

Public procurement for sustainable solutions

The case of LED lighting in Sweden

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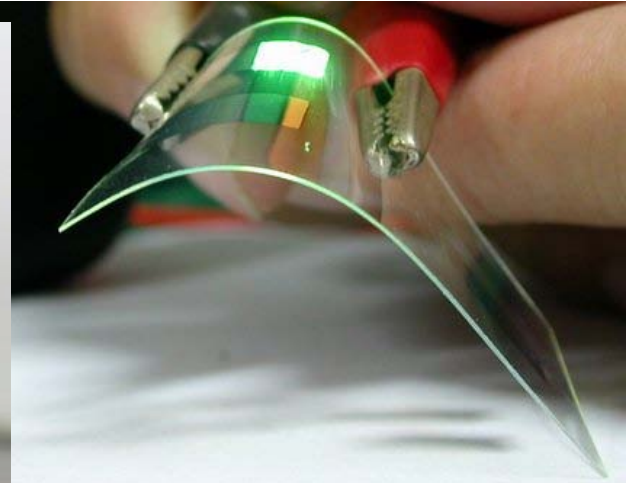
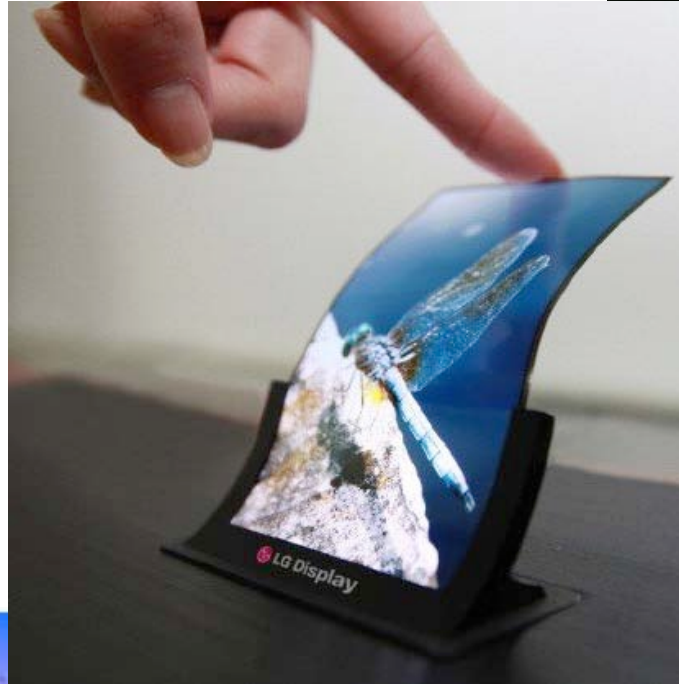
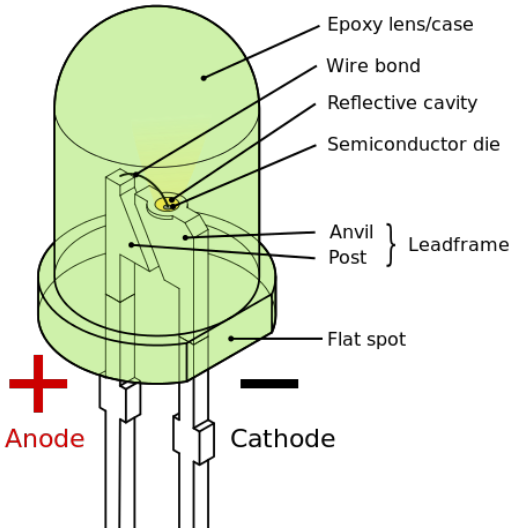
*International Institute for Industrial Environmental
Economics*



Solid State Light (SSL) - LED

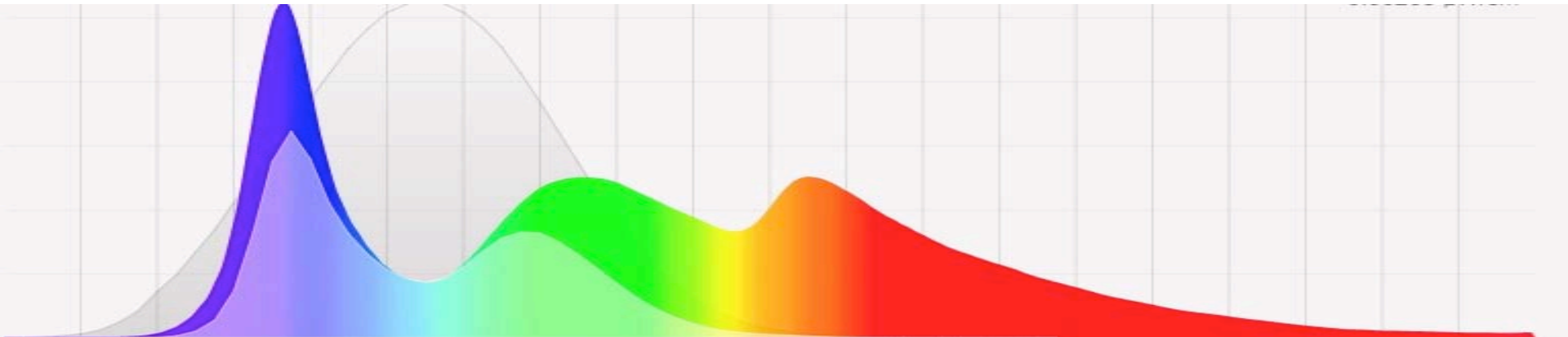


Enabling technology

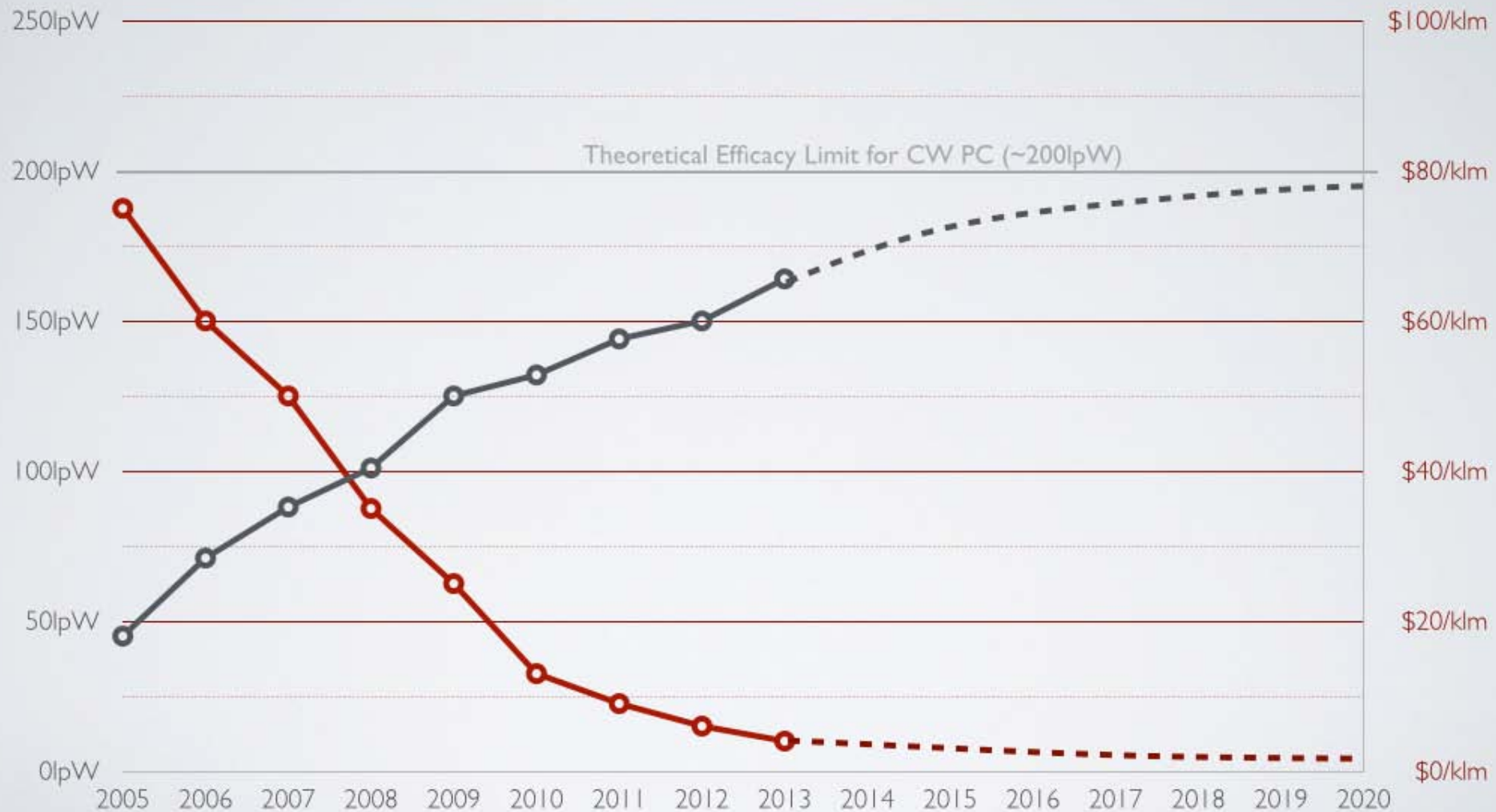


Why LED lighting? Why EU?

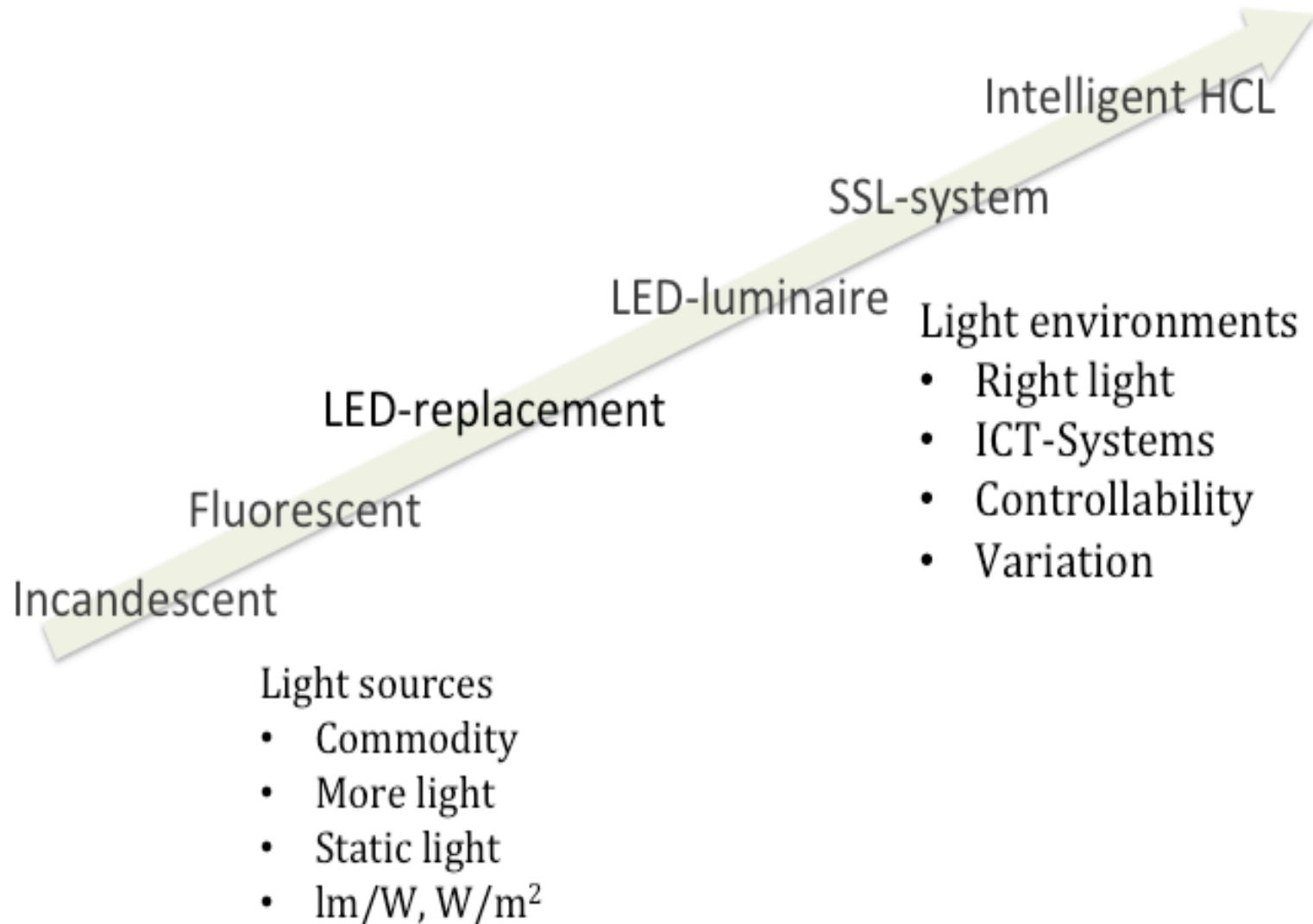
- **For users – obvious energy savings (up to 80%)**
- **For EU – innovation, jobs, competition**
- **“Other” benefits – better quality of life**
(living, working, learning, moving, relaxing)
...higher work productivity, better sleep, better health, healing by light, improved learning abilities, safety and security



LED Price & Performance



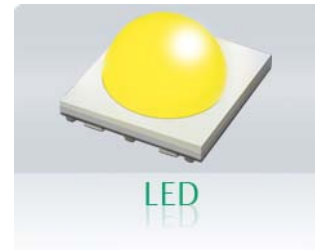
The renewal of the lighting related business area, from commodities to intelligent lighting

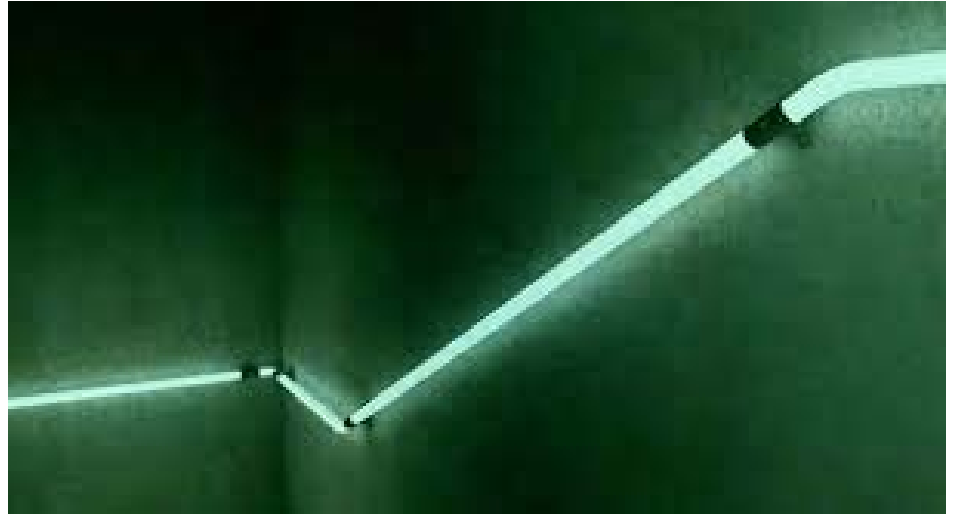
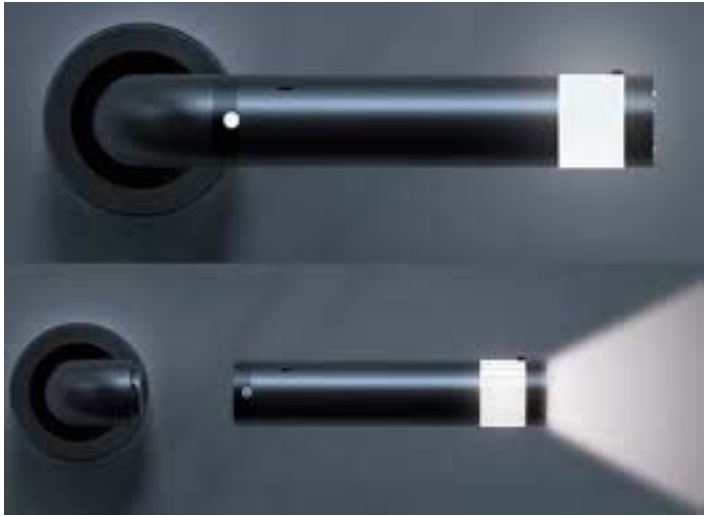


Huge variety and more flexibility



WGAVER











10:42 100%

avea







Central control and database



Luxmeter



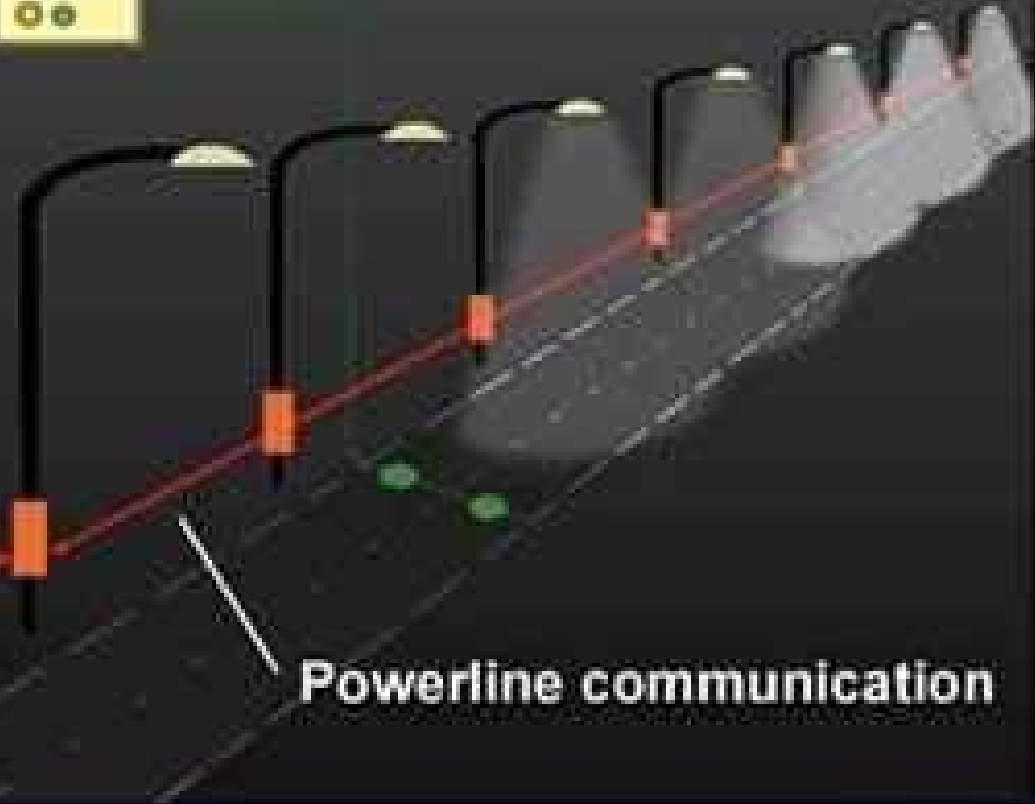
Traffic sensors



PDA



Subcentral



Powerline communication



Wireless Dual Band Mesh Transceiver



“Smart Grid” Street Light
• Photocell control
• 0-100% dimming
• On-demand light levels



App Based Wireless Control



Concealed Placement Speaker (CPS)™
• Music
• Announcements
• Alerts

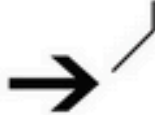
RGBA Notification (indicator light)



Image Sensor *
• Proximity sensors
• Pedestrian counter



Digital street sign *



EVENT →
← PARKING

MAIN ST



Digital Signage *
• Way finding
• Traffic direction
• Alert notification
• Civic information
• Revenue generation via advertising

façade lighting * (Color Changing)



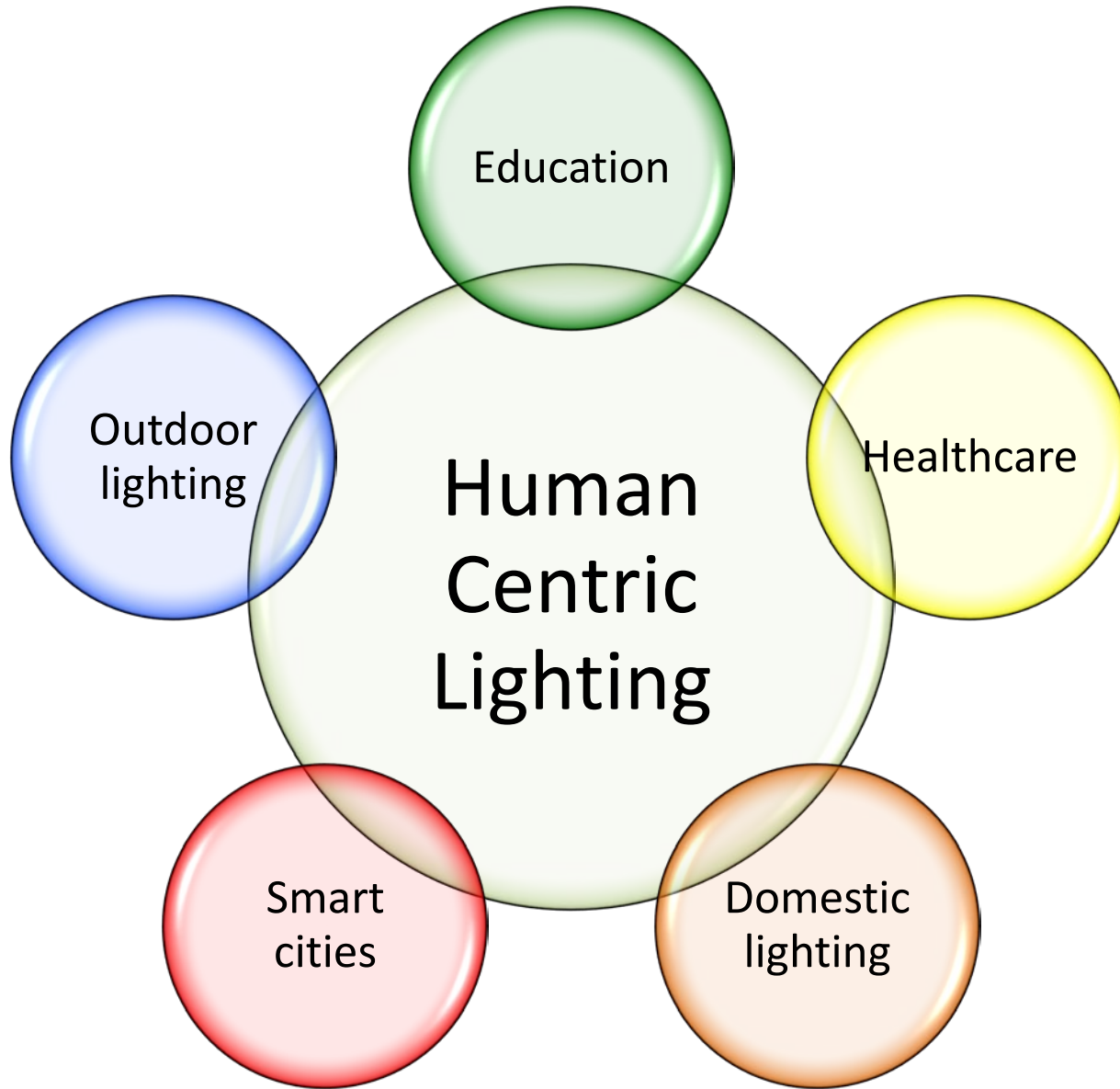
Environmental BRNE Sensors *
Seismic Sensors



Push to Talk system
“Blue emergency light” *

Why public procurement?

- Public sector as largest consumer- 20% EU GDP
- Sharing risks and lowering market entry barriers for innovative companies and solutions
- Taking public interests into account



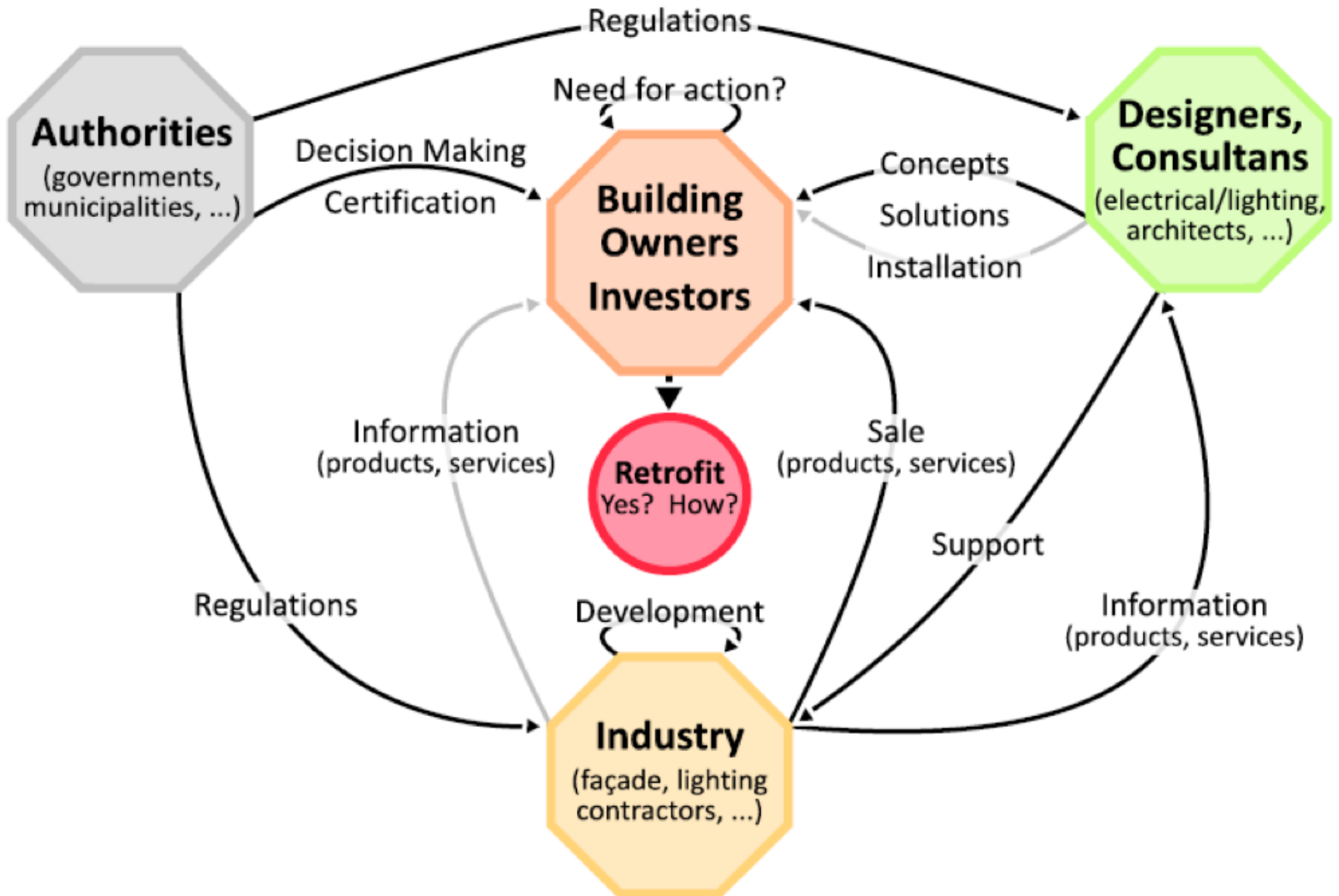
So what's the problem?

- If SSL is so fantastic, why is the progress so slow?
- **Is there are role for the public sector to promote lighting innovations on the market?**
- Is what public sector doing right and effective?

Issues identified in Sweden (and elsewhere)

- Division of responsibilities is unclear at best
- Running to the lowest bidder (product quality & price) – conservative valuation of costs and benefits
- Lack of knowledge and information (What do we need? What is a “good lighting”?)
- Compatibility between new and old, upgradability, rapid obsolescence
- Bidding barrier:, over-specifications, few standards
- Principle-agent problem

A mess in responsibility



Moving forward

- **Close the knowledge gap** (very few people ask for something they have not seen or know)
- **Procurement for innovations (PPI), pre-commercial procurement (PCP)**
- **The role of new business models** (e.g. product as a service; integrated services; product life extension & warranties; product recovery insurances; etc.)