

# Energy Saving Solutions

Cut energy costs by up to 60 %

[www.siemens-energy.com](http://www.siemens-energy.com)



## Scope of Energy Saving Solution

Siemens Energy provides a holistic approach to modernize the entire drive train to enable significant energy savings. We focus on rotating equipment operating with inefficient mechanical controls (throttle, bypass, dampers, inlet vane control etc.) and under SPPA-E3000 Drive Modernization we optimize the energy efficiency of the entire drive train by implementing innovative high-quality Variable-Speed Drive solutions and energy-saving motors.

**Holistic consideration of the entire drive train. Focus on rotating equipment operating with inefficient mechanical controls (bypass, dampers, IGVs, etc.):**



### Control

- Bypass
- Throttle
- Inlet vane



### Motor

- LV motors
- HV motors
- Application-specific motors



### Mechanics

- Couplings
- Transmissions
- Application-specific gear units



### Application

- Pumps
- Fans
- Compressors

## The Task

Rotating equipment accounts for over two-thirds of the plant's auxiliary power demand. About 30 % of the drives such as pumps and fans could be run more efficiently. This considerable savings potential is waiting to be tapped especially when having in mind that more than 97 % of the entire life-cycle costs of rotational equipment are for energy needed to operate them.

## Our Solution

The Siemens Energy solution comprises of assessing the potential savings, analyzing suitable measures and implementing them to modernize a drive train. The focus is first set on those drives that promise a short-term payback for the cost of the upgrade.

Our solution covers these measures among others:

- Variable-Speed Drives instead of mechanical throttling,
- modernization of installed Variable-Speed Drives,
- usage of energy-saving motors and
- recovery of decelerating energy during breaking.

## Your Benefits



Cut energy costs up to 60 %



Short payback period



Reduced CO<sub>2</sub> emissions



Reduced mechanical maintenance



Increased availability



Efficient process control



Single partner for entire project

*Energy savings projects are often aided and funded by governmental programs.*

Your optimization project typically is split into three main phases:

### 1. Assessment of potential

We assess the theoretical savings potential and if this estimation reveals theoretical potential for savings, we make you a concrete proposal for a site analysis of your entire drive train.

### 2. Energy-efficiency analysis

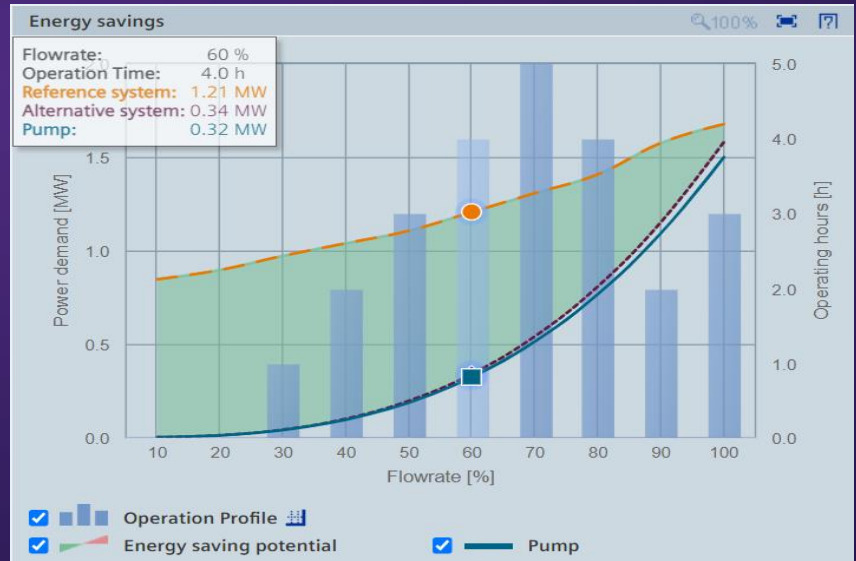
Suitable drive systems are identified, and the energy-cost-savings potential is precisely quantified. Based on the actual on-site conditions, we draw up a concrete optimization concept.

### 3. Technical implementation

- Planning and engineering.
- Replacement of obsolete and inefficient hardware.
- Installation of high-quality Variable-Speed Drives and high-efficiency energy-saving motors.
- Commissioning and parameterization of the components.
- Optimization of operating times and operating points.
- Final measurements, calculation of power consumption.

Siemens Energy ensures smooth replacement, encompassing everything from project planning through to commissioning, and then provides ongoing service support.

For calculation of Energy Savings and Amortization please contact us at [sppa-e3000.energy@siemens-energy.com](mailto:sppa-e3000.energy@siemens-energy.com)



A reference throttle control system when replaced with an energy efficient alternative such as VSD enables significant energy savings.

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