Can you reduce your energy use through better maintenance?

Is the energy efficiency of your plant limited by:

- Outdated or non-existent maintenance tools
- Poor alignment practices
- Poor balancing practices
- Poor quality spare parts

SKF can reduce energy use by:

- Supplying quality parts
- Supplying the appropriate maintenance tools
- Improving maintenance practices
- Training your staff on maintenance and reliability techniques

Yes – with products and services from SKF

With many of today's hydrocarbon processing facilities achieving 95 % + availability, increasing output generally isn't an issue. But all plants could stand to reduce their energy consumption, one of the largest expenditures any site has. While seemingly unrelated, improving your maintenance performance and reducing your energy consumption go hand-in-hand.

Poor maintenance practices waste energy

Equipment is designed to run at peak efficiency when the operating conditions are within the designed tolerances. Poor repairs and sloppy installation resulting from the mishandling of precision parts, unbalanced conditions or misalignment can cause more than just unreliable performance. Equipment operating under these conditions consumes much more energy than they would otherwise. When adding up all the rotating equipment in your plant, perhaps numbering in the thousands, the level of energy waste can be significant.

The single-source solution: SKF

SKF provides many product and service solutions to help reduce energy consumption caused by poor equipment performance.

Start at the beginning: precision bearings and maintenance tools

The energy efficiency of equipment can be improved by world-class bearings, seals, and bearing housings from SKF. In addition, SKF supplies maintenance tools for proper bearing mounting and dismounting, shaft and belt alignment, and balancing. With the right parts and tools, the job can get done right, the first time.

Taking it to the next level: Reliability tools and training

Along with supplying the right parts and tools for the job, SKF can also train your staff on the proper handling and use of this state-of-the-art equipment. Beyond the shop, SKF supplies condition monitoring equipment and reliability processes, like Operator Driven Reliability, to enable your equipment to run at peak efficiency throughout its run cycle.

For more information on SKF products and solutions for the hydrocarbon processing industry, contact your SKF Authorized Distributor or SKF local representative.

Increase the return on your maintenance investment with SKF

The whole idea behind the SKF 360° Solution is to help you get more out of your plant machinery and equipment investment. This may mean lowering your maintenance costs, raising your productivity, or both! Here's an example of the SKF 360° Solution at work in the hydrocarbon processing industry.

SKF improvements could generate over 1 000 % ROI over a 3-year period

In a plant operating with 100 rotating machines, management suspects the machines are wasting energy, and asks SKF for help. SKF proposes a solution that combines new bearings, seals and housings with advanced maintenance tools and training. The goal? A 5 % reduction in energy consumption over 3 years (the machine's typical MTBF rate). The cost? $17 500.

Assuming each motor draws an average of 30 Amp, and SKF improvements enable them to draw just 28,5 Amp, the result is a reduction of energy consumption for all 100 machines by 113,53 kW per hour.

If the 100 motors operate an average of 8 400 hours a year, total savings are 953 652 kW per year. At $0,07 per kW, that amounts to $66 755,64 per year, or a total estimated savings of $200 272 over 3 years.

While driving $200 272 back to the bottom line is significant, so is the initial $17 500 investment. How soon could plant management expect to recover that? A lot sooner than you might think. As the ROI calculation summary shows, it takes only 3,45 months to break even. Perhaps even more impressive, the total expected ROI over 36 months would be a fairly staggering 1 044 %!

Return On Investment (ROI) summary

Number of rotating machines	100
Typical MTBF (months)	36
Average hours of machine use	8 400 hours
Average current use per machine – before SKF	30 Amp
Average current use per machine – after SKF	28,5 Amp
Hourly power reduction per machine	1,1353 kW
Total annual power savings	953 652 kW
Cost savings (est., 36 months)	$200 267
Investment in SKF technology	$17 500
Total savings (est., 100 machines, 36 months)	$182 767
ROI OVER 36 MONTHS	**1 044 %**
Break even period (months)	3,45

ROI calculations are from the SKF Documented Solutions Programme. Your particular cost savings may vary. Contact SKF or your Authorized Distributor for more details.

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