



# HYBRID POWER FOR NEW HOUSING DEVELOPMENT



## 74% Diesel Generator Runtime Reduction Achieved for Careys Graven Hill Project

The Carey Group is a leading multidisciplinary Construction and Resource Management Group, delivering innovative, safe and sustainable solutions to the most complex construction and resource management challenges. As a member of the Considerate Constructors Scheme, Careys take great pride in their ability to address social, environmental and economic factors from the outset, in the design, construction and use of the projects that Careys deliver.

### The Project

The Graven Hill site lies just to the south of Bicester and extends to approximately 600 hectares. Set to become the UK's largest, most innovative self-build community, Graven Hill will deliver a diverse mix of accommodation from luxury houses to affordable housing. The site has planning permission for 1,900 new homes which will be accompanied by a primary school, offices, shops and a local pub.

### The Challenge

Careys were awarded the £2.2 million contract for the infrastructure works, which involve the laying of access roads, digging of trenches for utilities and laying the foundations for the first 20 houses.

With no access to grid power, Careys required 24/7 power for their temporary site offices. Leading the way in sustainable project development and construction, Careys were keen to find a cleaner source of power. Their commitment to becoming more sustainable is not a box-ticking exercise to comply with legislation. It is part and parcel of everyday life at Careys.





### The Solution

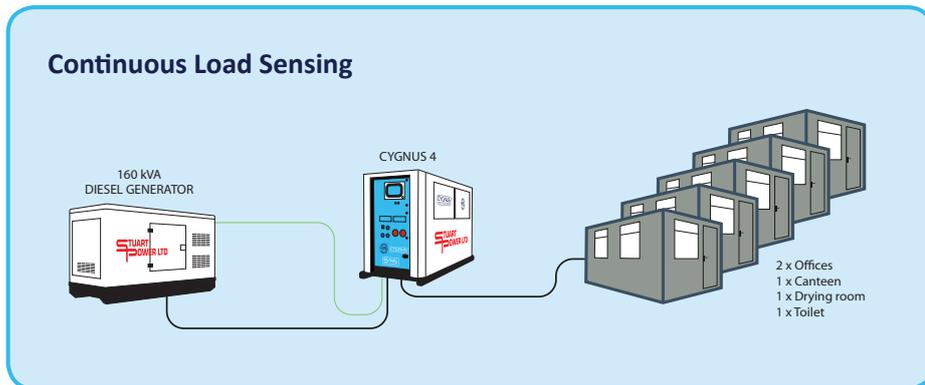
Stuart Power connected a Cygnus® 4 to the 160 kVA diesel generator on site, creating a hybrid power system. This setup provided power for the drying room, canteen, toilets and offices.

Cygnus® 4 was set to continuous 'Load-Sensing' mode and constantly monitored the load required for the cabins throughout the day. Cygnus® 4 automatically switched off the diesel generator when it was running at low loads, turning the diesel generator back on for higher loads. Whilst the diesel generator was running, Cygnus® 4 recharged.

### Client Feedback:

Clive Medden, Project Manager of Careys commented:

*"Having the hybrid generator was definitely worthwhile and it fits in well with our commitment to sustainability. We've saved money on fuel, reduced noise emissions and eliminated issues associated with fuel deliveries, such as logistics, delivery times and risk of spills. I've been pleasantly surprised at how good and efficient it is! It's definitely a good piece of equipment to have on-site."*



### The Results

Over a 2-month period, Cygnus® 4 provided completely silent power on site without requiring any fuel for 74% of the time.

During the 2 months, Cygnus® 4 has

- ▶ **Saved 13,524 Litres of diesel**
- ▶ **Reduced CO2 emissions by 36 Tonnes**
- ▶ **Delivered 966 hours of completely silent hybrid power (74%)**



### Equivalent Monthly Savings



**Diesel Saving  
6,762 Litres**



**CO2 Saving  
18 Tonnes**



**Silent Hybrid Power  
483 Hours  
(74%)**