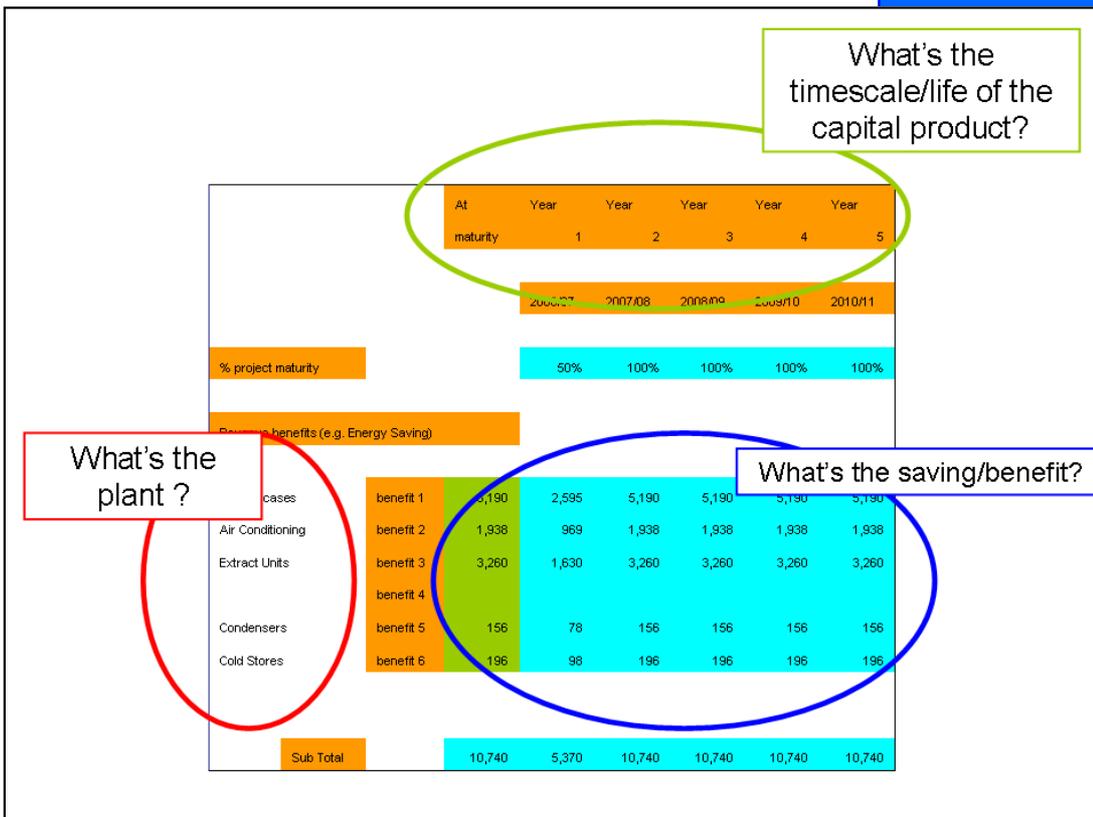


Financial Benefits of EC fan efficiency

EC fans are typically used to save running costs and improve lifetimes in arrange of applications. But what is the financial benefit of EC fans?

ebm-papst have developed a financial model that enables any end user to analyse Net Present Value, Payback and even improved profit with the use of EC fans.



We all have experienced the escalation of petrol prices in recent years. Unfortunately electricity prices are now forecast to follow suit.

The NSW Independent Pricing and Regulatory Tribunal have recently announced (June 2008) that electricity prices (for residential and selected business) will increase on average 8%+ per year, over the next three years, excluding the impact of a carbon trading scheme.

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At a conservative \$20 a tonne of carbon, it is estimated that in 2010 electricity prices will rise a further 16%. Furthermore the Sydney Futures Exchange indicates that the wholesale cost of electricity in Victoria will rise from \$40MWh to \$80MWh over the next 3 years. In short, it is not inconceivable that the retail price of electricity will double over the next 5 years.

The good news is that you can significantly reduce your overall electricity cost if current single phase technology is replaced with ebm-papst EC technology. ebm-papst EC technology has been used in various applications for many years: from ventilation to air filtering from condensers to refrigerators. New EC Cool, EC fans for evaporators, takes energy saving and cooling one step further.

A good example is the single phase M4Q045 fan compared to our new IQ EC fan. On a like for like basis, energy consumption drops from 30 watts for the M4Q045 to just 9 watts for the new IQ motor, a 70% reduction in electricity consumption. Given the useful life of an IQ fan is at least twice that of a M4Q045 fan and costs approximately 70% more to purchase up front, we have developed a comprehensive cost / benefit model that takes into account of all the above variables, including taxation and the time value of money (ie. interest rates), over 6 years.

The model calculates that:

- Over 6 years the overall net cost of the IQ fan is one third that of the M4Q045 fan, which not only has much higher energy consumption but also needs to be replaced at the end of year three.
- The initial upfront additional capital outlay for the IQ EC fan has a payback period of just 18 months. After 18 months, the savings escalate for the following 4.5 years with the end outcome being per above, the M4Q045 has a net cost of almost three times that of the IQ fan.

The above modeling is done on the basis of a conservative forecast that NSW electricity prices will rise 55% over the next 6 years, from 13c per kWh to 20c per kWh. The savings are greater for the IQ fan if electricity prices escalate further, which looks more and more probable in the current climate of drought and climate change

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Financial Benefits of EC fan efficiency

Project	Actual	Hurdle rate
Net Present Value	\$51,552	\$ -
Internal Rate of Return	130%	8%
Discounted Payback	2 years	2 years
Operating Profit / (Loss) (First full year)	\$ 9,335	
Net Capital Investment	\$12,362 over 10 years	

The model provides details in an executive summary and within the model of:

- Net Present Value
- Internal Rate of Return
- Discounted Payback
- Operating profit and loss
- Net Capital Investment

These figures are compared against desired hurdle rates once the modeling is complete.

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