

Information Guide

The Enhanced Capital Allowances (ECA) Scheme



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Information Guide

This is an independent guide produced by Mitsubishi Electric to enhance the knowledge of its customers and provide a view of the key issues facing our industry today. The guide accompanies a series of seminars, all of which are CPD accredited. The changing face of construction in the 21st Century demands that designers, specifiers and suppliers work as teams to create better buildings - for occupants and the environment. Mitsubishi Electric aims to be a part of this by encouraging employees and customers to work together to increase their knowledge of the latest technology, legislation and markets.

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Enhanced Capital Allowance - An Introduction

The Enhanced Capital Allowances (ECA) scheme was introduced by the Government as an incentive for businesses to invest in energy efficient equipment. It works by enabling businesses to claim all of their tax allowances against energy efficient equipment in the first year, rather than spreading the allowances over several years. This is discussed in more detail in the "How can they work and who will benefit?" section on page 4.

ECA's are just one of a raft of initiatives introduced to reduce the UK's carbon dioxide emissions. The scheme is managed by the Carbon Trust, for the Government in collaboration with the Department for Environment, Food and Rural Affairs (DEFRA) and the Inland Revenue.

industrial times, and are expected to double in the next hundred years. This build up is the direct result of generating energy from fossil fuels such as gas, oil and coal. Internal combustion engines make by far the most significant contribution to this, but the use of energy in buildings is also a major contributor.

Heating and lighting account for most energy consumption in commercial buildings, but according to the Carbon Trust, CO₂ emissions from air conditioning in the UK have quadrupled in the last 20 years and this increase is expected to continue for the next 20 years.

The Kyoto Protocol

In 1992 the majority of the world's nations joined together to sign the United Nations Framework Convention on Climate Change (UNFCCC). In the case of the UK, the Government has committed to reducing its CO₂ emissions to 20% of 1990 levels by 2010. To achieve this, a number of initiatives have been introduced.

Carbon Dioxide and Global Warming

Carbon dioxide (CO₂) is the source of carbon used by plants to make their food in a process called photosynthesis. Consequently, a certain amount of CO₂ in the atmosphere is essential to all life on earth, as plants ultimately feed the rest of the food chain.

Burning of fossil fuels - which also produce CO₂ has led to a rapid increase in the levels of atmospheric CO₂, which is 'insulating' the planet and causing the Earth's temperature to rise. The principle is the same as used in greenhouses, where the glass allows heat from the sun to enter the greenhouse but prevents much of it leaving again. As a result, gases that cause global warming - of which CO₂ is the most significant - are also known as greenhouse gases. Levels of CO₂ in the atmosphere have risen by a third since

The Climate Change Levy

The Government introduced the Climate Change Levy (CCL) on 1st April 2001, increasing the cost of energy in buildings through the application of a levy on energy tariffs. The current rates of levy are as follows:

- Electricity 0.43p/kWh
- Natural Gas 0.15p/kWh
- Coal/Lignite 1.17p/kg (approx 0.15p/kWh)
- LPG 0.96p/kg (approx 0.07p/kWh)

Oil products are exempt from the levy, as these already carry excise duty. In addition, the following are also exempt:

- Combined Heat & Power (good quality)
- Renewable Energy
- Waste Derived
- Road Fuels



CCL applies to all non-domestic consumers of energy with the following exclusions:

- Children's Homes
- Homes for the elderly/disabled
- Hospices
- School/University accommodation
- Armed Forces accommodation
- Monasteries/Nunneries
- Self-Catering Holiday accommodation
- Caravans/Houseboats
- Community heating schemes
- Charities (on non business use only)
- De minimus supplies (very small consumptions)

ECA's were introduced at the same time as the CCL, providing a reward for companies that choose to invest in energy efficient equipment - so the two work together in a 'carrot and stick' relationship.

Parallel Initiatives

There are a number of other regulations and initiatives that have an influence on the specification of building services plant, in relation to energy efficiency.

Building Regulations

Each revision to Approved Document L2 of the Building Regulations brings more stringent requirements for the energy performance of buildings. In relation to air conditioning and mechanical ventilation (ACMV), the designer can choose to measure the carbon performance rating of the ACMV system on its own or include it in a measure of the carbon emissions for the whole building. Either measurement method increases the incentive to use efficient air conditioning plant.

The Energy Performance of Buildings Directive (EPBD)

The EPBD, due to come into force in January 2006, introduces procedures for assessing the performance of a building and certifying it accordingly. It is closely linked to the Building Regulations and compliance with current Building Regulations requirements should ensure compliance with the EPBD.

Emissions Trading Scheme

Under the European Union Emissions Trading Scheme, which began on 1st January 2005, large users of energy are given CO₂ emissions targets. If they exceed the target they have the option of buying an extra carbon allowance, via the Energy Trading Exchange. Companies that can reduce their CO₂ emissions to below their target can sell the surplus on the exchange.

Currently, the cost of carbon is set relatively low but as the scheme develops, prices are expected to rise dramatically to incentivise further energy savings. The Emissions Trading scheme only applies to around 1000 major energy users in the UK.



Enhanced Capital Allowances

- How can they work and who will benefit?

The Enhanced Capital Allowances (ECA) scheme was introduced by the Government in April 2001, in parallel with the Climate Change Levy (CCL). The CCL imposes a levy on energy tariffs for businesses (excluding very small businesses), while the ECA scheme enables these businesses to reclaim the tax if they invest in energy efficient equipment.

These two initiatives form part of the Government's strategy for reducing carbon dioxide emissions and global warming, in keeping with the UK's commitment to the Kyoto Protocol.

The ECA scheme is managed by the Carbon Trust, for the Government in collaboration with the Department for Environment, Food and Rural Affairs (DEFRA) and the Inland Revenue.

Capital Allowances

Any business making a capital investment in new equipment is entitled to offset the cost against its income or corporation tax by claiming capital allowances. For most capital investments, this allowance is spread over a period of time. Capital allowances are normally given at 25% on a reducing balance basis, so that after a period of 10 years almost all of the allowances have been claimed. For example, when a company buys an item of equipment costing £1,000 it can claim £75 tax allowance in the first year, assuming a tax rate of 30%.

How ECA's Work

Enhanced Capital Allowances are used to encourage businesses to invest in particular types of equipment by providing up-front tax relief - as 100% of the allowances can be reclaimed in the first year. So, using the previous example above of a £1000 investment in equipment that qualifies for ECA's, the company could reclaim £300 in the first year.

This 'reward scheme' approach is not confined to energy efficient building services plant. It is also available for vehicles with low carbon dioxide emissions, technologies that encourage sustainable water use and was applied to encourage businesses to invest in IT during the late 1990's and early 2000's.

ECA's and energy in buildings

In order to ensure that ECA's are only claimable against energy efficient equipment, the Carbon Trust has drawn up a list of approved technology categories - which form the Energy Technology List. The Energy Technology List details over 6000 products that meet the Government's energy efficiency criteria offering end users the following benefits:

- Energy efficiency, resulting in significant long-term financial benefits
- Enhanced tax relief
- Boosted cash flow
- Faster payback on investment
- Reduced energy costs, resulting in lower cost of ownership
- Improved environmental performance for the business
- Reduced environmental impact

| | Capital Allowance | Enhanced Capital Allowance |
|---|--------------------------------|----------------------------|
| Tax Rate | 30% | 30% |
| % of expenditure to which allowance applies | 25% | 100% |
| Equipment cost | £1000 | £1000 |
| Taxable amount reduced by | 25% of £1000 = £250 | 100% OF £1000 = £1000 |
| FIRST YEAR SAVING | 30% of £250 = £75 | 30% of £1000 = £300 |
| Balance brought forward to second year | £1000 - £250 = £750 | £0 |
| Taxable amount reduced by | 25% of £750 = £187.50 | £0 |
| SECOND YEAR SAVING | 30% OF £187.50 = £56.25 | £0 |



Qualifying Technologies

The following technologies are included in the **Energy Technology List**:

- **Air to Air Energy Recovery**
- Automatic monitoring and targeting equipment
- Boilers
- Compact Heat Exchangers
- Combined heat and power
- Compressed air equipment
- **Heat pumps for space heating**
- HVAC Zone Controls*
- Lighting
- Motors
- Pipe insulation
- Refrigeration equipment
- Solar thermal systems
- Thermal screens
- **Variable speed drives**
- Warm air and radiant heaters

The Energy Technology List continues to grow and additional technology categories are introduced to the list on a regular basis. To ensure that products continue to comply with the energy efficiency criteria, the Carbon Trust carries out regular, random testing of products on the list.

The minimum qualifying criteria will be increased on a two year rolling programme. This means that older equipment that no longer qualifies will be removed from the list and newer, more energy efficient equipment will be added. Any company interested in investing in low carbon energy efficient technologies can view the Energy Technology List. The list can be accessed at www.eca.gov.uk/etl, which allows searches by type of technology, category or name of manufacturer.

Claiming Allowances

Any business that pays income tax or corporation tax is entitled to enhanced tax allowances against equipment on the Energy Technology List. This only applies to outright purchase or lease purchase by the end user of the equipment - it does not apply to lease hire equipment, nor does it apply to suppliers or installers. Allowances can be claimed against the cost of the product, along with other costs directly associated with the provision of the product, including installation.

Mitsubishi Electric Products

Mitsubishi Electric products currently qualify under three categories for varying tax allowances:

Heat Pumps - VRF systems and Inverter driven heat pump systems:

- The full cost of qualifying equipment
- The cost of installation of the qualifying equipment
- Transport
- Professional fees directly related to the installation of qualifying assets
- Cost of alteration to the existing building to facilitate the installation of qualifying equipment

Variable Speed Drives - Cooling only VRF Systems

- The value of the variable speed drive within the equipment can qualify for ECA
- This is a fixed amount and is dependant on the inverter motor rating

Air to Air Energy Recovery - Lossnay Heat Recovery Ventilation Systems

- The full cost of qualifying equipment
- The cost of installation of the qualifying equipment
- Transport
- The costs of associated controls, fans and ductwork that are installed specifically for the purpose of energy recovery

Tax allowances are claimed as part of the normal income/corporation tax returns.

The Inland Revenue's guidance on the ECA scheme can be found at:

www.inlandrevenue.gov.uk/capital_allowances/eca-guidance.htm

Funding for Smaller Companies

In addition to offering advice on selection, installation and running of energy efficient equipment, the Carbon Trust offers interest-free loans of between £5,000 and £100,000 to small and medium sized enterprises (SME's). A company would qualify if it employs less than 250 employees, or has a turnover of less than 40m Euros (approx £25m), has less than 27m Euros worth of assets and has no controlling interest of more than 25% by a non-SME.

Eligibility can be verified by completing a form at www.thecarbontrust.co.uk.

Enhanced Capital Allowance

- What does it take to get on the ECA list?

Eligibility Criteria:

Heat Pumps

Initial criteria are aligned with the EC Directive on Energy Labelling of Household Air Conditioners. Currently appliances must be Category C or above. In August 2006, all qualifying products must be Category B or above.

Heating COP's and Cooling EER's are detailed for different appliances on the website.

Variable Speed Drives

Eligible controllers must be designed specifically to electronically vary the frequency of a supply to a standard 3-phase AC induction motor.

Air to Air Heat Recovery

Qualifying products must have a sensible heat exchange efficiency of 50% or more, an internal leakage level of less than 1% and a pressure drop of less than 250 Pascals.





As we can see by now, the Government's aim is to encourage specifiers to select the most energy efficient products available.

The Government publishes an Energy Technology List, which designates what constitutes 'energy saving technology' for the purposes of the ECA scheme. But of course, technology moves on and so the list of ECA eligible products must be continually updated.

Manufacturers play the major role in this process. If a technology category (such as heat pumps or variable speed drives) is already on the list of accepted technologies, then a manufacturer has to show that its particular product is energy efficient within that field. Evidence has to be submitted which demonstrates that COPs are within certain limits, or that they comply with certain industry standards. To ensure that the information supplied is correct the Carbon Trust request that manufacturers supply units that are on the Energy Technology List for independent testing. The Carbon Trust will randomly request a model that is on the list for various manufacturers. The units are then tested to ensure that the COP and capacity is within the stated limits. The testing is carried out by an independent body (such as the Building Services Research and Information Association - BSRIA).

Manufacturers strive to develop new technology, in order to meet customer demands for better performance and to stay ahead of the market. The Government reviews its ECA eligible technology categories annually, and additional technology categories can be added.

A new technology category must meet a number of criteria before it goes onto the list. Most importantly, it must offer significant carbon savings over existing equipment. Proposals must show estimates of how much carbon could be saved if the product is used - with independent evidence. As an aspect of this, the Government must be able to test the technology with widely used methods - so that a proper comparison can be made. The results of these tests, if successful, set the standard for other manufacturers developing products in the new category.

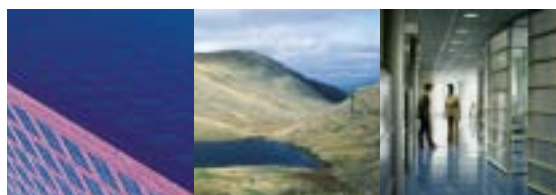
It is important that the new technology not only works, but is attractive to the market. Often innovative products carry higher costs in the early years. This is why a manufacturer proposing a new technology category must also show that the savings offered by the ECA scheme would encourage take up by the market. The Government accepts that the discount of 100% of first year allowances is modest - the question is whether this will encourage potential buyers to pay the extra capital for a new idea. Manufacturers need to provide estimates of current spending on the technology, spending that would be on the new energy efficient version and the growth in the market that would be driven by ECA's.

Finally, any addition to the Energy Technology List must also meet the Government's other environmental objectives such as waste reduction and water management - and it must not substitute carbon emissions with another greenhouse gas.

Once all the information required has been gathered, it is drawn up in a report to the Carbon Trust, which then considers its merits in the context of the existing list and comparison with other possible new technology categories. After this the technology can be taken forward, rejected or retained for future review.

If it proceeds to the next stage, the proposal is developed in consultation with the applicant and other stakeholders so that the Carbon Trust can properly advise Government. This can be a lengthy process, with no guarantee at this point that the technology will be accepted.

So it's easy to see how much work is required for a manufacturer to put a new technology forward for consideration. However, staying at the forefront of the market today requires a commitment to energy efficiency - regardless of how much paperwork is involved!



Enhanced Capital Allowance - Further Information

There's a great deal of information on ECA's available online. You can check out the website at www.eca.gov.uk. Here you will find a list of all the Mitsubishi Electric products which are eligible for ECA's.

To access this list:

- Go to www.eca.gov.uk
- Click on 'Energy'
- Click on 'Products and Claims'
- Click on 'Energy Technology List'

You will then see a series of drop-down boxes. One of these is for manufacturers. Scroll down to 'Mitsubishi Electric Air Conditioning', and hit search. You will then see a list of all the products currently on the ECA list. This is updated regularly, so check it out to see what's new.

You can find more about other aspects of climate change on the Carbon Trust website (www.thecarbontrust.co.uk)

Further **information** >

www.thecarbontrust.co.uk

www.eca.gov.uk

www.defra.gov.uk

www.inlandrevenue.gov.uk/capital_allowances/eca-guidance.htm

If you missed the CPD seminar on Enhanced Capital Allowances, you can call your Mitsubishi Electric Regional sales office to arrange an in-house presentation of this information.

Please call one of the numbers below:

| | |
|---------------------------------|--------------|
| East Anglia & London North East | 01707 278982 |
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