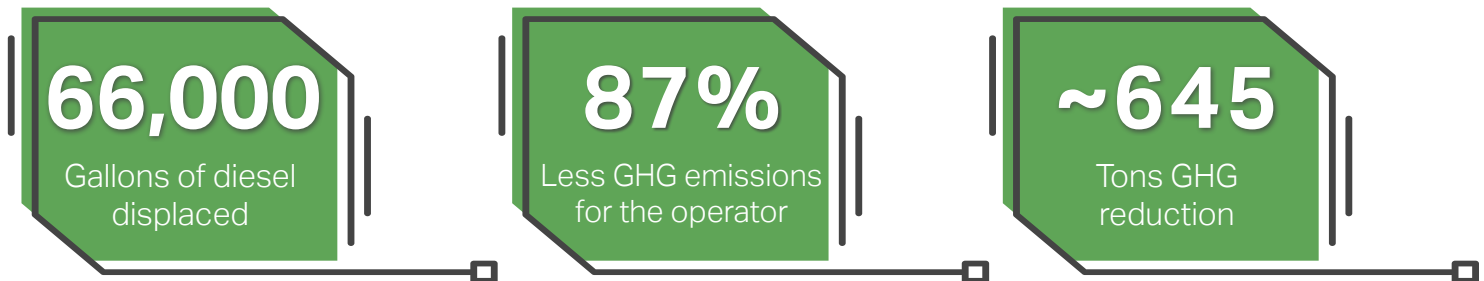


# CASE STUDY

EverGreenEnergy™

## Grid Power Reduces Drilling Greenhouse Gas (GHG) Emissions and Mitigates Noise



### CASE STUDY OVERVIEW

Electricity from a grid is an alternative to diesel-fueled electrical generators for drilling operations. Grid power technology allows the rig to accept high-voltage power from a utility provider. The power is then adjusted to 600V at the grid power feeder bay installed at the rig. If harmonic mitigation is required, it can be achieved by introducing an active harmonic filtering unit. Grid-tie technology allows the rig to accept high-voltage line power from a utility provider or local power generation station.

In this case study, the reduction in diesel consumption and GHG emissions is quantified for a grid-powered rig by comparing it with a business-as-usual diesel-powered rig. For an apples-to-apples comparison it was assumed that the diesel-powered rig would have produced the same amount of power that was taken from the electricity grid. Figure 1 shows the electricity consumption from the grid to drill a well.

### GRID POWER PERFORMANCE RESULTS

Grid power eliminated the use of diesel generators and eliminated onsite GHG emissions for the operator. However, GHGs are emitted from the source of electricity production which was taken into account. If drilling was done with a diesel-powered rig, the rig would have consumed 66,000 gallons of diesel to drill a 64-day well resulting in 10 tons of GHG emissions per day. The highlights of the results are:

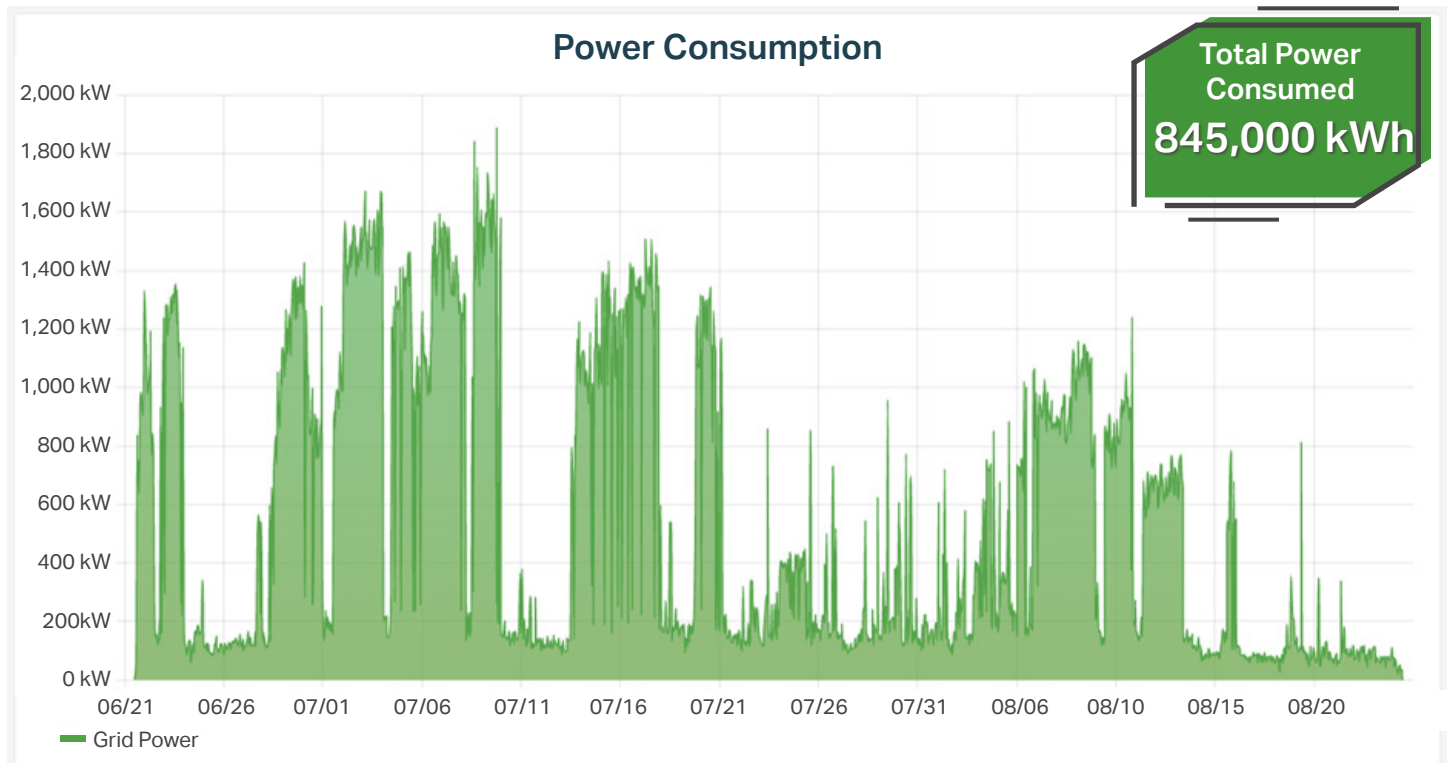
- » Grid Power displaced about 66,000 gallons of diesel.
- » 87% less greenhouse gas (GHG) emissions for the operator compared to a diesel-powered rig.
- » Drilling with the grid power mitigated ~645 tons of GHGs.

### CONCLUSION

Drilling with grid power mitigated about 645 tons of GHGs for the operator, which is the equivalent of keeping 133 cars off the road for one year.

## FIGURE 1

Figure 1 shows the load profile for a well drilled using grid power.



## FIGURE 2

Figure 2 shows the power and number of generators required to drill the same well.

