

A Guide to Energy in Dublin Local Authority Buildings





Think Energy

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Prepared by Codema – Dublin's Energy Agency

Codema is committed to working with Dublin's Local Authorities to reduce energy and costs in public buildings



About Codema

Codema is Dublin's Energy Agency. We are committed to working with Dublin's Local Authorities to improve the energy efficiency of public buildings in order to reduce CO₂ emissions.

Our main goal is to reduce the energy use and costs for the Dublin Local Authorities. Codema is also very experienced in securing European funding to support the achievement of these reductions.

Our technical experts monitor the energy use of public buildings and assist with building surveys. We also have a very strong communications

and marketing team, who are involved in creating energy awareness campaigns and communicating project outputs.

Our Areas of Expertise:

1. Energy Awareness
2. Energy in Buildings
3. Project Management
4. Funding Facilitation
5. Energy Policy

The Codema Team

We have a staff of 10 people, working in areas such as project management, finance, engineering and communications.



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Why Carry Out a Building Energy Audit?

An energy audit is an in-depth survey of your building which aims to identify how, why and when energy is used. It identifies patterns of when energy is used, the potential for energy savings and can also recommend actions for how to improve energy efficiency and reduce costs.

The energy audit examines all of the main utility bills for the building including electricity, gas, and oil. This helps to evaluate the building's energy demand and use profiles. The audit also involves speaking with staff to gather other important information about the building which bills cannot reveal.

An audit of your building can result in the following:

- A more comfortable work environment
- Building managers and users become more energy-conscious

- Reduced energy use and carbon emissions
- Financial savings
- Identification of improvements which can be carried out

Your Building's Energy Rating

An energy audit is also used to gather information which can be used to create your building's Display Energy Certificate or DEC.

The Display Energy Certificate is a special certification which is used for public buildings. It is similar to the ratings we see regularly on homes and domestic appliances. The rating goes from A to G depending on how much energy the building consumes annually.

Large public buildings (over 500m²) are required to exhibit a DEC in a location where it is clearly visible. The DEC is intended to encourage public authorities to be environmentally responsible and more energy efficient.



Simple Ways to Save Energy

Without financial investment:

Out of Hours Usage:

A key source of energy waste is through heating, lighting and when equipment is left turned on outside of building operation hours.

Often members of staff don't notice that energy is being wasted, or think that someone else is responsible for saving energy. However you can help to start saving right away by:

- Ensuring lights are switched off and that blinds/curtains are open when there is natural light available
- Turning off lights in stairways, cupboards, toilets, meeting rooms or other areas which are not in frequent use
- Checking radiators and heating time clocks to ensure the building is not being heated during times or seasons when it is unnecessary

Office Equipment:

Improved management of office equipment can reduce energy consumption. Computers, monitors, copiers, printers, fax machines, water coolers, plug-in heaters, desk lights and kitchen appliances account for a large proportion of a building's energy demand. By checking that these items are turned off at night or on days when they are not needed you can really

help to improve the energy efficiency in your building.

Reduce Waste:

Waste indirectly uses energy, so there are some simple ways to reduce the waste in your building

- Print on both sides of the paper when printing documents or other items. This can halve the paper use in the building
- Ensure all recyclable paper, card, glass and plastic materials are cleaned and placed in recycling bins rather than general refuse bins

Launch an Energy Campaign:

It can be hard to make big changes if only a small number of people in your building are trying to save energy. An energy campaign can be a great way to get everyone involved. If you think an energy campaign would help your building to make reductions let Codema know, we are here to help.

Monitor Energy Use:

It is impossible to take credit for energy savings if you don't know how much energy is being used; this is why energy monitoring is hugely important.

Recordings of energy consumption should be taken and noted weekly in your building. This process just takes a couple of minutes but can save much time and effort for when the building is being assessed for upgrades.

Using this data, you can also compare the energy performance with previous years and identify any inefficiencies or technical problems.

Develop a Heating and Cooling Strategy:

It is recommended that building owners and operators follow a seasonal strategy for temperatures as most buildings don't require any heating during the summer or cooling during the winter. Where such a strategy is not in place heating and cooling can end up working against one another, wasting energy and making the environment quite uncomfortable for staff.

With Financial Investment:

Building Management System:

A BMS is a computer-based system that uses temperature, humidity and CO₂ sensors to control the comfort levels in your building by using heating, ventilation and refrigeration systems.

Building management systems (BMS) are best suited to buildings with a more complex heating system.

Efficient Lighting and Control:

The energy efficiency of your lighting systems can be improved by making more use of daylight, using energy efficient bulbs, installing lighting controls such as motion sensors, and improving the overall layout of lighting systems so that areas are sufficiently lit without wastage. Lighting controls can save up to 60% of lighting use through

dimming, presence detection and automatic switch-off lights when there is sufficient daylight.

Thermal Insulation:

Adequate insulation of attics, ceilings, walls and floors reduces the heat load of a building by providing effective resistance to the flow of the heat from inside to outside. It is also important to insulate central heating and hot water pipes. In addition to saving energy, thermal insulation improves the sound proofing in your building.

The level of energy you can conserve is affected by several factors: climate; building construction; occupancy patterns; efficiency of the heating system; and the fuel used for heating.

Air Tightness:

Warm air can escape through windows, doors and ceiling lights. Improving the air tightness of an existing building is one of the best ways to improve energy efficiency. This can be done by sealing around windows and doors as well as the installation of a revolving door at the main entrance.

Thermostatic Radiator Valves:

Thermostatic radiator valves control the temperature of a room. They are used to maintain a constant temperature and can be adjusted to suit the use of the room.



Zoning:

Hot water and heat are often circulated through pipes into areas of a building where there is little or no demand.

Electronic valves can be installed on the heating system, which are controlled by time clocks or room temperature information. This can significantly reduce the amount of heat used in the building.

High Efficiency Boilers:

High efficiency or condensing boilers use less fuel and have lower running costs than other boilers.

Buildings with old conventional oil/gas boilers can reduce heating costs by as much as 25% by installing high efficiency condensing boilers.



Fr. Collins Park, Dublin City

We Want to Help

At Codema we help the Dublin Local Authorities to reduce their CO₂ emissions, energy use and help to improve the work environment for staff in all buildings. We would like to engage with you, so feel free to get in touch at any time to further discuss the energy options available to your building.

Visit www.codema.ie or call us on 01-707-9818 for more information

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