



Low voltage products

KNX Carbon Reduction Commitment (CRC) Energy Efficiency Scheme Helping organisations meet their CRC

The 6-Step CRC Energy Efficiency Scheme

For all your KNX needs call: 02476 368500 ref 'KNX'

Step 1 – the facts

Some 20,000 organisations in the UK are affected by the government's CRC Energy Efficiency Scheme.

Find out if you are affected.

Step 2 – the savings

In just half-a-day, an energy appraisal can help identify the applications that offer you the best energy saving and CO₂ emission reduction opportunities.

Step 3 – the finance

Discover the financial implications of the CRC Energy Efficiency Scheme.

Step 4 – the products

Choose from a wide range of energy efficient equipment that can help your company achieve great cost and CO₂ savings.

Step 5 – the proof

See how other users have achieved great energy and CO₂ savings with the help of ABB's intelligent building controls.

Step 6 – the action

Now that you have the tools and the information, you can move forward and make a difference in your own organisation.

Learn more about the six steps at www.abb.co.uk/energy



Step 1 - the facts

What is it?

A new system of carbon emissions trading is introduced into the UK from April 2010. The scheme known as the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme, will see a cap and trade system being brought in for large non-energy intensive organisations in the public and private sector.

The scheme will require businesses to pay for carbon allowances which will then be re-circulated within the scheme as penalties for those who do not reduce carbon emissions and incentives for those who do. For those making an effort to reduce their carbon footprint it will help them generate extra revenue through the sale of carbon credits within the scheme.

The CRC Energy Efficiency Scheme is a mandatory measure to reduce greenhouse gas emissions by 80 per cent by 2050 from 1990 levels. It will involve self-certification of emissions backed up by auditing.

Who is affected?

The CRC Energy Efficiency Scheme will apply to organisations that have at least one half hourly meter (HHM) settled on the half hourly market and if the total of their half hourly metered electricity consumption is greater than 6,000 MWh per year. Where an organisation is part of a wider corporate structure, the highest parent organisation or an alternative nominated primary member will participate on behalf of everyone in that group. Large subsidiary companies which would qualify in their own right can choose whether to participate independently of their organisational group or parent company.

The new scheme will directly affect approximately 5,000 organisations with a further 15,000 organisations on HHM below the 6,000 MWh threshold having to provide information on their energy use. These companies will not be required to buy and sell allowances but are still subject to financial penalties.

The scheme will operate on an annual basis following the financial year from April to March. All organisations that qualify will be required to report on their carbon emissions generated through HHM electricity use, as well as emissions through the use of oil, coal, gas, non-HHM electrical sources and all other non-transport fuels.



How it works

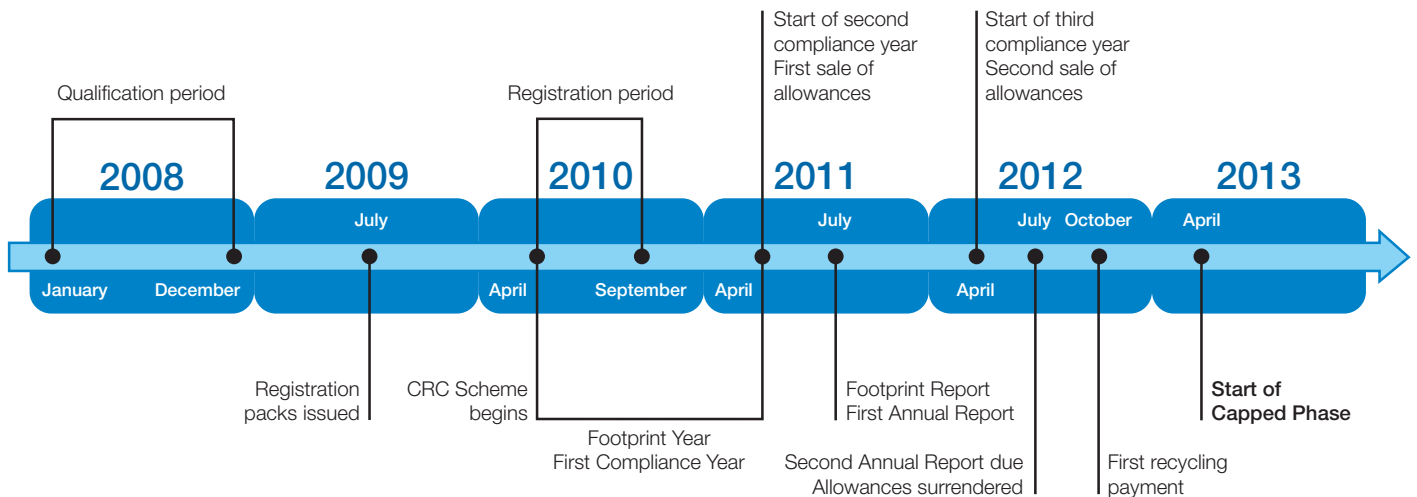
Allowances will be purchased in a fixed price auction process. Each organisation will specify the number of allowances they want and then make a purchase to cover emissions for the coming year.

This means that organisations will have to predict their carbon emissions for the year and purchase accordingly. Throughout the year there will be opportunities for organisations to trade credits.

The first sale of allowances in April 2011 only requires participants to purchase allowances for the year ahead. The first year of the Introductory Phase will be a monitoring period only.

For the first three years of the scheme, the number of allowances an organisation can purchase will remain uncapped but will be sold at a fixed price of £12/tonne CO₂ emitted.

Step 1- the facts



Timeline for CRC Energy Efficiency Scheme.

From 2013 the first capped phase will begin with allowances available to buy at a market demand led auction. Each year will see a reduction in the amount of allowances available, increasing market price and driving organisations to reduce their carbon footprint which will in turn protect them from potentially high allowance prices and potential fines.

Early Action metric

Organisations which have demonstrated commitment to reducing their emissions either by achieving the Carbon Trust Standard, or accreditation from an equivalent scheme, can use this to be counted towards the Early Action metric. The relative weighting of this metric in the overall performance score, compared to the Absolute reduction and Growth metrics, will be reduced from 100 per cent in the first year, 40 per cent in the second year and 20 per cent in the third year.

The league position will be used to influence the amount of funds recycled. For example, best performing organisations will get money relating to the proportion of emissions that have been monitored in the first year. The amount of money will be significant for many organisations with credits due to cost £12/tonne of CO₂, roughly equivalent to £6/MWh of electricity consumed.

Although revenue neutral to the Exchequer, CRC will have cash flow implications for qualifying organisations. An energy saving of 5 per cent will be needed to cover the average cost of administration within an organisation.

The scheme will be designed to be as simple as possible, including self certification of monitoring, reporting and verification of emissions, backed by an independent risk based audit regime. Effectively, this strengthens the incentive to improve energy and carbon management skills, particularly in relation to metering, reporting and reduction.

It will also help to focus senior management attention on the issues. The scheme will strengthen many companies' Corporate Social Responsibility (CSR) driver to reduce carbon emissions and improve transparency of company performance. It will also put pressure on energy providers to assist with improved metering of energy consumption.

Step 2- the savings

Those companies within the CRC Energy Efficiency Scheme really do get out what they put in. If they fail to reduce their carbon emissions, they could expose themselves to substantial financial penalties. If they perform well, however, there is the opportunity to receive huge bonuses as rewards for their efforts.

The CRC Energy Efficiency Scheme is therefore a win-win opportunity for those organisations that embrace it. Installing intelligent building controls can help to cut your energy consumption, resulting in lower bills and an automatic fall in your CO₂ emissions, which in turn will reduce the number of allowances you'll need to purchase. It will also help to boost your standings in the league table, with a consequent financial bonus that reflects your position.

By reducing levels of carbon, organisations can demonstrate to their customers they are making steps to counter the impact of their business on the environment. The best performers will appear at the top of the annually published CRC league table, which allows the public to see your organisation's standing within the scheme.

What you can do

While it is important to monitor, measure and report energy consumption, this is only the start. Companies must be prepared to reduce their energy consumption to really benefit from the CRC Energy Efficiency Scheme.

The aim of the scheme is to make businesses more energy conscious and incentivise them to reduce their carbon footprint. By investing in energy saving equipment such as intelligent building controls and introducing energy saving measures, businesses can lower their energy costs and meet their CRC targets.

What are intelligent building controls?

Put simply, intelligent building controls automatically respond to the environmental conditions in a building to ensure optimum lighting, heating and cooling conditions are maintained. ABB's i-bus KNX intelligent building control system provides a broad range of options for optimum energy efficiency. Using this equipment, users can typically achieve double-figure percentage savings in their energy consumption.

The importance of intelligent building controls

Buildings are one of the largest consumers of energy. Basic building functions such as heating, lighting and cooling in residential and office buildings account for up to 40% of total national energy consumption. Every percentage point that building energy efficiency can be improved is therefore of the utmost importance.

The following diagram shows the differences in energy consumption for three building types in the energy efficiency classes A, B and D relative to the basis values in class C. For example, by using class A, 30% of the thermal energy can be saved in offices.

Building Automation and Control (BAC) efficiency classes to EN 15232		Efficiency factor for thermal energy			Efficiency factor for electric energy		
		Office	School	Hotel	Office	School	Hotel
A	High efficiency BACS* and TBM**	0.70	0.80	0.68	0.87	0.86	0.90
B	Advanced BACS and TBM	0.80	0.88	0.85	0.93	0.93	0.95
C	Standard BACS	1	1	1	1	1	1
D	Non energy efficient BACS	1.51	1.20	1.31	1.10	1.07	1.07

* BACS: Building automation and control system

** TBM: Technical building management

Step 2- the savings

Calculating energy savings with intelligent building controls

Intelligent building controls effectively ensure that energy in buildings is only consumed when it is actually needed, in the exact amount that is needed and with the highest possible degree of efficiency. Typically, the average energy savings that can result through the use of KNX intelligent building controls is in the range of 11 to 31%, with potential savings listed below:

Room heating control	From 14 to 25%
Heating automation	From 7 to 17%
Shutter control	From 9 to 32%
Lighting control	From 25 to 58%
Air conditioning control	From 20 to 45%

How do intelligent building controls work?

With ABB's i-bus KNX intelligent building controls, electrical loads are not switched directly in the circuit with switches and push buttons as in conventional electrical installations. Instead, commands are sent from sensors, such as presence detectors, room thermostats or light sensors, via a twin-core data cable and are received by actuators, which then execute these commands.

How can intelligent building controls help save energy?

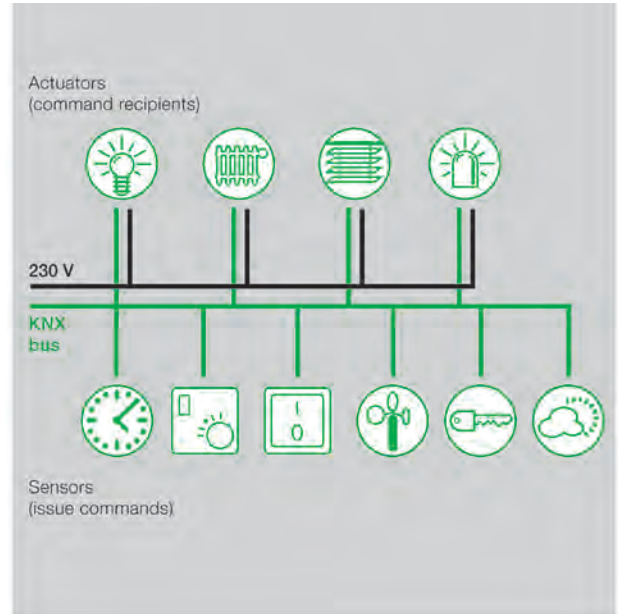
Intelligent building controls present a significant opportunity for energy savings through effective control of key energy-consuming building functions.

Lighting

Keeping tight control over lighting in a building can help unlock energy savings of anywhere between 35% to 50%, which also means significant reductions in carbon emissions.

Take an office building with 3,000 conventional 72W lamps for example, where the lights are fully turned on for 15 hours a day. Over the course of one year, these lamps will consume 777,600 KW, costing £54,432.00 (assuming an energy cost of £0.07) and emitting 334.37 tonnes of carbon.

Now see what would happen if the lighting system was to be upgraded with ABB's i-bus KNX technology. Automatic control of lighting and dimming would reduce the number of operational hours from 15 to 9.5, cutting yearly consumption by 334,368 KW. This equates to an annual energy saving of over £23,000, in turn reducing the amount of carbon emitted by around 122 tonnes.



The intelligent solution: KNX – a system, a standard, many interoperable functions for maximum flexibility.

KNX technology doesn't just provide a means of optimising control of artificial lighting; by regulating the opening and closing of individual window blinds and shutters, it can also help maximise the amount of natural light, and even heat, within a building.

Heating

As a general rule, reducing the temperature of a room by just 1°C offers a potential energy saving of 6%. Using intelligent building controls, it is possible to constantly measure and adjust room temperatures. Feedback from thermostats and temperature sensors is used to ensure a comfortable environment when rooms are occupied and to save costs when rooms are empty by adjusting heating to a minimum level. The controls can also be automatically set to room usage, such as where rooms are only used at specific times.

Fast and efficient energy appraisal

To boost their position in the CRC league table and avoid penalties due to poor performance, participants in the scheme need to achieve and demonstrate significant and regular reductions in carbon emissions as part of their long term strategy.

Where building energy performance is concerned, ABB's engineers can help you review your existing installations and technology to identify potential improvements in energy efficiency and carbon emissions, specifically:

- Any low-cost or no-cost opportunities for reducing carbon emissions
- The scope for using intelligent building controls for lighting and heating applications
- The availability of relevant energy loans and grants that can be used to help meet the cost of introducing energy saving technologies

ABB's Energy Appraisal Scheme

1. Scope of supply

ABB meets with you to discuss the benefits, requirements and input needed for a successful energy appraisal of your existing building controls system. This can range from a simple inspection of a single room or set of rooms, through to a full inspection of your current lighting, heating and room control systems.

2. Data collection

An on-site appraisal is undertaken, involving extensive analysis of selected applications. The findings from this appraisal can then be used to determine the operating parameters and the energy consumed.

3. Data analysis

The findings from the appraisal are analysed and any potential savings rapidly identified using ABB's energy saving software.

4. Recommendation

An action plan is prepared, containing an executive summary and a detailed engineer's report, highlighting the area(s) where the greatest energy savings can be achieved. The figures in the report are translated into the monthly energy savings you can expect, as well as the potential CO₂ reduction.

5. Implementation

The appraisal findings are implemented and the actual energy savings and emissions reduction are monitored alongside the predicted results.

6. Training

ABB will provide any training needed to help you ensure that your energy saving system is running properly and that you're fully equipped with the knowledge and skills needed to make any necessary changes.

7. Specify / standardise

By specifying and standardising on ABB's proven i-bus KNX intelligent building controls, you can be assured that the predicted energy savings will be achieved.



Step 3 - the finance

The CRC Energy Efficiency Scheme brings many financial implications which need to be considered including:

- The purchase of carbon allowances
- League table bonus and penalty payments
- Risk of substantial fines
- Impact on your organisation's cash flow

The first compliance year of the scheme runs from April 2010 to March 2011 and this is also the footprint year.

Participants need to maintain a comprehensive and accurate record of all their CO₂ emissions and this will be the basis for submitting a footprint report to the administrator of how much CO₂ has been emitted and how many allowances for tonnes of CO₂ need to be purchased. The footprint report will need to be submitted by 29th July 2011.

In subsequent compliance years participating organizations must purchase allowances for each tonne of CO₂ they emit, based on expected energy use, and monitor their usage. After each compliance year's submissions are received, a league table will be published showing each organisation's performance. To make this fair, performance is normalized using three different metrics:

- Absolute metric, which reflects the absolute change in an organisation's CRC emissions
- Early action metric, which reflects any energy saving measures implemented before the start of CRC – this includes installation of AMR (Automatic Meter Reading) or achieving the Carbon Trust Standard or equivalent scheme, each worth a weighting of 50 per cent of emissions in the first year
- Growth metric, which reflects that an organisation might have increased its CO₂ emissions due to expansion, but has done so in an energy-efficient way

The early action metric for AMR is limited to metering installed voluntarily before 31st March 2011, after which time the percentage of AMR meters is then frozen.

The relative weighting of the early action metric in the overall performance score will be reduced gradually to better recognise early action taken, from 100 per cent in the first year, 40 per cent in the second year and 20 per cent in the third year.

Keeping accurate records

One of the key requirements of CRC is accuracy of data and keeping suitable records for audits which will be carried out on a sample of around 20 per cent of participants each year. The requirements to maintain an accurate database of energy consumption and CO₂ emissions is essential.

In order to comply with audit requirements and make use of the AMR data, there is a compelling argument to store this data in a secure database. This not only provides security and maintains the quality of the data but opens up a range of tools available for analysing performance and realising the value of the data to identify savings by understanding where and how the energy is used.

At the end of each financial year, the best and worst performers will feature in a CRC league table with positions based on some or all of the three different metrics.

To avoid an additional financial burden, the auction revenues generated through the initial sale of credits will be recycled back to participants with organisations receiving money from the government in relation to their first year emissions, plus or minus a bonus or penalty dependant on their position within the league table.

The energy savings offered by intelligent building controls often means the capital investment is quickly paid back.



Other financial factors

Climate change levy

The climate change levy is a tax on the use of energy in industry, commerce and the public sector. The levy is applied as a specific rate per nominal unit of energy, for instance 0.43 pence per kilowatt-hour for electricity. This can increase the average electricity bill by 13 per cent.

Energy efficiency assistance

Companies in the private sector are being granted 100 per cent first year capital allowances for energy saving investments under the scheme of Enhanced Capital Allowances. Some of the money raised through the climate change levy also goes towards advice and literature and to stimulating research.

Climate change agreements

Climate change agreement negotiations have been conducted with more than 40 energy intensive industrial sectors. Each sector has received a target and a set of two-yearly milestones in return for reductions in climate change levy.

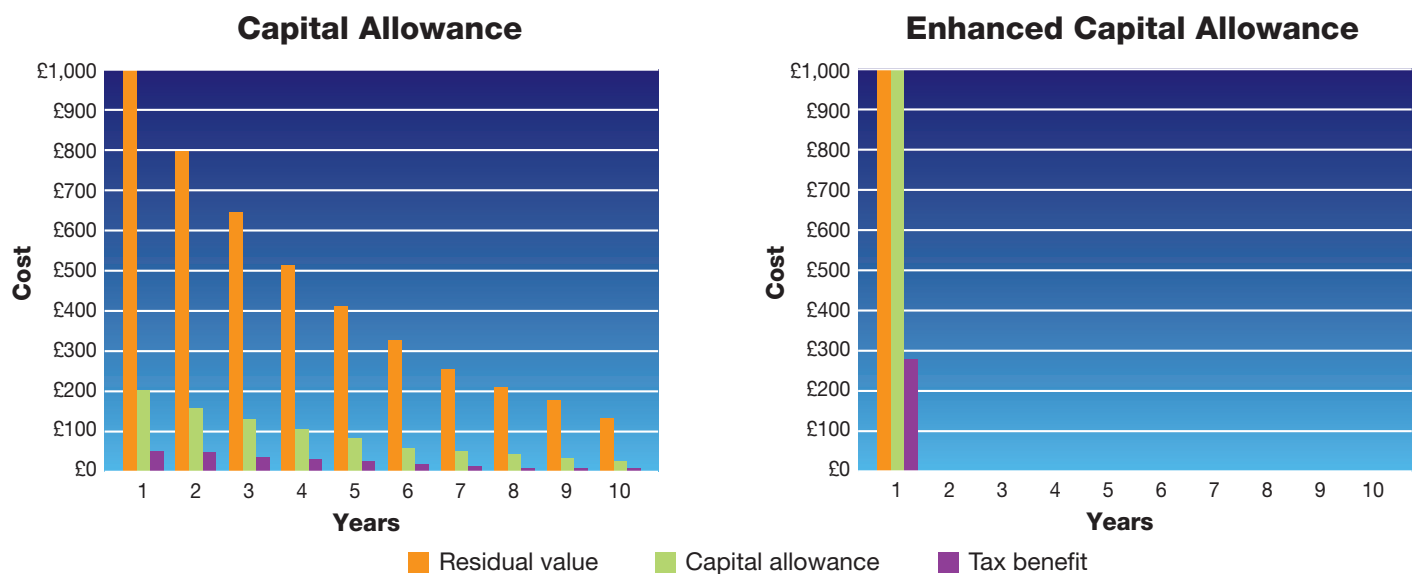
Emissions trading

The Europe-wide emissions trading scheme started in January 2005, covering emissions of CO₂ by the power sector and sectors of industry with high-energy use. About 1,500 UK installations are affected by the scheme.

Enhanced Capital Allowances

The government has introduced Enhanced Capital Allowances to give a further financial incentive for users to choose energy efficient products.

Capital allowances reduce the amount that businesses have to pay in income or corporation tax. With Enhanced Capital Allowances, 100 per cent first year capital allowances are granted for energy saving investments in the private sector. Firms making qualifying investments will be able to deduct the full costs of those investments when arriving at their corporation tax or income tax bills.



Capital allowances reduce the income or corporation tax when companies make investments. Normally, capital allowances are given at 20% on a reducing balance basis. But for investments qualifying for Enhanced Capital Allowances you can claim 100% already in the first year. You keep the money in your company, instead of it trickling back over the next 10 years and can use it productively.

Step 4 - the products

The goal of the CRC Energy Efficiency Scheme is to make companies more energy conscious and incentivise them to make the necessary investments to reduce their carbon footprint. As a means of maximising a building's energy efficiency through enhanced control of lighting and heating, intelligent building controls offer an ideal way for businesses to cut their energy costs and meet their CRC targets.

Lighting and heating account for a significant proportion of a typical building's energy overhead – around 28% and 64% respectively. Investing in the latest intelligent building control technology enables building owners to cut both their energy consumption and their carbon footprint. In installations worldwide, this technology has been proven to cut both lighting and heating consumption by up to 60%.

The European Standard EN15232 “Energy performance of buildings – impact of Building Automation, Controls and Building Management”, was compiled in conjunction with the Europe-wide implementation of the directive for energy efficiency in buildings (Energy Performance of Buildings Directive EPBD) 2002/91/EG. The standard describes methods for evaluating the influence of building automation and technical building management on the energy consumption of buildings.

For the purposes of the standard, four efficiency classes have been introduced. When a building has been equipped with building automation and control systems, it will be awarded a rating from A to D. The potential savings for thermal and electrical energy can be calculated for each class based on the type and purpose of building. The values of the energy class C are used as the basis for comparing the efficiency.



Energy efficiency reduces costs, improves your carbon footprint

Intelligent building control can contribute significantly to boosting energy efficiency, leading to reduced energy overheads and cutting your carbon footprint. The worldwide standard for KNX technology enables energy savings in the double-figure percentage range. Furthermore, the enhanced flexibility the technology provides in the design and execution of building control systems presents a range of options in the optimisation of building energy efficiency.

ABB i-bus KNX – key benefits

ABB's i-bus KNX technology offers a range of benefits for intelligent building control applications including:

- Reduced planning, installation and wiring time, plus faster commissioning
- Upward and downward compatibility with other KNX-approved products
- Ability to integrate new functions at any time, enabling fast and flexible adaptation to meet changing future demands
- Improved energy efficiency through automation, with corresponding reductions in carbon footprint

ABB intelligent building controls range

ABB's intelligent building controls range includes:

- Power supplies
- Connection and wiring
- System components and interfaces
- Illumination and light sensors
- Heating and cooling
- Control, logic and time
- Energy management
- Shutters

Call **02476 368500** or email lv.products@gb.abb.com for your FREE intelligent building controls products catalogue.



Step 5 - the proof

Typical applications

Listed here are the most typical applications where intelligent building controls can be used to help save energy:

Lighting

Lighting control and regulation

ABB i-bus KNX ensures optimum lighting of commercial buildings and offices as well as private dwellings. The building's lighting requirements, such as daytime and night-time usage patterns, are monitored and controlled to ensure that energy is only consumed when necessary. As an extension to this, the ABB i-bus KNX system also supports subsystems such as 1-10V control and DALI (Digitally Addressable Lighting Interface), which allows individual and multiple addressing of lighting devices by a single controller.

ABB i-bus KNX is used for the following lighting applications:

- Switching & dimming
- Constant lighting control
- Automatic lighting
- Lighting scenes
- 1-10V control
- DALI control
- RGB control (colour light control red-green-blue)

Benefits:

- Energy savings of up to 60%
- Lighting can be held at different intensities in different parts of a building
- Lighting can be adjusted to take account of natural lighting

Natural light

Blind/shutter control

Sensor controlled roller shutters, windows and blinds with controlled position louvres enable optimum use of natural light and warmth, resulting in improved climate control.

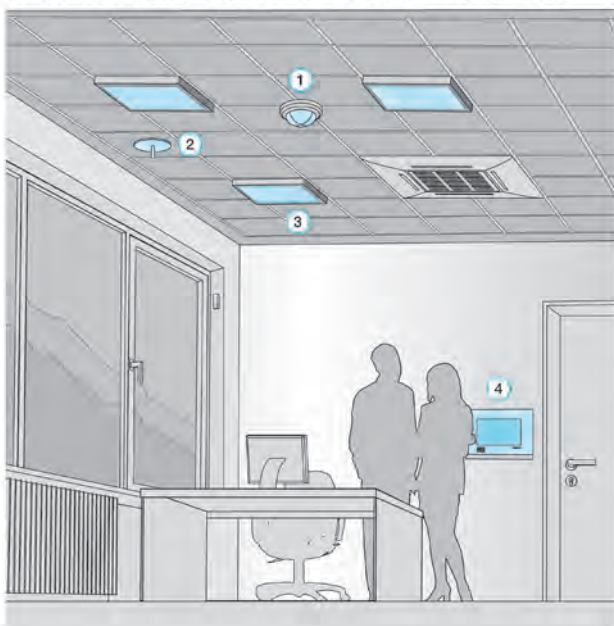
ABB i-bus KNX is used in the following applications:

- Roller shutter and window control
- Blind control with louvre adjustment
- Sun-shading control
- Curtain and roller blind control
- SMI interfaces (Standard Motor Interface)

Benefits:

- Enables best available use of natural light / warmth
- Helps reduce unnecessary lighting / heating
- Can be controlled on a room-by-room or building-wide basis
- Energy savings of up to 40% with shading control

1 Presence detector | 2 Light sensor | 3 Lights | 4 Touch display



1 Presence detector | 2 Blind | 3 Manual blind control



Climate control

Heating, ventilation and air-conditioning

Information on room temperatures, occupancy levels and patterns and the ambient environment are all used to ensure that rooms are maintained at the best possible temperature and air quality levels.

ABB i-bus KNX is used for the following heating, ventilation and air-conditioning applications:

- Individual room temperature control
- Climate control
- Ventilation
- Fan-coil control
- Window monitoring

Benefits:

- Heating /air conditioning levels can be minimised when rooms are empty
- Automatic timers can be used to bring rooms up to temperature as and when required
- Energy savings of up to 60%

Energy management

Consumption metering and control

ABB i-bus KNX is designed to reduce building operating costs and to employ the required energy according to demand and as economically as possible. As well as products for enhanced lighting, heating and climate control, the range also includes options for monitoring and metering energy consumption.

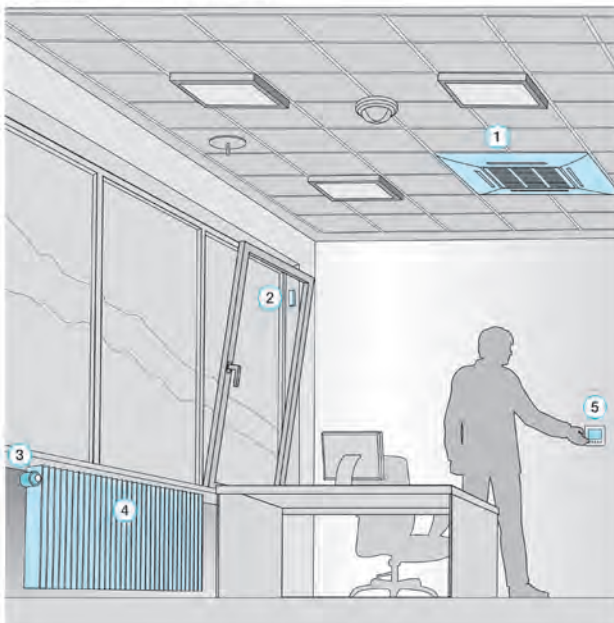
ABB i-bus KNX is used for the following applications:

- Recording and metering of energy consumption
- Demand controlled lighting:
 - Scene control
 - Presence detection
 - Lighting regulation
- Energy-saving climate control
 - Room temperature monitoring
 - Control for heating and ventilation valves
- Interfaces to air-conditioning controls

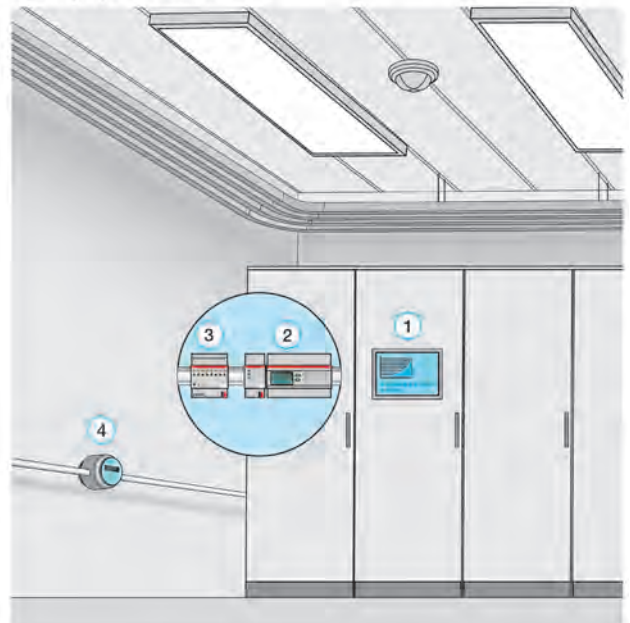
Benefits:

- Energy data from metering enables fine-tuning of lighting/heating strategies to further reduce consumption
- Energy patterns can be monitored on room-by-room or building-wide basis
- Real-time access to energy consumption data
- Reduced energy overheads through improved control

1 Fan Coil Unit | 2 Window contact | 3 Valve drive
4 Radiator | 5 Room thermostat



1 Visualization | 2 Energy consumption meter with meter interface
3 Binary input | 4 Water meter



Step 5 - the proof (applications)

Actual applications

ABB i-bus® KNX is used in thousands of buildings worldwide, helping to improve not just energy efficiency but also the quality of life and work in locations ranging from office blocks and commercial units through to individual residences.

Educational establishment pinpoints energy savings with intelligent controls

An educational establishment is benefiting from improved building control and significant energy cost reductions following the installation of ABB's i-bus® KNX intelligent building control equipment. Fitted into three classrooms and two reception areas, the equipment provides users with control over multiple room functions, allowing for individual settings to be applied to each room and all functions to be controlled from one location.

The first phase has seen the installation of ABB's Dali (Digital Addressable Lighting Interface) gateway, providing extensive control over lighting, and enabling multiple lighting configurations to be achieved which can be adjusted automatically according to the needs of the building. PIR motion detection sensors have also been installed, allowing lighting to be activated when necessary and switched off when it is not needed.

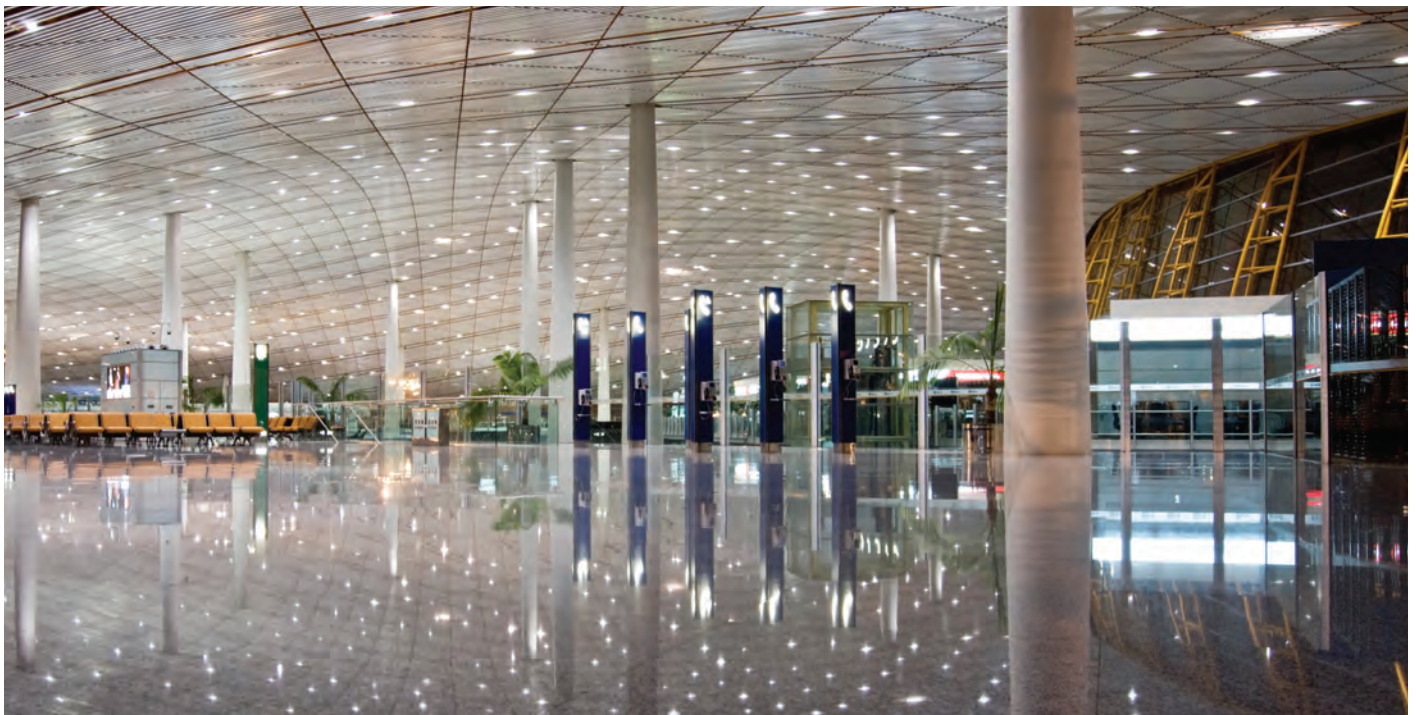
Future phases of the project will include blind control, allowing users to track the sun and control heat levels within the building.

Intelligent controls add to sustainable performance at international airport

The world's second largest airport building uses ABB's i-bus KNX technology to control lighting, heating and air conditioning throughout the building. Functions can be controlled either locally or via a centralised automation system, which includes PC operation and visualisation options to enable operators to easily make any adjustments.

The new terminal has been designed as one of the world's first sustainable airports, incorporating a range of environmental design concepts. Foremost amongst these is the way in which the airport is lit. The airport's new lighting controls include load current detection, emergency lighting and lighting scenes, with up to eight different light settings for atmospheric or practical requirements. The airport has also been equipped with motion detection controls in all rest rooms to control lighting levels and help maximise energy efficiency.

To help further reduce energy consumption and operating costs, ABB's system also features Daylight Dependent Switching technology. Light sensors mounted to the exterior of the building communicate with the system to ensure optimum use is made of natural daylight throughout the terminal, which features huge glass walls and roof-mounted triangular skylight windows.



Step 6 - the action

Why act now?

- Early implementation will result in energy cost savings, these savings more than outweigh any additional recycling from the CRC mechanism due to a higher 2010/11 baseline
- Potential to gain the Carbon Trust Standard, giving a higher league table position and hence a larger recycling bonus within the CRC
- Acting now will mean purchasing of fewer allowances, therefore reducing cash-flow implications
- Lack of action until 2011 could do damage to your organisation's reputation

CRC qualification pack

Qualification and registration guidance for potential CRC participants ("Qualification Pack") includes the following documents:

- Am I in? A guide for qualification and organisation structure;
- Register as a CRC Participant; and
- Making an Information Disclosure

These guidance documents are available on regulators' websites. For ease, the Environment Agency website is at: www.environment-agency.gov.uk/crc

The Environment Agency is the Administrator for the CRC throughout the UK, and will also be the scheme regulator in England and Wales. The Department of the Environment for Northern Ireland and the Scottish Environment Protection Agency are the other regulators.

Book an ABB energy appraisal today

Undertaken by a trained engineer, an energy appraisal can help identify the areas where you can reduce energy consumption and lower costs with intelligent building controls. The results, based on measured data from the appraisal, presents a significant opportunity for energy savings through effective control of key energy-consuming building functions.

To book your energy appraisal today, please contact Gareth Rowlands, Manager KNX Intelligent Building Controls, ABB Limited on 02476 368 500 or email gareth.rowlands@gb.abb.com

The CRC regulators decided to release this guidance after the Government issued its response to the consultation so that organisations receive complete and accurate information that would not be subject to change.

To help organisations prepare for the CRC, a number of CRC Brief Guidance documents have been created. These include:

- Early Action Metric
- Automatic Meter Reading
- Making an Information Disclosure

You can find these documents at www.environment-agency.gov.uk/crc

Keep up with the latest thinking

ABB's energy site, www.abb.com/knx, also contains a news ticker, 100 energy saving tips, press releases, articles, case studies, downloadable literature, a directory of partners, an events diary and links to related websites such as the Energy Efficiency Best Practice Programme, the Enhanced Capital Allowance scheme and the Energy Saving Trust.

It will also advise you about trade associations, such as the Energy Systems Trade Association, (ESTA), which organizes events and road shows about energy savings. If you want to subscribe to any of the trade journals in the field, you can find the information on the web site. Many of the magazines are free.

Useful websites

- The Carbon Trust www.carbontrust.co.uk free practical advice to business and public sector organisations to help you reduce energy use.
- Envirowise www.envirowise.gov.uk government-funded programme offers UK businesses free, independent, confidential advice on environmental issues
- Enhanced Capital Allowances www.eca.gov.uk latest updates from the Government on Enhanced Capital Allowances
- DEFRA www.defra.gov.uk/environment offers information about climate change
- ESTA www.esta.org.uk impartial energy saving advice from the Energy Systems Trade Association
- United Nations Framework Convention on Climate Change <http://unfccc.int> general information on climate change and the Kyoto agreement
- ABB KNX www.abb.co.uk/knx offers information on ABB's range of KNX intelligent building controls

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