There are many ways to save money – and still staying green at heart. But besides putting coins away for a less sunny future you can start by doing some clever calculations. Or let experts do it for you. Like DESMI in your engine room

Optimize your pumping efficiency

DESMI, Denmark's leading manufacturer of marine pumps, has developed a process for checking the energy efficiency of marine pump installations and seawater cooling systems. The aim is to provide customers with an easy way to save money and energy.

The EnergyCheck method provides real-time performance data for existing and new ship systems, delivering recommendations on how best to optimize the installation. Shipowners that have already used the DESMI process have noted a 70 percent decrease in energy consumption through the optimization of a ship's seawater cooling system alone, resulting in substantial cost savings and emission reductions due to decreased power requirements.

-We have newly developed high-efficiency pumps optimized to meet energy efficiency standards, but we can do a whole lot more by optimizing a ship's complete seawater cooling system and by advising our customers on how to use the pumps in their systems more efficiently, even at the design stage," says DESMI Sales Director Henrik Mørkholt.

-If a pump is running at say 55kW, a DESMI Control Box *can reduce the power it requires by 85 percent. So if a pump is running for 24 hours for 200 days this could mean energy savings worth US$20,000 or more. The potential savings are huge,* says Martin Bro.

The return on investment is between 12 and 18 months and can be financed from the energy savings made.

Analyze your way ahead

Another solution could be to analyze the system and then trim the pump(s) so that it fits the pipe system. A result could be to remove all orifices and trim the impeller at the pump or change the pump. (On a specific 6,000 TEU containership a change of impeller gave a saving at 16kW or 27 t of fuel per year. Payback time was about 7-8 months.)

The work carried out by DESMI into the optimization of pump and seawater cooling systems also forms an important part of Denmark's 'Green Ship of the Future' project. (http://www.greenship.org/).

-We started on the Green Ship project about two years ago, looking at pumps and systems for cooling water with a number of other project partners, including APV and Grontmij Carl Bro, a heat exchange supplier and naval architect respectively, Henrik Mørkholt says.

Co-operation was initiated with a view to trying to optimize auxiliary service systems on board ships by combining the DESMI expertise and knowledge with the practical experience of the three partners. The project partners focused on the seawater cooling system of a bulkcarrier.

Works in all environments

EnergyCheck can be used not only across DESMI's entire range of pumps, including those used in cooling, ballast, fire, bilge, fuel, oil and cargo-handling applications, but also those supplied by other manufacturers.

A seawater cooling system is normally designed to operate with a seawater temperature of 32°C, but if a DESMI Control Box is used to adjust the rpm of the pump according to the demand of the vessel's freshwater cooling system, a seawater temperature at 15oC will result in up to 75% saving.

A DESMI Control Box adjusts the flow of the pump so that it matches the requirements of the system.

Area Sales Manager Martin Bro highlights a case in which the 183 m long product tanker Torm Thyra installed a DESMI Control Box to its seawater cooling pump following a DESMI EnergyCheck. Its application resulted in an 85% energy saving for the Danish shipowner.

An engineer from DESMI running an EnergyCheck on board the TORM THYRA