



# GREENLIGHT EXAMPLES IN THE RETAIL SECTOR

November 2002



THE EUROPEAN GREENLIGHT PROGRAMME  
An initiative promoted by the European Commission

Disclaimer: the examples in this brochure are self-reported by the GreenLight Partners. Their energy savings are assessed by comparison with either the pre-existing lighting (in the case of a renovation) or a conventional new installation (in the case of a new building). Energy savings potential is specific to each lighting installation, depending on the installed technologies, the operating hours, the occupancy pattern and other factors. All GreenLight upgrades shall be made in conformity with Community, national and local regulations. Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use, which might be made of the contents of this brochure.

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# The European GreenLight Programme

**GreenLight is a voluntary programme** where private and public organisations commit towards the European Commission to upgrading their existing lighting, and to designing new installations, using energy efficient lighting systems when the energy savings justify the investment and lighting quality is maintained or improved

Climate change is one of the main challenges our society will face in the coming years. The fulfilment of the Kyoto commitment for the reduction of greenhouse gas emissions cannot be obtained without the efforts of all Europeans, in particular, public and private organisations in all fields of our economy.

Lighting has a substantial impact on the environment, accounting for up to 40% of electricity used in non-residential buildings. Major energy savings can be achieved. Examples from the field have shown that between 30% and 50% of electricity used for lighting could be saved investing in energy-efficient lighting systems. In most cases, such investments are not only profitable but they also maintain or improve lighting quality.

GreenLight is an on-going European voluntary programme where private and public organisations commit to upgrading their existing lighting and to designing new installations, adopting energy-efficient lighting measures when:

- the cost of these measures is repaid by the associated savings and
- lighting quality is maintained or improved

In return for their commitment, not only do these Partners benefit from the savings, but they also receive broad public recognition for their effort in protecting the environment.

GreenLight is promoted by the European Commission and a network of national energy agencies or similar bodies.

At the time of writing this, 79 public and private organisations have signed the GreenLight partnership. Major players have joined the movement and several GreenLight upgrades have got off the ground and flourished.



Among GreenLight signatories are some retail actors. Hereafter is the list of organisations in the retail sector (supermarkets, shopping malls, gas stations, shops, etc.) which signed the GreenLight commitment as Partners and have therefore agreed to adopt energy-efficient lighting practices. These companies bring a useful and active contribution to pollution prevention.

- |                              |                                      |
|------------------------------|--------------------------------------|
| 1. Auchan                    | 12. Ikea                             |
| 2. Apoteket AB, Lokalenheten | 13. Ipercoop Tirreno                 |
| 3. Carrefour Italia          | 14. Neukauf Merz                     |
| 4. Coop Adriatica            | 15. Nova Coop                        |
| 5. Coop Centro Italia        | 16. OKQ8                             |
| 6. Coop Consumatori Nordest  | 17. Societa' Ipermercati Cooperativi |
| 7. Coop Estense              | 18. Super U Hartmann Dannemarie      |
| 8. Coop Liguria              | 19. Terres et Eaux                   |
| 9. Coop Lombardia            | 20. TESCO                            |
| 10. Coop Toscana Lazio       | 21. Unicoop Firenze                  |
| 11. Dolce & Gabbana          |                                      |

This publication highlights some of their achievements within the GreenLight programme. These examples illustrate some of their efforts towards the goal of the GreenLight programme, i.e. the reduction of European lighting energy use.

They shall not be seen as the best possible energy-efficient lighting installations – GreenLight is not an energy-efficiency label - but as solutions which have shown to reduce electricity use while being cost-effective and maintaining lighting quality.

More information on the GreenLight programme is available at [www.eu-greenlight.org](http://www.eu-greenlight.org).



■ In France, GreenLight Partner, Super U, rethought their lighting concept for all new supermarkets. Until recently, all new shops were equipped with 26-mm diameter lamps, magnetic ballasts, and white-painted industrial reflectors. Luminaires were traditionally placed at a height of about 5m and distributed so that lighting levels exceed 1000 lux on the floor. Their new lighting concept consists in lowering the fixtures and using 16-mm fluorescent lamps, electronic ballasts, and flat-bladed louvers. Lighting levels are reduced to 600 lux and 1/3 or 2/3 of the general lighting can be switched off when less light is needed.

The results below were reported for their shop in Danne-  
marie. The comparison is made versus a new installation  
that would have used the standard new lighting layout used  
before they joined GreenLight.

- Lighting electricity savings: 78 680 kWh/year
- Power reduction: 15.6 kW
- Reduction of electricity use in the areas covered: 36 %
- Energy cost savings: 5901 Euro/year
- Payback time: 3 years and 6 months



Super U Hartmann  
42 r Belfort F-68210 Dannemarie  
General Director: Bruno Mandroyant  
Tel. 03 89 25 02 87



▲ Before

■ In Germany, GreenLight Partner Neukauf-Merz upgraded the lighting in one shop by changing all 26-mm diameter fluorescent lamps with 16-mm diameter lamps. They used a substitution kit including the lamp, its electronic ballast, its reflector and shielding. No other modification was made on the existing installation than removing the existing starter.

Not only did they claim to have improved glare control and illuminance levels, but they also reported the following savings:

- Lighting electricity savings: 18 624 kWh/year
- Power reduction: 4.7 kW
- Reduction of electricity use in the areas covered: 32%
- Energy cost savings: 1443 Euro/year
- Internal Rate of Return of the investment: 20%

▼ After



This lighting upgrade, coupled to other energy efficiency measures, solved their indoor over-heating problems and avoided investing in extra air-conditioning capacity.

Edeka Neukauf  
Wilhelmstr. 160  
D-64625 Bensheim-Auerbach  
General Director: Wilfried Merz  
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Before ▲  
After ▼



■ COOP Italia was the first retail chain to join the GreenLight Programme. They upgraded the lighting in 12 hypermarkets by changing their old inefficient egg-crate louvered luminaires with new fixtures including pin-based 55W fluorescent lamps, electronic ballasts, specular reflectors (90% reflectivity), double switch-on, and sometimes daylight responsive lighting control systems. This lighting solution has also been adopted in 20 new hypermarkets.

The following results were reported (example of the lighting retrofit in Montecatini):

- Lighting electricity savings: 238 655 kWh/year
- Power reduction: 51 kW
- Reduction of electricity use in the areas covered: 34%
- Energy cost savings: 26 020 Euro/year
- Payback Time: 3 years

This example does not include a daylight responsive lighting control system. In another COOP hypermarket (San Benedetto del Tronto), the installation of such a system is said to have generated additional savings of ca. 20%, sufficient to pay back the cost of the control system in less than 3 years.

IPERCOOP Montecatini  
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■ In Portugal, GreenLight Partner Sonae Imobiliária upgraded the Centro Colombo covered car park, one of the largest in Europe, by substituting the magnetic ballasts with electronic ones. These operate fluorescent lamps at higher frequencies and offer significant advantages compared to magnetic ballasts, *inter alia* lower power losses.

After measurements, they claimed the following results:

- Lighting electricity savings: 400 838 kWh/year
- Reduction of electricity use in the areas covered: 11.5%
- Energy cost savings: 23 814 Euro/year
- Internal Rate of Return of the investment: 20%

*"The GreenLight Programme gives us the possibility to show our partners and clients our objective to reduce energy consumption"*

Alberto Faias  
Energy Manager  
Sonae Imobiliária



Centro Colombo  
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Carrefour Valecenter  
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■ In their hypermarket of Marcon in Italy, GreenLight Partner Carrefour Italia removed the old inefficient pendant luminaires. It replaced them with new fixtures, equipped with reflectors and 26-mm diameter linear fluorescent lamps (2 x 58W). These lamps are powered by electronic ballasts and are dimmed according to the amount of natural light inside the hypermarket. They are also dimmed before and after opening hours, when only staff is present (5 to 9:00 and 21 to 22:30).

Compared to the old lighting installation, the new one is claimed to bring almost the same lighting quantity, plus the following savings:

- Lighting electricity savings: 423 000 kWh/year
- Power reduction: 80 kW
- Reduction of electricity use in the areas covered: 31%
- Energy cost savings: 42 300 Euro/year
- Payback time: 3 years (taking into account the cost of equipment and installation)

*“The GreenLight Programme brings incentives, recognition and support for those like us who act with respect for the environment and for the client”*

Giovanni Piano  
Energy Manager  
Carrefour Italia

■ In eight hypermarkets, Auchan tested an alternative to the usual 4<sup>1/2</sup>m high, 3<sup>1/2</sup>-4<sup>1/2</sup> m spaced, T8 strips lighting. They used T5 lamps and electronic ballasts to maintain a much lower general lighting level and to add more light on products using localised luminaires along the shelves. They used white sodium lamps for illuminating fresh foods, and metal halide lamps for accentuation purposes and for the textile area. Compact fluorescent lamps were used for services and cashiers.

Apart from renewing the visual aspect of the shop, this new lighting is claimed to bring the savings given below. The data are relative to the Longuenesse hypermarket (St Omer, France). The comparison is made versus a conventionally lit Auchan hypermarket of equal size.

- Lighting electricity savings: 393 802 kWh/year
- Power reduction: 71 332 kW
- Reduction of electricity use: 24 %
- Energy cost savings: 21 659 Euro/year

Five other hypermarkets are planned to be upgraded in 2003 using this new lighting concept.

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**For more information on the European GreenLight programme,  
please contact the persons below or visit our web site:**

**www.eu.greenlight.org**

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