

Examples of energy saving best practice in European Retail and Wholesale

EuroCommerce has collected a set of measures developed and applied by its members across Europe to address the energy crisis. This paper offers best practices from which members can advise and which might help them save energy and reduce overheads now and in the future.

Measures

The following are examples of steps taken by companies in our sector which may be helpful to members looking for ideas on how to add to their existing toolbox of measures to reduce their energy consumption.¹

Optimising the lighting regime in stores

Lighting can be responsible for up to 40% of a building's electrical consumption, and the following measures or a combination of them have been shown to enable companies to reduce lighting energy use by over one third.

During opening hours

- Replacing regular lighting with LED lights. If possible, use of LED lighting with intelligent controls (adjusting lighting intensity and automatic dimming depending on the presence and movement of people) both in logistics centres and stores.
- Setting the maximum lighting to 600 lux for stores over 5,000 m² in sales area.
- Reviewing the need for accent lighting and reducing the overall intensity of lighting as much as possible.
- All these measures will of course need to take account of the need for customer and staff safety and security against theft etc.

During closing hours

- Turning off lighting in the car park, outside brand façade signage and other signs, while avoiding health and safety or security risks.
- Where possible turn off lighting inside the store. An alternative adopted is so-called 1/3 lighting, to provide sufficient lighting for activities performed after the store is closed or for security against criminal activity.

¹ The measures in this document have been completed with the checklist of the International Energy Agency on *Coping with the energy crisis*. See [Coping with the Crisis: Increasing Resilience in Small Businesses in Europe through Energy Efficiency – Analysis - IEA](#).

Optimising the cooling and heating regime

- Reducing the number of open doors. Where this has been adopted, retailers have added signage to explain why and encourage customers to enter.
- Investing in a revolving door or additional doors to create a lock to reduce ingress of cold air in winter and hot air in summer. Alternatively, installing automatic sliding doors. Combined with an air curtain these can save some 40% on gas consumption compared to an open entrance door.
- Use of an energy-saving door curtains (both for cooling and heating) or air curtains (an air curtain is a fan-powered device that creates an invisible air barrier over the doorway to separate efficiently two different environments without limiting access).
- Installing glass doors or covers in cool or freezer cabinets to always maintain a constant temperature and reduce energy costs.
- Optimising the number of cool units in store.
- Increasing the temperature on the sales floor to 26°C in summer and reducing to 18/19°C in winter. (Heating costs increase by around 8% for every 1°C increase in temperature. Smart programmable thermostats can cut heating costs by between 5% and 15%.)
- Adjusting the settings of the boiler for hot water lower saves energy.
- Looking at best solutions for space heating and processes. In small enterprises, a heat pump is four times more efficient than a traditional fossil fuel boiler and reduces the business' reliance on fossil fuel.
- Raising the evaporation point in central cooling systems. For each degree of raised evaporation temperature, compressor capacity is raised and their ratio between power supplied, and power absorbed- known as COP) improved. As an example, increasing the evaporation temperature of the cooling by 2.5°C, the cooling capacity of the compressor is increased by 14%, while only increasing the electrical power used by 6%. This results in a 7% higher COP.
- Increasing temperatures in cool/freezer equipment – if possible, within rules laid down to ensure hygiene and food standards.

Audit, inspection, and monitoring measures

- Considering an energy audit. These have shown to have most impact when they include a method to certify the savings achieved and can provide potential average energy savings up to 18%.
- Accompanying such audits with Energy Management Systems that set out achievable targets for energy use and action plans to reach targets and measure progress. These can lead to an average reduction in annual energy use of between 10% to 17%.
- Remote monitoring of electricity consumption of all stores and collection points, this can allow a company to react and evaluate whether individual measures introduced, are working.
- Certification of the energy management system (EnMS) according to ISO 50001 for all buildings of the retail chain.
- Regularly inspecting and maintaining heating boilers before the start of the heating season.

- Inspecting the state of refrigerators. Refrigeration can represent up to 50% of electricity costs for some businesses. Regular maintenance alone can decrease refrigeration energy use by up to 10%.

Reorganising of certain business operations

- Introducing efficiency measures for refrigeration systems, e.g., smart meters and controls. When used to identify and manage energy use, these can reduce energy usage by up to 40% at little or no extra cost.
- Some members have looked at adjusting opening hours during the crisis to save energy. This of course needs to be assessed against possible loss of footfall.
- Changing hours for receiving goods to coincide with store opening hours can save significant amounts of energy.
- Investing in renewables – installing solar panels on your premises if possible.
- Optimising delivery routes and timing of deliveries to reduce unnecessary mileage and save fuel.
- Reorganisation of work during closing hours (cleaning, shelf stacking etc ...) to save energy.
- Review of e.g.,
 - Which vegetables do not need to be refrigerated.
 - Efficiency of bakery equipment and frequency/timing of use.
 - Renegotiating coverage of energy costs for branded supplier-owned cool/freezer cabinets (e.g. soft drinks or ice cream).
- Review efficiency of air compressors - energy accounts for more than 75% of the cost of a compressor. Correct sizing of the compressor load can reduce the energy consumption of a compressed air system by over 33%.
- EU businesses can also look at the [EPREL website](#) to consult the European Product Registry for Energy Labelling and obtain more information on energy efficiency and compare products.

Workforce training and engagement

- Encouraging staff to identify energy efficiency opportunities and take energy saving action.
- Actively engaging workforce in energy training and awareness campaigns, and appointment of energy officers and an energy team. Such measures have been shown to deliver almost 6% in annual energy savings, increasing to 21% when combined with technological support and expertise.