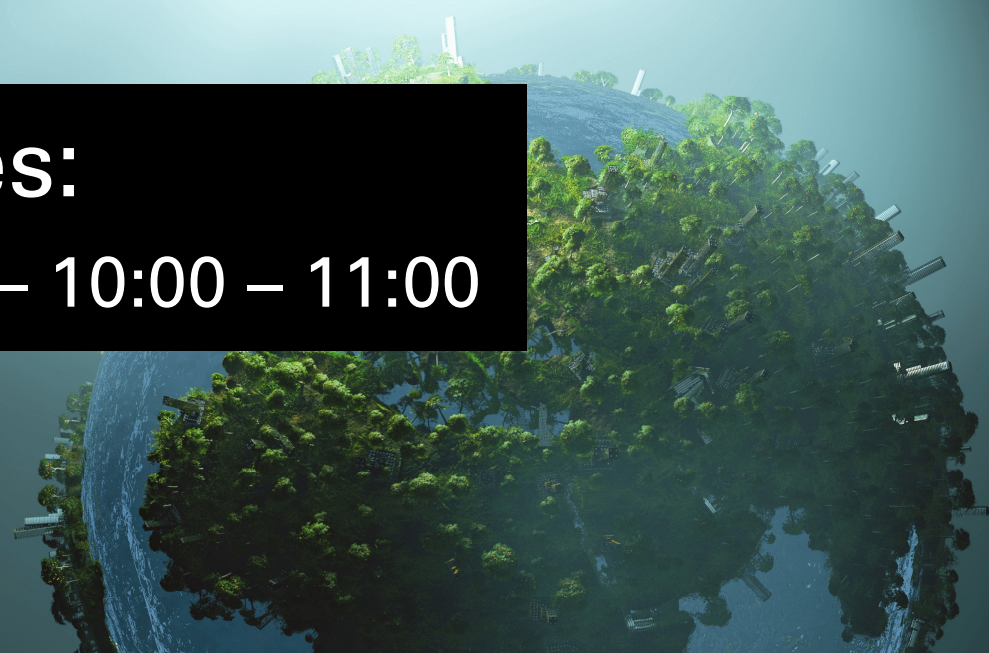


Low Carbon Workspaces:

Thursday 29th September 2022 – 10:00 – 11:00



Agenda

- Why you should lower your carbon output.
- How the grant scheme works.
- What projects can we support?
- Case studies throughout.
- Quick quiz.
- Questions?



Reducing carbon emissions

- We help **SMEs** reduce carbon emissions, lowering their environmental impact, and their monthly overheads.
- Match funded grants up to **£6,000** and energy saving advice.
- Based in **Berkshire, Buckinghamshire, Hertfordshire, Bedfordshire, Northamptonshire, and Milton Keynes**
- To date we have helped SMEs to save **3,500 tonnes of CO₂e.**
- Release a bi-monthly newsletter - **Low Carbon Lowdown**




Why you should lower your carbon

- **Financial;**
 - Reduce monthly overheads.
 - Protect against energy price hikes.
- **Future proof yourself against punitive legislation;**
 - Carbon taxes, now and in the future.
 - Government grants and contracts looking at sustainability of organisations.
- **Improve your environmental standing;**
 - Social responsible; it's the right thing to do.
 - Will lead positive change in your community.



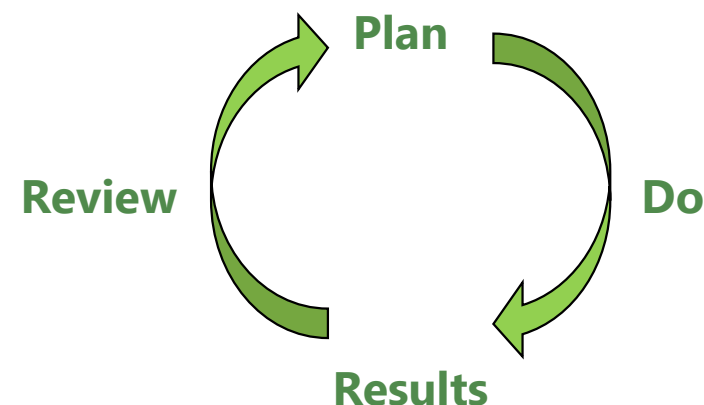
Energy Crisis



- Prices are rising due to increases in wholesale energy costs, being caused by:
 - Gas shortages in Europe.
 - Increases in Liquefied Natural Gas (LNG) demand in Asia.
 - Increase in demand due to covid restrictions across the globe lifting.
 - Low winds in the UK.
 - Damaged cable which imports energy from France.
- In response to price hikes, **long-term projects** are underway to help tackle the crisis such as a grid-scale battery storage facility, set to be developed by Kona Energy. Levelling up the UK's energy infrastructure will better protect consumers against fluctuations in international energy prices.

How can your carbon be lowered?

- Various ways in which carbon footprint can be reduced;
 - Waste reduction
 - Energy reduction
 - Generating clean energy on site
- Offsetting what cannot be reduced;
 - Controversial topic.
 - There are emissions which cannot currently be removed.
- Important thing is to have plan, and be committed to lowering your carbon output;
 - This should part of regular committee meetings.
 - Carbon reduction targets should be minimally reviewed annually.



Immediate actions to take

- Behavioural changes;
 - Switching off lights.
 - Set up your thermostat.
 - Turning off all equipment overnight or setting up power saving.
- Educate those using equipment or facilities around energy usage – make it a challenge/set targets to reduce kWh used. Involve everyone in the positive action.
- These changes cost nothing and can result in immediate energy savings, spread the culture of saving.



| | | |
|--|--|---|
| <p>£2,985 Saved off energy bills per year</p> | <p>£2,243 Grant Awarded</p> | <p>3.526 Tonnes of CO₂e</p> |
|--|--|---|

True Food Community Co-op used their Low Carbon Workspaces grant to improve their already glowing green credentials with low energy LEDs and efficient fridges, saving the planet and their pocket.

"As a business selling ethical and sustainable products, we also take the environmental impact of how we operate very seriously – so a grant towards reducing our electricity usage was a no brainer for us." - Kat Boulton, Shop Manager





Low Carbon Workspaces
Grants to cut carbon emissions, save money & minimise waste

Funded by:



European Union
European Regional Development Fund

Delivered by:



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The grant process

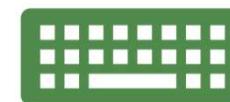
Contact the team:

- We help identify projects and provide advise of further measures to help lower your energy usage.



Apply: Submit your application along with the relevant documents.

- Signed application form/T&Cs
- Quotes for your project & details/photos of current equipment
- Evidence of current energy usage



Grant panel: We send your application to our grant panel.

- Your application goes to panel, who give a response within 3-5 working days
- We consider a wide variety of projects, we always look to support new and innovative technologies



The grant process

Grant Offer:

- Once approved you are provided a letter of confirmation
- This sets out terms of offer and allows you to undertake your project



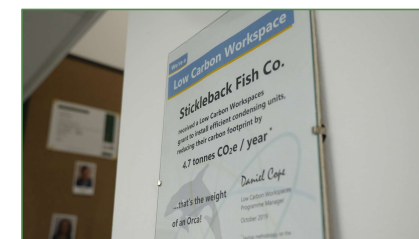
Claim: you can access grant funds once your project is installed!

- If you have paid your supplier and installed your project, you can claim your grant
- Grant funds are then paid to you within 30 days (but usually sooner!)



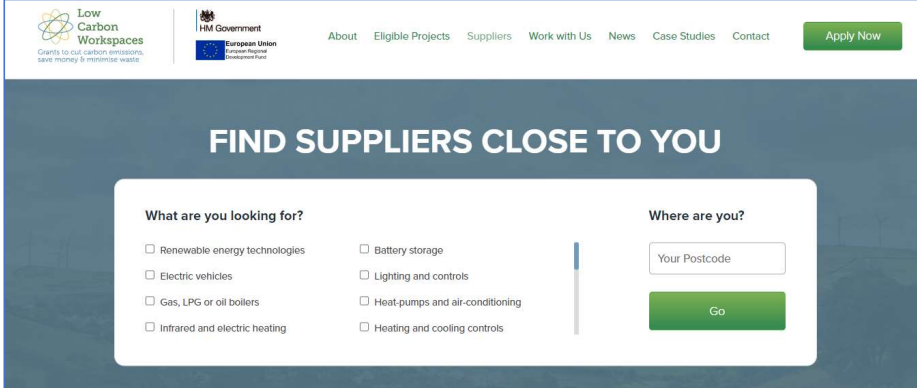
Evaluation: after a given period we will assess your project.

- We look at post-project energy use to verify your savings
- Your business will be given an energy saving certificate outlining how much carbon you have saved!
- We work to turn those who wish into LCW case studies!



Who can do the work?

- Only one quotation needed.
- Supplier directory;
 - Suppliers offering grant-fundable work
 - Suppliers can register free of charge
 - Have a look or register online
- Our directory is not a restrictive list and supplier not listed can also be used for works.

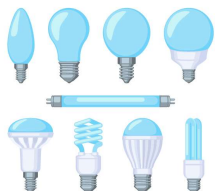


The screenshot shows the 'FIND SUPPLIERS CLOSE TO YOU' section of the website. It includes a search form with the following elements:

- What are you looking for?**
 - Renewable energy technologies
 - Electric vehicles
 - Gas, LPG or oil boilers
 - Infrared and electric heating
 - Battery storage
 - Lighting and controls
 - Heat-pumps and air-conditioning
 - Heating and cooling controls
- Where are you?**
 - Input field: Your Postcode
 - Submit button: Go

Interventions to cut energy usage

LED lighting



- Immediate savings – little seasonal variation.
- Most popular LCW project type - 51% of funded projects.

Heating Systems



- Boilers
- Heat pumps
- Infrared heating

Insulation/Glazing



- Insulation to walls and/or roofs
- Double/Triple Glazing: can achieve 65% more heat loss reduction
- Remove draught gaps

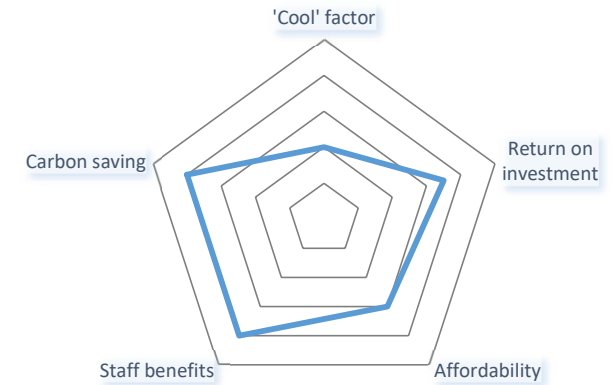
Renewables



- Solar PV/Thermal
- Woodfired/Biomass boilers
- Small-scale wind generation

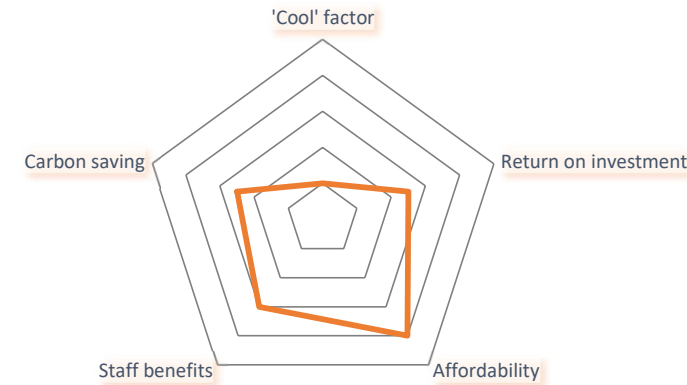
LED lighting

- LED lighting can be used in several areas;
 - Office lighting.
 - Highbay warehouse lighting.
 - Village Halls.
 - Occupancy / daylight sensors & controls.
 - Floodlights & yard lighting.
- Accounts for up to 40% of commercial electricity usage.
- Improves quality of light – better working environment.
- Most popular project type - 51% of funded projects.



Heating systems

- Wide range of interventions:
 - Boilers
 - Heat pumps
 - Infrared heating
- 15 years or older boilers can save 30% of heating.
- LCW project applicants have reported increases in wellbeing.
- A study showed 82% of employees felt productivity declines if workplaces were cold.
- Protect from energy price increases.



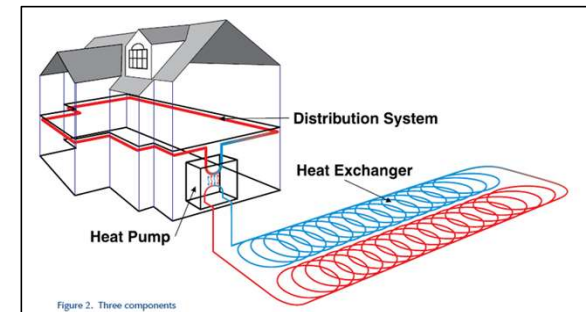
Boilers

- Replacing conventional boilers is still a valid way of reducing carbon.
 - There is still a boiler lifecycle left before gas is phased out.
 - Boilers are now being made to be hydrogen ready.
- Regular servicing of boilers ensure they maintain their efficiency over time.
 - Also reduces the chance of breakdown.
- Insulate pipework on boilers.
- Oil, diesel, or LPG to natural gas could lower your carbon.



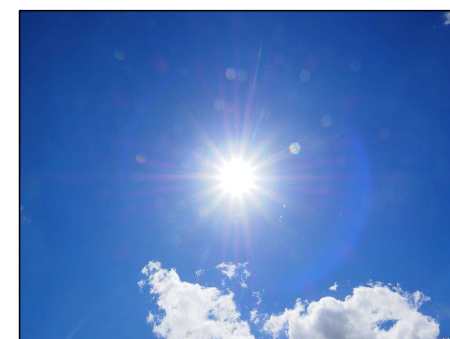
Heat pumps

- Main two types of heat pump, but there are others;
 - Ground source
 - Air Source
- Works by evaporating refrigerant gas, which is then condensed. This causes the gas to heat up, which then transfers to a heating system.
 - Over 100% efficient as it takes in ambient energy.
 - The higher the COP value the more efficient it is.
- Recently in the news, after the announcement of domestic grants to install these. UK Government plan for over 600,000 of these to be installed annually by 2028.
 - Substantial refit and skilled installers are needed.



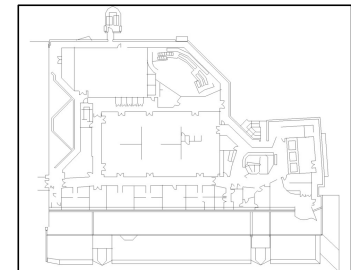
Infrared heating

- Infrared heaters heat people and objects, instead of the air.
 - Old, difficult to insulate buildings can benefit from this.
 - Waste is reduced in high-ceiling areas.
- Instant heat, so do not need to be turned on before use, as many other systems do.
 - Due to this, can also be linked to PIR sensors.
- Can save up to 80% of the energy of a conventional heating system.
 - Installers will assess premises, and do heat maps, similar to lighting engineers.
 - Areas that require more heating can be given more heat – due to directionality.



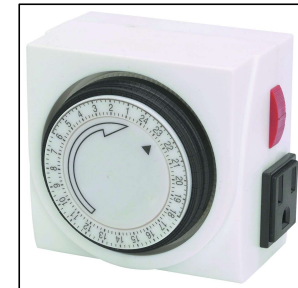
Energy management - heating

- Heating fuel consumption is typically 15-30% lower in premises with well-controlled systems. Good control not only saves energy, but also maintains a consistently comfortable environment for building occupants. Control systems can be retrofitted to existing systems and may be a cost-effective means to reduce heating costs.
 - Could be as simple as a well set thermostat, or a fully integrated management system.
 - Intelligent radiators have come a long way.
- Zoning of larger buildings negates the need to “over-heat”
 - Consider this on a basic level at home.
 - Don’t heat the whole building if only one room is being used.
- If pipework is re-configured, it may be a good time to consider improving the pipework insulation, which is a cost-effective means of limiting heat loss.



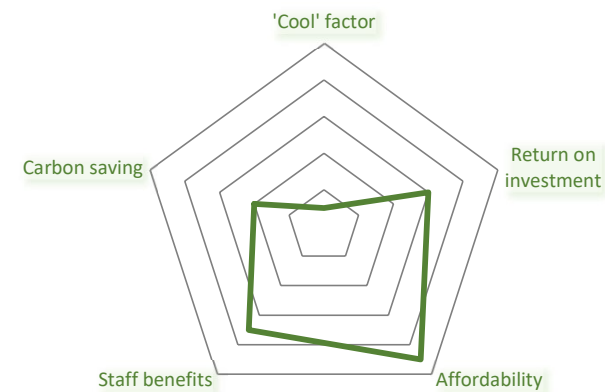
Energy management

- Modern electronic time switches come in a variety of forms and can be set for each day of the week. These are well worth the effort of learning to programme as they provide excellent control.
 - As with all controls, as complicated as desired.
- A lot of this is also behavioural, and can be led by those running premises.
- PIR Sensors can be installed with lighting – avoids waste if lights are left on by accident!
 - Save energy while being sanitary.
- Reports can help you understand where you are over-using.
 - Many systems will link to an app that can show you.
 - Installation of smart meters can achieve the same result.



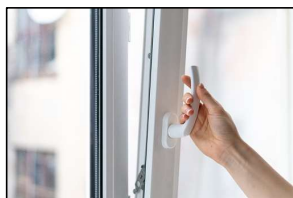
Building fabric

- Building fabric improvements;
 - Insulation to walls and/or roofs.
 - Double/Triple Glazing: can achieve 65% more heat loss reduction.
 - Remove draught gaps.
- Improvements to building fabrics are now becoming regulated by UK Law. LCW can help reduce the financial burden for upgrades.
- You could be throwing away the heat that you pay for through your energy bills!



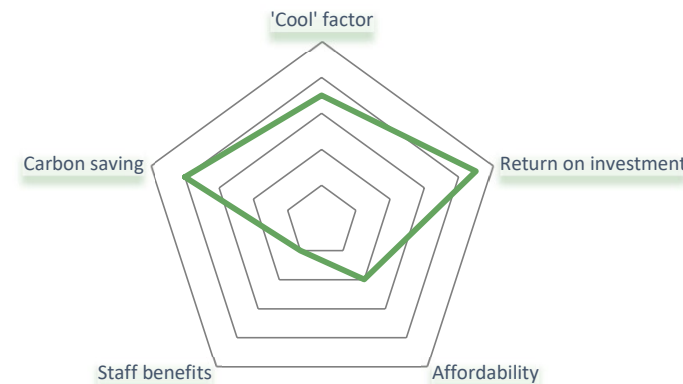
Building fabric

- Installing ceiling insulation may reduce heat loss through roofs by around 20%. Furthermore, buildings tend to lose between 10% and 30% of their heat through the walls. There are several options for ceiling and cavity insulation, each helping to retain heat within the working areas, thereby reducing demand on heating.
- Windows can account for over 25% of a building's heat loss.
- Upgrading to triple glazed windows may reduce window heat loss by around 65%.
- There are thermal efficiency minimum requirements when replacing windows (essentially double glazing), but upgrading to triple glazing on north facing or exposed sides of a building can offer further comfort and energy savings.



Renewable energy

- Several methods to take your business "off grid":
 - Solar PV/Thermal.
 - Woodfired/Biomass boilers.
 - Small-scale wind generation.
- Solar PV has become a highly popular LCW project.
- A LCW grant can reduce payback period by 3.5 years for solar projects.
- You could convert your waste into a fuel source for your heating.



| | | |
|--|--|--|
| <p>£1,651 Saved off energy bills per year</p> | <p>£5,000 Grant Awarded</p> | <p>2.61 Tonnes of CO₂e</p> |
|--|--|--|

Caversham Golf Club have already invested in eco-friendly, low-carbon tech at their clubhouse – a LCW grant for solar panels helped to make the building net zero

“The Low Carbon Workspaces team made applying and claiming for our grant extremely easy, and we are now benefiting from the savings that have been achieved since installing the solar panels”.





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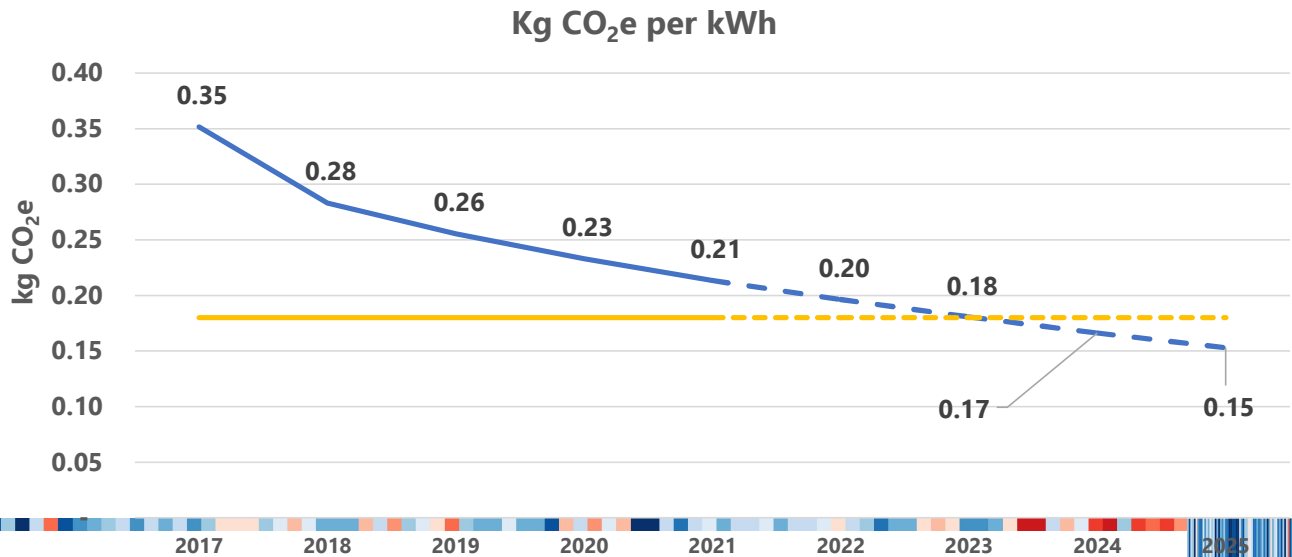


“Passive Decarbonisation”

Boiling the same kettle produces 39% less emissions than 5 years ago



| | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------------------------------|----------------------------------|-------------|-------------|------------|-------------|
| kg CO ₂ e per kWh | 0.3516 | 0.2831 | 0.2556 | 0.2331 | 0.2133 |
| Reduction from previous year | | -19% | -10% | -9% | -9% |
| | Reduction in past 5 years | | | | -39% |



Effects of Air Pollution

1.5 Years



2.9 Years



4.1 Years



Average life expectancy lost due to outdoor air pollution

91%

Global population breathing polluted air as defined by the WHO



Questions and next steps

Next steps

1. Obtain advice or guidance on your energy efficiency and eligibility for a grant.
2. Obtain quotation(s) from supplier(s) for your project.
3. Submit your application to the LCW team.

Questions?

Please also post them as messages in the chat box or speak with the team



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Thank you, and we hope to speak with you soon!

Apply for your grant online: www.lowcarbonworkspaces.co.uk

Call the team: **01494 927131** or email: info@lowcarbonworkspaces.co.uk



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