



Business

Financing your project

Compare options

Variable-speed motors

Case study: Variable-speed motors

Find out how a business using a commercial loan to finance motors with variable speed drives determined that it would be better off by about \$317,000 over 15 years if it invested in the energy-efficient system.

Situation

A series of water pumps run approximately 8,000 hrs. p.a. and are driven by ten 11kW high efficiency motors which are due for replacement. The motors run at full speed and pump flow is controlled via a throttling valve. The owner has the option of like-for-like replacements or purchasing high efficiency motors together with VSDs to control flow and achieve energy savings when speed is reduced.

How does the energy-efficient (EE) system compare to the standard system?

Equipment type	Standard	EE
Cost to install (\$)	\$13,000	\$70,000
Operation and maintenance cost (\$ p.a.)	\$0	\$0

Electricity use (kWh p.a.)	715,835	436,745
Equipment life (years)	15	15
Electricity cost reduction in first year from the system (\$)		\$55,818
Simple payback period for the system (years)		1.3
Simple payback period for the system, with marginal capital ¹ (years)		1.0

Item	NPV
Standard system	-\$944,835
EE system	-\$628,144
Difference	\$316,691

Finance option selected: Commercial loan

While on-bill financing results in the highest NPV, the company does

not purchase energy from Origin Energy and does not wish to change energy retailers. The company decides to seek a commercial loan, as this results in the next best expected NPV.

¹This is the payback period for the energy-efficient (EE) option using the difference in capital outlay between the standard and EE equipment, rather than the full capital outlay for the EE equipment.

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Checklist

Check if an

commercial loan is
the right option for
your business.

**Go to the
checklist**

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