

# PowerSave ESPs with Permanent Magnet Motors Reduced Power Use, Saved \$66,000 USD per Year

## CHALLENGE

Reduce the power cost used by ESPs by at least 20% in two wells to maintain financial viability.

## SOLUTION

Install PowerSave ESPs including a PMM, powder metallurgy pump stages, and a VSD.

## RESULTS

- Reduced power consumption by 23% in Well A, and by 32% in Well B
- Lowered cost of production by over \$66,000 USD per year for these two wells

An operator in Tolima, Colombia was accustomed to using electrical submersible pumping (ESP) systems with standard induction motors and conventional pumps with sand-cast stages. They were interested in cutting their power consumption to reduce operating expenses and to maintain economic viability.

Novomet installed [PowerSave ESP systems](#)—proven to cut electricity consumption—on two of the operator’s wells. These ESPs use permanent magnet motor (PMM) technology to increase efficiency and reduce power usage, as well as PowerSave pump stages that are pressed from powder metallurgy to leave smooth surfaces that reduce fluid friction.

## Results—Well A

In Well A, a PowerSave ESP was run to depth at 5,251 ft (1600 m). It averaged a flow rate of 7,576 BPD (1205 m<sup>3</sup>/d) throughout the first year of service. The system reduced pump shaft power consumption by 16% and required motor power by 7%, yielding a combined power savings of 23% compared to the previously installed ESP.

For the year, using the PowerSave ESP reduced the operator’s cost to produce the well by \$21,795 USD. Applied across an expected 3-year run life, the ESP will save the operator over \$65,000 USD in electricity costs and help reduce power consumption by 23%.



Tolima, Colombia

*PowerSave ESP systems consistently cut power consumption and ESP power-related carbon emissions by 20–30% in Colombia, across the Americas, and around the world.*

## Results—Well B

A PowerSave ESP was run to 4,770 ft (1454 m) in Well B. It averaged a flow rate of 9,037 BPD (1435 m<sup>3</sup>/d). The system reduced pump shaft power consumption by 20% and required motor power by 12%, yielding a combined power savings of 32% on the well.

Replacing the previously installed ESP with the PowerSave system saved the operator \$44,968 USD in the first year. Applied across the expected 3-year run life, that is a reduction in production costs of over \$134,000 USD and 32% fewer ESP power-related carbon emissions.

## About the Technology

PowerSave ESP systems offer a proven method for increasing profitability by reducing operating costs. PMM technology uses rare earth magnets to reduce the amount of electricity required to start the system, and improves efficiency throughout the life of the ESP.

Pumps are built using proprietary stage design and a precise powder metallurgy process that reduces imperfections found in sand-cast components.

Both PMMs and pumps are available in a wide range of sizes. Operators across the Americas are increasingly turning to proven PowerSave performance to help them reduce OPEX and increase profits.

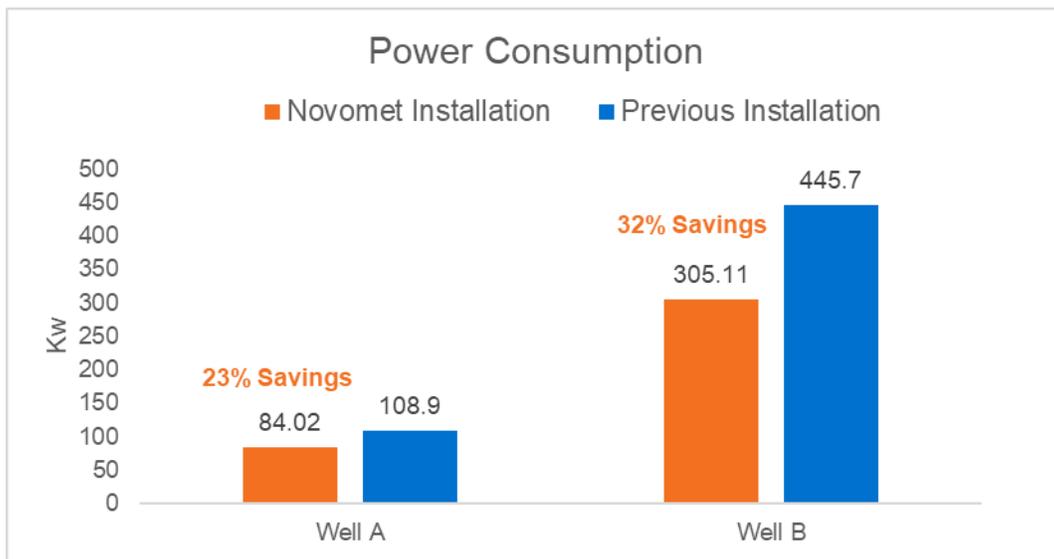
## Savings—By the Numbers

### Well A

Competitor ESP power consumption: 109 Kw  
PowerSave ESP power consumption: 84 Kw

### Well B

Competitor ESP power consumption: 446 Kw  
PowerSave ESP power consumption: 305 Kw



*Novomet PowerSave ESPs are projected to save the operator \$198,000 USD over the next 3 years in these two wells and reduce ESP power-related carbon emissions by an average of 27.5%.*