

# PEL POWERS AHEAD WITH SOLAR STREET BINS

Having designed and rolled out its solar powered compacting litter bin to a number of councils and municipal districts both at home and abroad, PEL is confident that its SolarStreetBin™ will generate considerable cost-saving measures for other local authorities who embrace this technology to improve the efficiency of their litter collection services.

**S**teve Jobs of Apple Inc. famously stated that “you have to start with the customer and work backwards towards the technology” and the product development team at PEL Waste Reduction Equipment took that advice on board when designing the SolarStreetBin™.

Extensive market research was carried out to understand how the public interact with conventional and solar powered compacting litter bins and to recognise the issues the public have with the bins commonly seen on the streets.

This information was used in the development of the SolarStreetBin™ - the only Irish manufactured solar-powered compacting litter bin on the market.

## WHAT IS THE SOLARSTREETBIN™?

The SolarStreetBin™ is a heavy-duty, solar powered compacting litter bin designed to hold general and recycling street litter. Manufactured in Balla, Co. Mayo, the bin is available in 120 Litre, 240 Litre and 360 Litre capacities and uses a standard commercially-available wheelie bin as a liner.

It incorporates an on-board solar-powered compaction system, which increases its litter-holding capacity by up to 10 times when compared to a standard litter bin. There is also an integrated wireless bin-fill sensor which monitors litter levels/spare capacity and communicates this data to PEL Waste Reduction Equipment's cloud-based programmable BriteBin™ data management platform, accessible via a web browser.

The BriteBin™ software processes the bin-fill level data and issues an email or SMS alert to the council when a bin needs to be emptied. This real time monitoring and alert capability allows the council focus their litter collection resources on only those bins which need to be emptied, thus increasing the overall efficiency of the collection service.



*PEL has installed 50 Solar Street Bins on Shop Street and Eyre Square in Galway City.*

## FLEXIBLE COLLECTIONS

Using a standard wheelie bin provides flexibility on the collections vehicle servicing the SolarStreetBin™. A standard Refuse Collection Vehicle (RCV) equipped with a comb lift is one option.

If a council chooses to use a plastic refuse sack, then the SolarStreetBin™ can be serviced via a cage truck. Note: the wheelie bin handle is positioned away from litter flap, hence will be clean when operators service the bin. If a bag is used, the SolarStreetBin™ is serviced by opening the access door, lifting the bag out of the wheeled bin and depositing it in an open sided truck. The bag weight is set by adjusting the compaction pressure and general practice is to work with council to optimise the weight in order to meet compliance responsibilities in relation to the manual handling legislation.

The expanded litter holding capacity of the SolarStreetBin™ coupled with the bin-fill sensor and wireless telemetry creates multiple benefits for the council. Rather than servicing every bin, as is current standard practice, visibility of fill levels across the complete fleet allows waste management officials to devise collection routes, servicing only those bins which are full.

This leads to a significant reduction in the service frequency which in turn (1) dramatically cuts collection traffic, (2) reduces resultant greenhouse gas emissions connected with that traffic and (3) cuts the overall litter bin collections costs. Additional

## WASTE REDUCTION EQUIPMENT

benefits offered by SolarStreetBin™ include an improvement on street hygiene standards through the elimination of overflowing bins and no more expensive emergency clean-up costs.

### PUBLIC SAFETY IS PARAMOUNT

As public safety is of paramount importance to PEL Waste Reduction Equipment, the SolarStreetBin™ is designed so that there are no sharp edges or corners which would be a hazard to the public. Additionally, the foot pedal is integrated into the body of the bin thus removing a potential trip hazard.

The external surfaces of the bin are designed to accommodate advertising and a polyester TGIC powder-coat top-coat finish means the bin is very easy to clean and wash-down.

### CUSTOMISATIONS

Multiple customisations including colour, litter flap geometry, door location and shape of the protective polycarbonate top panel are also available. Additionally, the SolarStreetBin™ is fully enclosed - this design prevents vermin i.e. rodents or birds from scavenging litter which in turn requires a costly emergency clean-up to rectify.

### NON-COMPACTING MODELS

The PEL IoT Bin is the non-compacting version of the SolarStreetBin™. It features the same heavy duty, vandal proof design as the SolarStreetBin™ but without the solar panel and internal compaction system.

The PEL IoT Bin is available in 120 Litre, 240 Litre and 360 Litre capacities and uses a standard wheelie bin as a liner. Equipped with a sensor and wireless communication capability, which communicates the litter fill-level data to the BriteBin™ platform, email or SMS alerts are generated when the PEL IoT Bin needs to be emptied.

### MONITORING AND ALERTS VIA BRITBIN™ SOFTWARE

The BriteBin™ cloud-based software application empowers the council to cost-efficiently manage waste collections throughout their area of responsibility. BriteBin™ offers a revolutionary service with its cutting-edge technology enhancing the bin monitoring process and the efficiency of collection routes.

It integrates seamlessly with the fill-level sensors mounted on the SolarStreetBin™ and IoT bin and automatically compiles bin-fill data, which users access via any internet-connected computer.

BriteBin™ allows users to generate optimised collection routes focused only on those bins which require servicing thus saving time, cutting costs, reducing traffic and associated emissions, whilst improving the environment and well-being of people living within the council catchment area.

### WHERE CAN THE SOLARSTREETBIN™ BE FOUND?

PEL Waste Reduction Equipment are working with a number of councils and local authorities in Ireland, the UK, across Europe and wider afield.

In Ireland, the SolarStreetBin™ is installed in 11 locations including Galway (50 units along Shop Street and Eyre Square), Fingal County Council (40 units in Howth) and in Mayo, where it

### PEL CLEANS UP AT IRISH TIMES INNOVATION AWARDS 2019!

*PEL Waste Reduction Equipment was a recent winner at this year's Irish Times Innovation Awards. Now in their tenth year, the Innovation Awards 2019 again showcased and rewarded excellence in product and service innovation across five separate categories.*

*Based in Balla, Co. Mayo, PEL was one of four finalists from the West of Ireland to win one of the five category awards, for its solar-powered compacting SolarStreetBin™ which increases capacity by up to 10 times the volume of a standard street bin.*

*The company won the Manufacturing and Design Category (sponsored by Enterprise Ireland), which recognises innovations in engineering, design and the production of industrial and consumer products.*

*PEL and the other selected finalists pitched their innovations to a final group of judges in early October, and was announced as one of five category winners at a ceremony in Dublin's RDS on 5 November.*



*PEL Waste Reduction Equipment's Sales Engineer Pearce Gibbons (second right) received the Manufacturing and Design Category Award on behalf of the company at this year's Irish Times Innovation Awards.*

can be found in seven towns around the county.

In the UK, the SolarStreetBin™ is saving litter collection costs for councils in London, in the midlands, northeast and in Scotland. One of the more interesting installations is in Belgium, where it is managing litter at music festivals (i.e. the world famous Tomorrowland event) and various markets and fairs across the country.

San Francisco is another far flung destination for the SolarStreetBin™. Initially six units were installed in the Castro district of the city last year and the product is due to be rolled-out across the city in 2019 and 2020.

The North American market is a huge opportunity and the company is confident that the San Francisco installation will be the first of many for the SolarStreetBin™ in this territory. The market for IoT litter bins is in the midst of rapid expansion and the SolarStreetBin™ is ideally placed to avail of the opportunities being presented by this growth.

The product has been designed with the customer in mind and PEL Waste Reduction Equipment is confident it will generate considerable cost saving for any council that embraces this technology to improve the efficiency of the litter collection service.