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## **AIE contribution for the Green Paper on Solid State lighting**

*The AIE represents the Electrical Contracting Industry in Europe which comprises about 175,000 enterprises, the vast majority of which are SME's, having a combined turnover in the order of 70 Billion Euro and a workforce of more 1,000,000 people.*

*The electrical contractors therefore play a significant part in the achievement of the EU energy targets.*

Hereby the AIE is most pleased to be able to contribute to the discussion and think-thank on the deployment and uptake of the Solid State Lighting market and to express the electrical installers' point of view.

Lighting is an essential service for most buildings for functional and operational needs and it is obvious that in the framework of the European Energy targets lighting equally needs to respond to high energy efficient standards as part of the global electrical energy management system of the building.

Energy efficient lighting technology is currently available but doesn't seem to be implemented or to have a rapid uptake.

The question therefore rises, why and what can be done to accelerate the deployment of the technology?

### **Main barriers on the current deployment of the LED technology identified by the AIE and its electrical contracting companies:**

The main barriers are quite easy to identify:

- High price of and low margins on the individual new lighting products and of the components of the lighting installation (electronic ballasts, electronic monitoring and steering systems);
- Lack of confidence in the LED technology amongst main stakeholders because lack of knowledge of the latest available technology;
- Trend to close the lighting market by allowing only 'lighting specialists' in this area, resulting in a reduced number of companies able to install new energy efficient lighting systems.

To address these barriers and properly stimulate the market, the AIE recommends paying particular attention to the following:

### **1) Lighting to be considered earlier in the project design phase**

Throughout Europe and for many types of different buildings, a lot of electrical contracting companies are - beyond the installation and maintenance activity - also carrying out a design activity of the electrical installation including lighting.

Many installers are moreover the first person of contact of the end-user who informs and advises him of the appropriate lighting solutions to meet the client's lighting needs both internally and externally, whilst responding to environmental and energy efficient requirements. These solutions often request the implementation of a more integrated energy management system.

Nevertheless, in many cases the electrical systems and their design are taken into consideration at the end of a building project (new or retrofit) there where the overall energy management of a building should integrate the electrical system including the lighting system at a much earlier stage of the project design of a building.

- *To be able to integrate an appropriate energy efficient lighting system into a global electrical energy management system, building project designers should call upon the electrical contractors to be involved from the project design phase of a building.*

### **2) No additional legislation needed for lighting**

The AIE does not believe that any additional legislation for lighting systems or Solid State Lighting is needed to drive and stimulate the uptake of the market.

Indeed lighting represents a part in the overall electrical work of the electrical contractor. Beyond lighting systems the electrical installation or systems in buildings in the tertiary sector and industry often also include power generation, office networks, lighting controls, information technology and telecommunication systems, fire and security systems, central management processing, integration of renewable energy sources (heat pumps, photovoltaic systems etc.), access control, automation and active control systems, integrated energy management, monitoring and metering systems...

To have additional legislation for the lighting market only, would only slow down the process of implementation of energy efficient measures. In particular for lighting systems, current legislative drivers and vehicles already exist such as the Energy Performance of Buildings Directive.

Indeed with regard to indoor lighting, we believe that in the framework of the Energy Performance of Buildings there is sufficient room to introduce and increase the potential of energy efficient lighting solutions.

For example, Denmark implemented new Building Regulations in June 2010 with specific regulations on lighting systems. Equally in the UK Part L of the Building Regulations stipulates the need to implement energy efficient lighting systems.

There might be however an issue in the standardisation field. Maybe more stringent energy performance requirements and standards for lighting systems can be introduced avoiding switching the LEDs in existing fittings.

We also understood that in the retrofit market, there are issues about compatibility with existing control gear appear which might be underestimated by the manufacturers.

- *Any standardisation activity having an impact on installation standards will however have to involve AIE in the works.*

### **3) How to stimulate the demand of Solid State Lighting?**

New technology is always market driven, driven by price or fashion.

If price can't be driven down for the time being, the only other argument that will drive the customer to buy is because the product's attractiveness and fashion driving him to buy it. In this area the audio-visual market or mobile phones are excellent examples.

Compared to other electrical products or applications, we have the chance that lighting and LEDS are visible offering a lot of fancy possibilities, doing moreover more with less energy!

- *Information on successful lighting projects on the benefits as to raise awareness and confidence amongst the public is therefore of crucial importance; if the end-user is not convinced, he won't invest in new technology. If there is no demand, the electrical installer – salesman of the lighting systems – won't enter into the market or stimulate the demand.*
- *This information on successful lighting projects can be either displayed in town or information sessions can be organised by the municipalities in cooperation with the value chain.*

### **4) Advantages and role of public lighting (public buildings, hospitals, schools, hotels...)**

In this section we understand public lighting as indoor or outdoor lighting in areas accessible to the public or highly frequented areas.

The first area where the concept of energy efficient lighting is the most visible and important is public lighting. Initially perceived as a source of economic progress and security of citizens, public lighting is sometimes perceived by some as a nuisance or a danger for the environment (lighting pollution..). This is forgetting that beyond potential huge energy savings that can be achieved and an increased feeling of security for citizens, public lighting has an additional important economic advantage.

It is no secret that lighting has also an aesthetic added value and equally contributes to the recovery and added value of the cultural and architectural Heritage of local municipalities and cities, source of tourism and economic well being of a region or city...

- *Financial incentives and subsidies to projects which upgrade the indoor and outdoor lighting of buildings where the public comes in number, such as hospitals, schools and hotels with the aim to highlight the architectural and cultural heritage, should therefore be highly stimulated.*

Furthermore because of its high visibility, the role of public lighting with regard to raising awareness of and create confidence in Solid State Lighting is of utmost importance. It gives huge visibility and illustrates the implementation of existing technical solutions, gives credibility and confidence to modern and new technology convincing the good housefather, this technology can equally be implemented and expanded in his company, his office, his home....

As everyone knows a barrier to implement new technology for public authorities / municipalities as for other customers is price driven because of the public money involved. However other financial solutions exist and can easily be implemented:

- the concept of total life cycle cost should be systematically taken into account which justifies the price long term;
- the financial and technical officer should jointly and simultaneously be involved in the tendering process;
- information about other mechanism of financing should be promoted such as third party financing.

- *Public procurement procedures should move from short lowest price and go for long term lowest price taking total life cycle costs into account enabling to implement environmental friendly and energy efficient solutions.*
- *When assessing offers to tenders, we recommend public authorities / municipalities to have both the technical, environmental and financial aspects and impact assessed.*
- *Financial institutions such as banks or leasing companies should be stimulated by Europe to finance projects of this nature.*

## 5) **Role and added value of the value chain: technology transfer**

However not all public authorities and/or municipalities, in particular the smaller ones, have an in-house technical service. Therefore the electrical installer is often the privileged partner of the local public authority / municipality for advising on the best technical solutions. The installer is then mostly in the position of a global service provider of integrated technical solutions for energy efficient measures.

To be regularly up-dated on the evolution of the market and to assist and guide the implementation of better and more energy efficient lighting systems, the dissemination of information and practical guides as well as training sessions is an absolute must.

- *It is in this context of the utmost importance that the value chain works closely together to have an efficient technology transfer from the industry to the installer with the publication of up-to-date guides, seminars and training sessions. Sector trade associations can play an important role here and enhanced cooperation between them can only benefit the whole sector.*
- *Another tool which seems to be successful, are competitions and large scale illumination projects. In France a successful example regarding public lighting competition, is the "Concours Lumières", and in Frankfurt in the framework of the Light and Building Exhibition, every second year the 'Luminale' is organised to illustrate how buildings can be valued thanks to lighting.*
- *Only a global approach of the whole value chain can be successful for a rapid take-off of the LED technology. From the design, the installation, the management and maintenance, the lighting value chain should be respected as*

*to deliver best cost efficient solutions responding to the consumer's needs and expectations.*