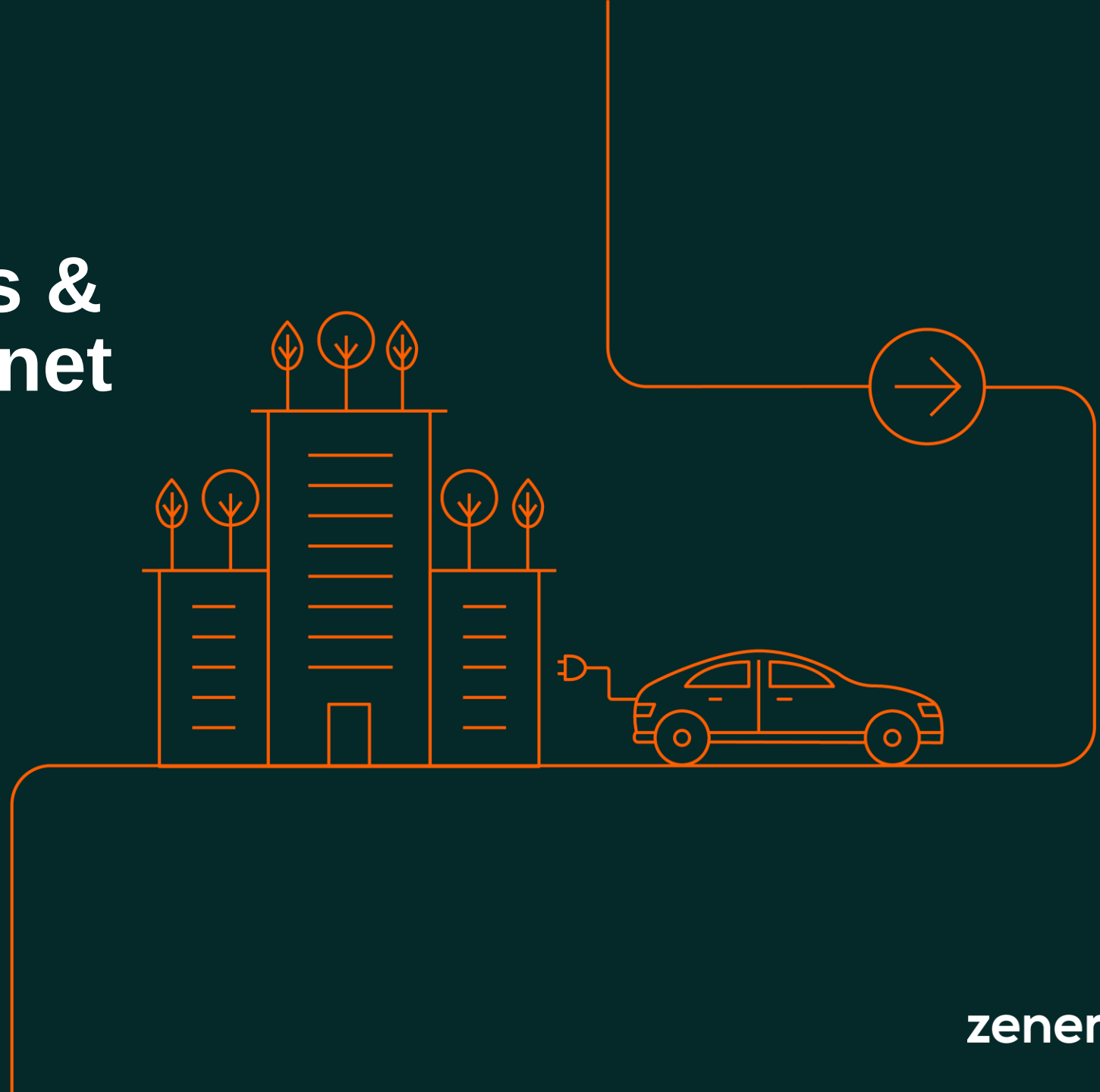
Tools, techniques & technologies for net zero success



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Decarbonisation of heating systems

How do you help make your site more viable? Requires a “whole school approach” (fabric first approach)

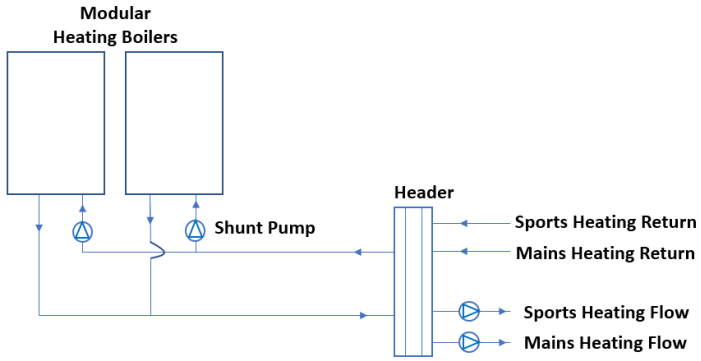
Insulate your building - Reduce heat losses - Reduce the size and cost of the new system

Upgrade heating pipes/radiators

Reduce electrical demand – Solar PV, LED, reduce wastage

Features of a Conventional Boiler System

- Burn fossil fuels
- Operate at an efficiency between 60-95%
- Provide a pipework temperature of 80°C
- Work well with Radiators, Convector heaters & blown air
- Relatively inexpensive to replace



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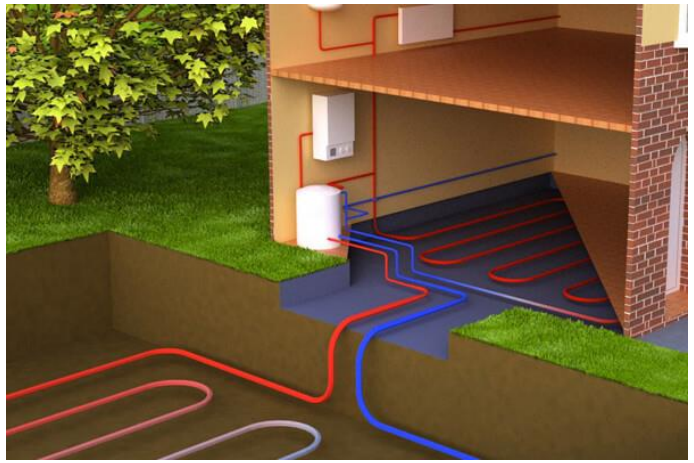
What are the alternatives?

ASHP ?

GSHP ?

Biomass ?



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Heat decarbonisation plans (HDPs)

- Your strategic plan to understand your carbon emissions and how to reduce them, creating a holistic whole building action plan and timeline
- Highlights the key requirements and implications in terms of investment, building, electrical and mechanical plant changes required.
- Understand specific costs, running cost impact & carbon impact
- Identifies carbon and energy reduction options across electrical/ mechanical/ behavioural / building fabric improvements too
- A heat decarbonisation plan is key to supporting your application for Salix Public Sector Decarbonisation Scheme
- HDP PLUS – this ensures the application is ready for PSDS

Funding your heat decarbonisation plan
Low Carbon Skills Fund Phase 5

- £16m in the pot instead (£17m last year)
- Pot distributed between the following, 34% £100k and under, 38% £100-£500k, 28% £500k plus
- Not fastest finger first, the portal is open from today 2pm until 1st May 2pm. This gives us a longer window for applications. They will still be randomised.
- There must be evidence of one end of life boiler for design (boiler over or nearly 10 years old).
- Geared more towards design that's feasible so that the school can proceed to an installation in due course.
- We have help process £4,000,000 work of HDP and Design bids
- You can still proceed with a HDP Plus in order to prepare for PSDS if you are unsuccessful with LCSF Phase 5

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Funding your decarbonisation
Public Sector Decarbonisation Scheme (PSDS)

- The Public Sector Decarbonisation Scheme (PSDS) provides grants for public sector bodies to fund heat decarbonisation and energy efficiency measures.
- The eligibility criteria becomes more stringent in each new round and features fundamental differences.
- Evidence of savings must be included within the submission (energy data for prior two years).
- Evidence of aged equipment must be included.
- Applicants are required to contribute funding.
- Only bespoke submissions will be accepted. Previous failed submissions can re-apply but will need to reflect the criteria.
- Phase 4 – Summer 2024

Case study
Links Academy

Links Academy identified that electric vehicle chargers and solar PV could play a fundamental role in supporting its decarbonisation efforts within the wider net zero journey.

Zenergi designed, tendered and project managed the installation across three of Links Academy's schools.

Key stats for Hatfield:

- £8,316 annual saving
- 35.0kWp solar PV system, saving 30,800kWh.
- Payback period: 5.4 years

Key stats for Woollam Cresent:

- £5,465 annual saving
- 23.8kWp solar PV system, saving 20,240kWh.
- Payback period: 5.6 years.

Key stats for Hixbury Lane:

- £2,856 annual saving
- 12.15kWp solar PV system, saving 10,580kWh.
- Payback period: 6.8 years

Links Academy is leading from the front in demonstrating its commitment to the ambitious and highly important decarbonisation targets set out by the government. The trust is helping to improve the air quality its pupils are exposed to and supporting the local community, staff, governors and visitors by offering access to an electric vehicle charging facility.

The energy that the solar PV will generate will help protect budgets, future-proof the sites; offer security of supply by reducing reliance on the grid; and lower emissions in support of net zero ambitions.

Quick wins
Energy saving

- Check you are not heating unoccupied areas.
- Always close outside doors and windows when the heating is on.
- Avoid placing obstructions in front of heaters.
- Remove portable electric heaters.
- Ensure thermostats are not near heat sources, such as photocopiers, nor in rooms where windows are left open by occupants.
- Did you know that reducing heating by 1ºC can save as much 8% on your energy costs? And reducing the heating by an hour each day will make a similar saving.
- As a general rule, classrooms should be heated to around 18°C; while gymnasiums, corridors and general areas can be reduced to 15°C.
- Ensure you change heating times to react to British Summer Time and ensure the schedules take into account weekends and holidays.
- Only use lights when daylight is inadequate.
- Keep roof lights, windows and light fittings clean.
- Back of house lighting in store cupboards etc. is a quick control win.
- Use passive infrared sensor lights that are activated once movement is detected.
- Avoid opening windows to cool a room, adjust the heating instead.
- Avoid comfort cooling where possible (try blinds, solar shading, increased ventilation, opening windows).
- Ensure air conditioning systems are regularly inspected to optimise efficiency with a TM44 air conditioning inspection.
- Extractor fans extract heat as well as the air, turn them off when not needed.
- Replace damaged draught seals before winter (heating season).
- Use inner and outer doors in draught lobbies as a “heat lock” when going in and out.
- Switch off all ICT equipment when not needed, avoid standby functions.

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Thank you

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