



PhotonStar™ EcoStar 500 Application Example

Social Housing

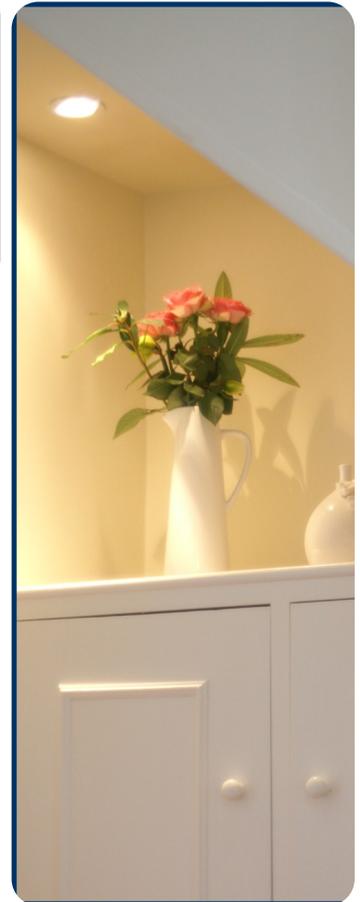
Application

Social housing occupants are often vulnerable and in some cases disabled. RoSPA quotes 3,588 domestic injuries a year directly attributable to handling and changing light bulbs, and the vulnerable tenants in social housing are affected by a high proportion of these accidents. Since social housing is frequently occupied by full time parents, the retired and often those with higher rates of unemployment, this type of housing generally has higher daytime occupancy. Thus the electrical demand for lighting is higher than in other residential properties.

Solution

The solution reduces electricity consumption by 80% (from MR16) without reducing the amount or quality of light, and 40% (from CFL) with an improved quality of light, and offers improved functionality & safety features. The EcoStar 500 exceeds part L1 and is a dedicated low energy fitting. In this example the project fully meets the code for sustainable homes targets for lighting today and for the next phase. The light quality is far superior to CFLs and comparable to 50W GU10/35W LV Halogens.

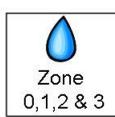
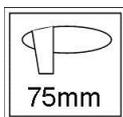
Extremely low energy consumption and minimal maintenance mean they are not only extremely cost effective to run, but last many times longer than halogens. With no lamps to change, there are benefits for both landlord and tenant over and above energy savings. The tenant does not have to invest in a stock of replacement lamps and is protected from the common injuries that may occur such as falls & burns when changing a lamp. There are no disposal problems, preventing exposure to mercury and broken glass. In sheltered housing, the quantifiable cost of replacing lamps is eliminated.



Equivalent Output Lamps

Lamp Type (emitting equivalent output in lumens)	Number of Lamps	Power per lamp (with Driver)	Total Power of all Lamps	Energy Cost over 50,000hrs operation*	Relative energy saving over 50,000hrs operation*	Annual Energy Cost**	CO2 (kg) emitted over 50,000hrs operation*	Relative CO2 (Tons) saved over 50,000hrs operation*
65W BR30	19	65W	1235W	£9,880	£0	£264	39520	0
35W MR16	19	35W	665W	£5,320	£4,560	£142	21280	18
35W PAR30	19	35W	665W	£5,320	£4,560	£142	21280	18
14W CFL	19	14W	266W	£2,128	£7,752	£57	8512	31
EcoStar 500	19	9.9W	188W	£1,216	£8,664	£32	4864	35

*Based on energy cost of 0.10 per kWh , 0.4Kg CO2/ kWh, savings over 1 year based on 6 hrs per day.



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Chevin Housing Association Case Study

Social housing occupants are often vulnerable and in some cases disabled. RoSPA quotes 3,588 domestic injuries a year directly attributable to handling and changing light bulbs, and the vulnerable tenants in social housing are affected by a high proportion of these accidents. Since social housing is frequently occupied by full time parents, the retired and often those with higher rates of unemployment, this type of housing generally has higher daytime occupancy. Thus the electrical demand for lighting is higher than in other residential properties.

In a refurbishment of 54 flats in Doncaster, Chevin Housing Association used the latest in LED lighting, benefitting both the tenant and the association. The project resulted in PhotonStarLED being shortlisted as a finalist at the *"Constructing Excellence Yorkshire & Humber Awards"* for innovation.

The solution reduced electricity consumption by 80% (from MR16) without reducing the amount or quality of light, and 40% (from CFL) with an improved quality of light, and offers improved functionality & safety features.

Sam Sykes from Chevin Housing Association explains the reasons behind choosing PhotonStarLED for this project:

"The refurbishment is part of our decent homes improvement works and includes a range of additional measures to combat fuel poverty. Although currently the code for sustainable homes does not apply to retrofit, we anticipate some guidance on this within the next year or so and wanted to be one step ahead of the game.

We had already assessed a range of generic LED and other low energy solutions as part of our "Retrofit for the Future" solution, and the PhotonStar LED fittings offered the best combination of genuine performance, lifetime potential, excellent light quality, product quality and legislative compliance. Their high level of recyclability & UK manufacture is key to our sustainability agenda.

Following the inclusion of PhotonStar in our proposals, we assessed the feasibility of using the PhotonStar LED light fittings at our Danesthorpe site. We are constantly looking to reduce the carbon footprint of our housing stock, and invest in innovative ways of achieving this based on longer term benefits and payback. Although initially the PhotonStar products were more expensive, our assessment of the long term maintenance savings for us, and operational savings for the tenant was the primary deciding factor.

We had historically spent a considerable amount on maintaining damaged fixtures and fittings, and with such an excellent quality product and the 5 year guarantee, we anticipate huge savings on callouts to replace fixtures and fittings. The tenants should see electricity savings in excess of 80% for their lighting as well as the savings from not having to replace the bulbs.

Chevin aim to install the best products into our properties, and are now looking for further opportunities to rollout the benefits of PhotonStar LED lighting throughout our stock."

Fenella Frost representing Southampton based PhotonStarLED Ltd. added:

“DEFRA recently published their *Roadmap to Domestic Lighting*, which identified LED integrated luminaires (not to be confused with LED replacement bulbs) as the most sustainable lighting choice for the future. The study assessed the full lifecycle impact of a variety of lighting solutions including its operation, manufacture, supply and end of life.

PhotonStar products are one of the few LED products that comply with both building regulations and the Code for Sustainable Homes, and with the projected performance improvements in the very near future, our products are being specified onto a wide range of social housing projects by forward thinking housing associations and social housing developers. Manufactured sustainably in the UK, this award nominated installation not only provides an excellent quality light, improved safety and dramatically reduced running costs for landlords & tenants here in the UK, but it also contributes to creating green collar manufacturing jobs here in the UK. “