



# Ecodesign Directive Compliance Doesn't Cost the Earth

Typical £110k lifetime savings

winder power  
power & distribution transformers

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# Introduction to Ecodesign Legislation

The European Union has established a framework for setting Ecodesign requirements for energy-related products (Directive 2009/125/EC). The main target is a 20% improvement in the EU's energy efficiency.

This energy efficiency improvement has already been applied to consumer products such as lightbulbs, vacuum cleaners and refrigerators. It is now also to be applied to medium and large power transformers.

In 2008 it was estimated that transformer losses amounted to 93.4TWh per year. In contrast, by 2025 the savings in losses has been estimated at 16.2TWh per year by using Ecodesign transformers. This equates to a CO<sub>2</sub> emissions saving of 3.7Mt.

In terms of a rollout, it is proposed that there will be a Two-tier implementation, with Tier 1 commencing on July 1st 2015, followed by Tier 2 on July 1st 2021.

## What this means to our customers

Within the EU, Ecodesign transformers will become the accepted design specification for energy efficient transformers. The lower losses are achieved by using lower flux density in the

iron core, lower current density in the copper or aluminium windings, and grades of core steel, which have lower specific losses than standard grades coupled with innovative design techniques.

In essence, these changes mean that more active material has to go into the manufacture of the transformer. In order to comply with the requirements of the Ecodesign Directive, Winder Power has developed a range of innovative transformer designs in Ecotran that do not unduly increase the selling price of low loss transformers.

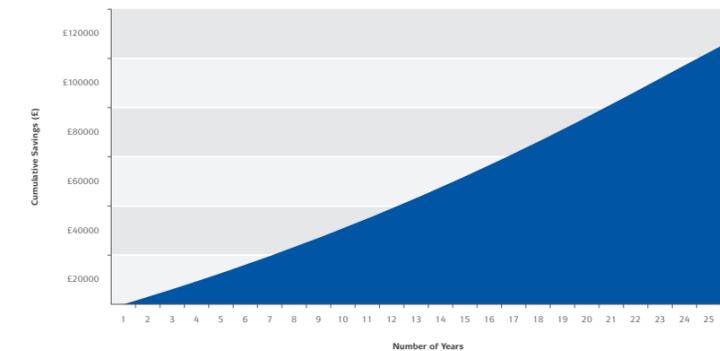
The main advantage to the customer is that their power consumption will be reduced providing cost savings and an improvement in CO<sub>2</sub> emissions. The Ecotran transformer range will also have much lower noise levels due to the reduced flux density in the core, which is the main source of noise in transformers.

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# Twelve Years' Experience in Ecodesign Technology

It might come as a surprise to many that Winder Power's transformers have actually complied with, and even exceeded, the new Ecodesign Directive since 2003.

Ecotran Payback Calculator



## Typical Cost Savings of the Winder Power Ecotran transformer

The Ecotran range will typically provide three areas of potential savings:

1. Savings of circa £4.5k per annum through improvement of combined transformer losses.
2. Potential savings of 8-10% through enhanced output voltage adjustment.
3. Substantial reduction in CO<sub>2</sub> emissions of circa 19 tonnes per annum.

With 12 years expertise to call upon in this area the design team is already actively working on the next generation of efficiency and performance gains, which will offer even greater savings to customers.

When it comes to transformer design and manufacture, Winder Power has a rich heritage in producing efficient and effective transformers that balance longevity and performance perfectly.

Its in-house design team is highly experienced and has expertise across a wide range of applications, from DNOs to offshore oilrigs, as well as exporting its transformers to nearly 30 countries worldwide.

As the only UK company manufacturing standard distribution, small power and primary transformers under one roof, including the windings, customers can be assured of a seamless service from initial enquiry through to installation, with every aspect handled by the Winder team. A recent large-scale investment also saw the addition of a state of the art foil winding machine and full impulse testing facility at the company's Leeds headquarters.