

# How did a greener solution save over £20k and 33 Tons of CO<sup>2</sup>?

Our Clean Energy team worked with Marmalade films Ltd to pioneer an innovative energy solution on a major film production in Greater London.

Through analysing the peak production demands and available power supply they designed and implemented a 'power at mains parallel system' utilising mains power, and battery storage units to reduce the need for back-up generators, saving over 100,000 litres of fuel as well as delivering cost and CO<sup>2</sup> savings.



**Total Litres of  
Fuel Saved**  
104,756 li



**Total CO<sup>2</sup> saved**  
33.7 Tonnes



**Total Fuel  
Cost Saved**  
£220,000



**Total Energy  
Consumed**  
90,000 kwh



**Overall  
Commercial  
Saving\***  
£20,800



# How did a greener solution save over £20k and 33 Tons of CO<sup>2</sup>?

The Film and TV sector are continually looking at ways to reduce their environmental impact and given the nature of the industry, coupled with its growth in recent years, temporary power has long been one area with real opportunity to trial different solutions in a bid to reduce reliance on generators, and adopt lower-carbon energy technologies.

## Challenges

With a constant mix of studio and location filming, back-up power is usually a must. But even when a mains connection is available there's not always enough power to run all facilities and equipment (at peak times), so again, an additional energy source is often needed.

An exciting new project at Sky's flagship studios in North London needed just this, extra power (above the 63-amp 3 phase mains supply currently available) to support the on-going filming of an exciting new blockbuster movie.

## Solution

Traditionally the studio would have needed additional generators to deal with periods of higher demand, but with the support of the Clean Energy team from Sunbelt Rentals UK a hybrid power system was implemented utilising two large batteries to subsidise the mains power, with one generator supplied as back up only, given the ground-breaking nature of this solution.

### How does it work?

The two battery storage units (in mains parallel mode) provide primary power to the location, and are configured to work in unison with the mains supply to power:

- 4 workshops
- 16 cabins
- 1x Craft services
- 2x Spray booths
- Tech vehicle support (Tech Line; DIT, SFX, Props & Lighting)
- And EV charging facilities

Of course, these batteries need charging, so they're set up on a 'trickle charge' overnight and when the load is low, utilising the mains supply. This system is known as a 'power at mains parallel load' and to our knowledge is the first time a set-up of this nature has been utilised in the UK.

During working hours, the batteries will use their stored power, automatically responding to varying spikes in energy demands, ensuring an uninterrupted supply.

## Our equipment and services supplied at a glance

- 2x 318kVA-422 KWH Battery (Energy) Storage Units (BSUs)
- 1x 300kVA generator (for back-up power only)

## Result

6 months into filming and the batteries provided power to site 99% of the time, with the generator only being called upon for 4 hours in total across a 6-month period.

When compared with a traditional generator power solution the 'power at mains parallel system' (utilising the available mains power and 2x 318kVA Battery Storage Units) has saved:

|  |                                    |
|--|------------------------------------|
| Total Litres of Fuel Saved   | 104,756 li                         |
| Total Fuel Cost Saved  | £220,000 (based on HVO @ £2.10p/l) |
| Total CO <sup>2</sup> saved  | 33.7 Tonnes                        |
| Total Energy Consumed  | 90,000 kwh                         |
| Overall Commercial Saving  | £20,800                            |
| Based on clean energy solution VS generator only solution powered by HVO |                                    |

These savings are compared to a typical 25% generator idle load (which would have been expected in this type of application) across a 6-month period. And the production has saved an estimated 7,259hrs (99.98%) in generator run time.

“ At first, I was sceptical of implementing a cleaner energy solution because of the unknowns. However, I now fully believe it's one of the greatest solutions available to users of temporary power, and I'd encourage every production to explore implementing cleaner energy technologies wherever possible, because together we're all on a mission to work more sustainably, for the good of our planet ”

**Elvina Baltrusaityte**  
Studio Manager, Marmalade Films Ltd