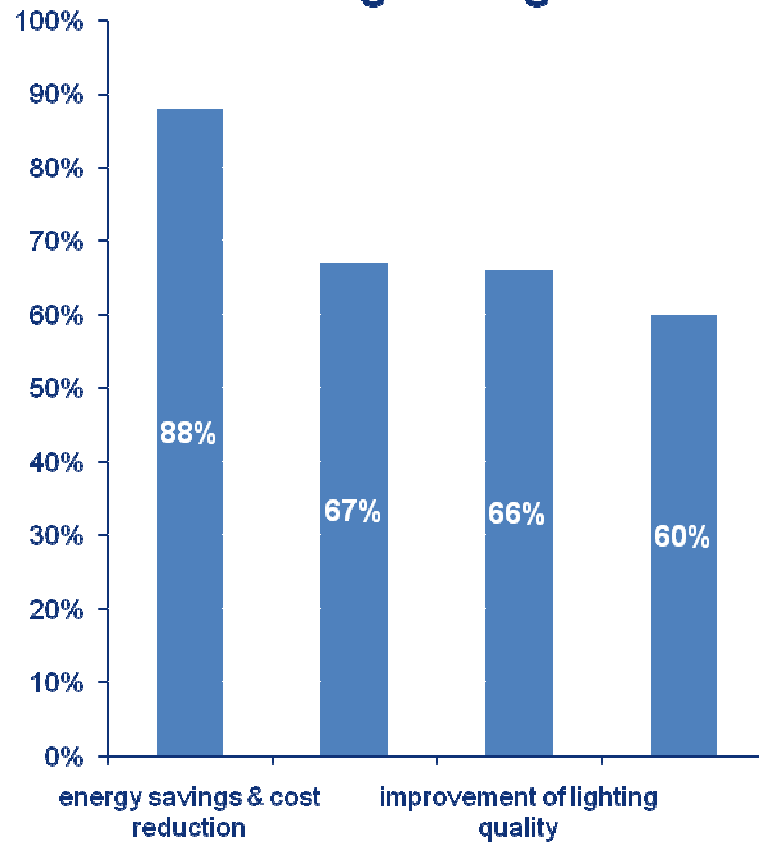
conclusions valid

Survey sample

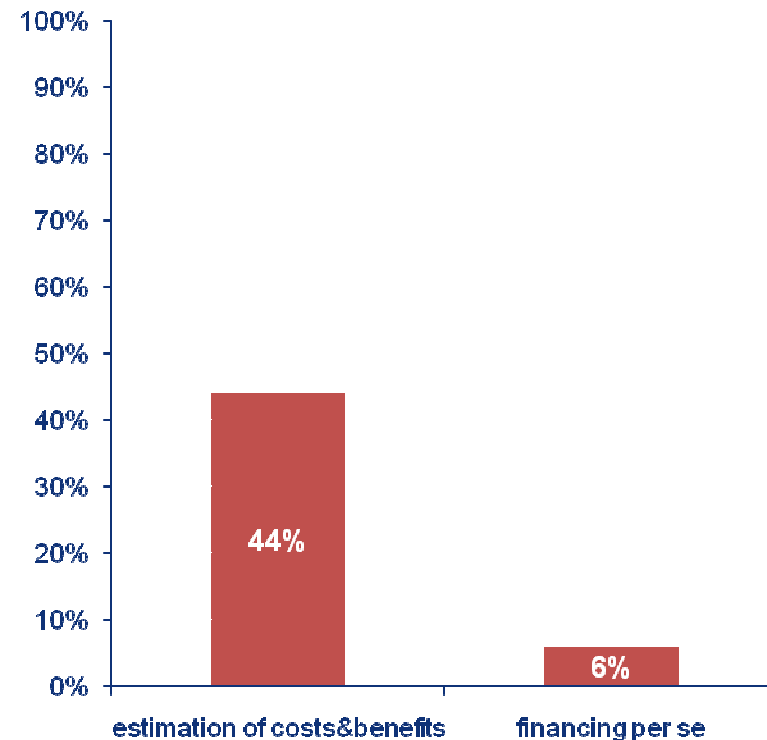
Partners addressed: 560



Motivations for joining the GreenLight Programme



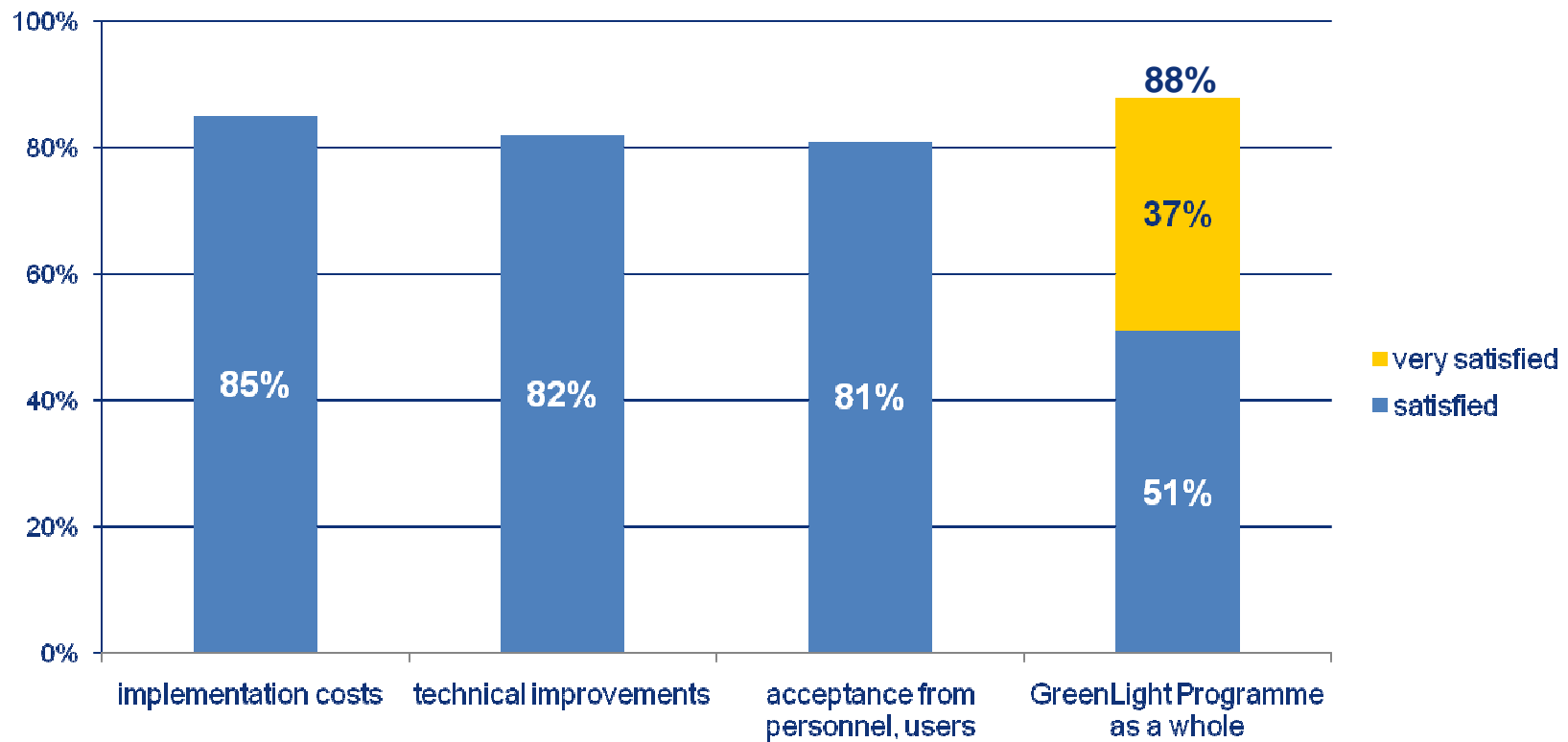
Barriers to implementing a lighting efficiency project



* image of the organisation for the outside world (business partners, customers) regarding its commitment towards environmental issues.

** raising environmental awareness of the organisation's personnel

Satisfaction with project outcomes and the GreenLight Programme



14% would have not implemented a project without GreenLight



- **519 Partners**
- **savings: 241 GWh/a**
- **smaller lamps, electronic ballast,
lighting control**
- **need for further promotion**

Thank you for your attention!

For further information:

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