Energy savings in Offices and similar premises.

These are a few of the ideas, that I have come across in various organisations from the 1960s to the 2000s. I have updated these in some cases, where the situation has changed, or newer equipment has been developed.
I hope many of these ideas are not new, and you are already using them.

The most striking thing that I can remember, comes from the 3 day week, caused by the miners strike in 1984. Companies were able to save up to 10% of their energy usage, just by switching off things that they were not using. Since then, we have all got wasteful again.

I have always abhorred waste. Not just energy but anything we use. Virtually everything has an energy cost to make it and transport it. Reducing waste, reduces energy. For example, We don't think of water as energy, but a big component of its cost is the energy required to pump it up from aquifers deep underground. Less water, less energy.

To start with, we need to know where we are now, so we can chart progress. This progress should not just be something for managers, but should be circulated, so everybody can see it. However, it is no use just appointing someone to look after energy, who recruits enthusiastic “energy monitors”, if senior management don't buy in and are seen to buy in. Many of these ideas cost some money and so a budget should be set up. Eventually, there will be a payback, which should go back into this budget. Energy savings should be allowed a longer payback than other savings.

Get some ideas from other organisations; not just other councils, but also commercial organisations. Marks and Spencer are proud of their energy savings, as are other supermarkets and hotel groups; approach their energy and environmental managers, to see if you can arrange a visit.

How often have you driven past a building after working hours only to see the whole building a blaze of light. Yes, councils have duty officers that provide 24/7 coverage, people have to work late to prepare urgent reports and cleaners need to come in. But do you need to light and heat the whole building? The way the building is wired, probably doesn't help. Lights are often in large blocks going across the office. Smaller blocks allow fewr lights to be used when an office is only partially occupied. During the day, desks near the widows get natural light but desks further away need lights, during the day. Grouping the lights, so those with natural light, can be switched off, or use sensors, can reduce lighting loads. Sensors can also be used in intermittent areas like corridors, tea rooms, meeting rooms toilets etc. but be sure to leave enough lighting for safety.
Lights (and heating) can be programmed to go off at the end of the working day, with switches that give another hour of use. Where lighting might need to be dimmed, consider turning off alternate lights rather than using dimmers.

There has been an explosion of air conditioning in offices over the years. Do you really need it? Would natural ventilation suffice? Would external shading slats solve the problem? (These reduce solar gain by blocking high summer sun, but let low winter sun through). Or you could move warm air from the sunny side of a building and use it to heat the cooler side.

Altering the time the heating comes on in the morning, to suit the weather forecast, can improve comfort and make savings. As can reducing the temperature of circulating water in spring and autumn. Lobbies can save heat from escaping. Of course,if you are lucky

enough to have an energy management system, it can do this for you. Thermostats are a bane of contention. Many people think that putting up a thermostat heats a building faster. Except in very sophisticated systems, it doesn't, but the higher set point stays and the room is too hot. You only have to heat to 19 degrees celsius. My view is to disconnect adjustable thermostats and control temperatures with blind thermostats adjusted centrally.

Save water with electronic taps (Prestex taps are almost always out of adjustment and either give you just a splash of water or stay running for ages.) Can you flush with grey water and consider flushless urinals. Air knife hand dryers are quicker and overall energy efficient, but cost more.

If new buildings are being considered, think of the future. What will be the insulation standards in twenty or thirty years time? Should you be putting in gas heating, which is likely to be banned? Can you build in energy efficiency from the outset? Can you put in a basement, where you can store rainwater for flushing toilets, or energy storage devices. Have you put solar panels on the roof? Can you use heat pumps for heating. These things will put up the initial cost of a building, but will produce long term savings, and be an example to other organisations.