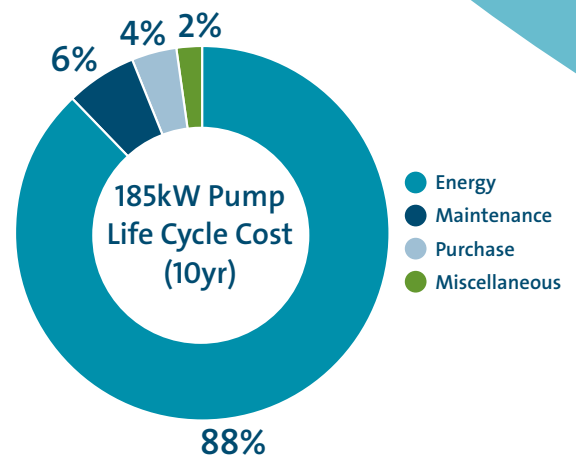


Reduce Energy Usage and Running Costs

Pumps currently account for 10% of the world's total electricity consumption. And more than 20% of all the power used by motors in Europe is used to drive pumps. Typically, a pump's capital cost is less than 5% of its life cycle cost and up to 90% of the lifetime costs are in energy usage. All too often however, capital cost influences pump selection and this can result in higher energy costs for the lifetime of a system.

Many organisations are seeking ways to reduce costs and environmental impact. Furthermore, the EU Energy Efficiency Directive (2012/27/ EU) has introduced a mandatory requirement for energy audits within buildings and industrial premises, performed by qualified engineers.

Royal HaskoningDHV has engineers who hold BPMA's Certified Pump System Auditor qualification available to visit your pumping application(s) and look for opportunities to reduce your energy usage and running costs. All audits are completed in accordance with ISO 14414 (Pump System Energy Assessment), to ensure compliance with the directive.



The good news is that pump optimisation can deliver up to 40% reduction in energy costs for certain applications, as well as improving system and environmental performance.

Royal HaskoningDHV is a global player in the provision of pump station design for the maritime industry. We have over 60 years' experience in system design for a range of facilities including shipyards, naval bases, petrochemical import/export terminals and liquid handling facilities. Our experts are familiar with all aspects of fluid flow modelling and calculations, including experience with FluidFlow and PSAT software. We always aim to consider each pumped system holistically to ensure no energy saving opportunity is missed.

As an independent consultant, Royal HaskoningDHV is not tied to any particular pump manufacturers or suppliers. You can therefore be assured that our recommendations are truly impartial, and will consider all suitable pump models – as well as other options – to improve the existing installed plant. Our advice will focus on efficiency and cost savings best suited to your site.

Our services include:

- Review of existing systems and analysis of performance
- Load profiling (time distribution of flow/power/pressure etc.)
- Head loss calculations for piping, valves or entire systems
- Consideration of historical and future system changes
- Consideration of maintenance and reliability information
- Suggested pump/system changes with realisable savings potential, for example:
 - Pipework changes to reduce friction losses
 - Change of pump impeller diameter
 - Addition of variable speed drive to allow reduction in speed
- Design of new pump(s)/system
- Procurement of new pump(s)/system
- Witnessing of factory acceptance testing of new pump(s)
- Supervision of installation and commissioning of new pump(s)/system
- Witnessing of site acceptance testing of new pump(s)/system
- Measurement of new pump(s)/system efficiency
- Calculation of realised savings



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