

CENefficient high-efficiency ESP system successfully decreased energy consumption by 37% and reduced carbon footprint by 32%

CHALLENGES

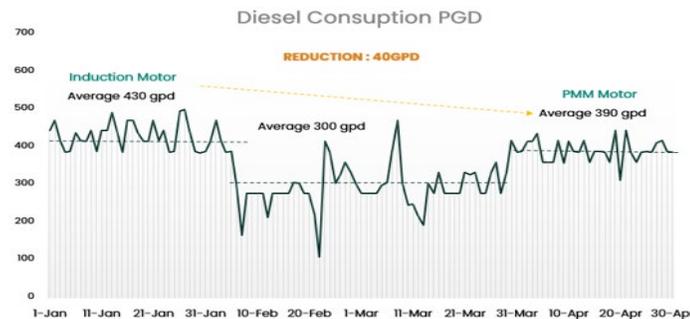
- Optimize energy consumption by implementing innovative electrical submersible pumping (ESP) technologies that improve energy efficiency
- Diminish carbon footprint through solutions that minimize greenhouse gas emissions
- Boost operational efficiency with improved equipment performance, reduced downtime, and increased production
- Reduce rig installation time

SOLUTION

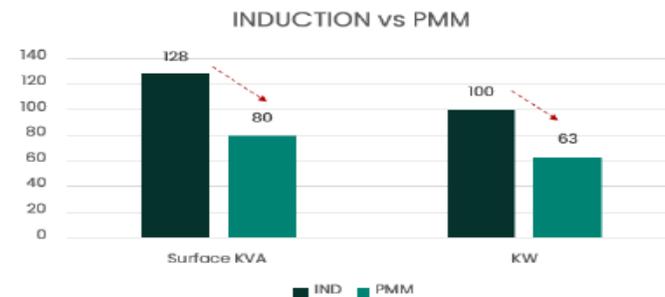
- Baker Hughes installed its [CENefficient™ high-efficiency ESP system](#), including:
 - The [Magnefficient™ permanent magnet motor \(PMM\) technology](#) to substantially improve energy efficiency and reduce motor power losses
 - The [LiftPrime™ high-efficiency, E1000 pump](#), with an advanced design for a highest lifting/ft and improved pump efficiency versus traditional pumps
 - [Advantage™ LE variable speed drive \(VSD\)](#) with vector control for PMM for optimal ESP power usage

RESULTS

- Decreased kilowatt-hours (kW-hr) by 37%, from 100kW-hr to 63kW-hr, compared to traditional motors
- Saved 14,600 gallons of diesel fuel per year, equivalent to \$42,340 USD (at an average diesel price of \$2.9 USD/gal)
- Diminished carbon footprint by 32%, a reduction of 4,600 kgCO₂eq per unit of production
- Reduced rig installation time by 55.5%, from 9 hours to 4 hours, thanks to the shorter PMM and preassembled ESP unit
- Saved \$1,500 USD per day in rig costs
- Increased pump lifting efficiency by 7.1% with the LiftPrime E1000 pump
- Provided effective PMM control through the Advantage LE VSD, resulting in a high-power factor of 0.7 to 0.95



The CENefficient system saved an estimated 40 gallons of diesel per day.



The Magnefficient PMM's high energy efficiency helped reduce energy consumption by 37% compared to traditional motors.