

Schools Decarbonisation Challenges and Opportunities & Schools Energy Programme Update

Solihull Schools- Decarbonisation



Schools and Academies are part of Solihull borough's target to become
Net Zero by 2041

We have our bit to do...
As

Schools represent 1% of the borough non-domestic emissions

DFE Report

The key topic areas:-

Maintenance

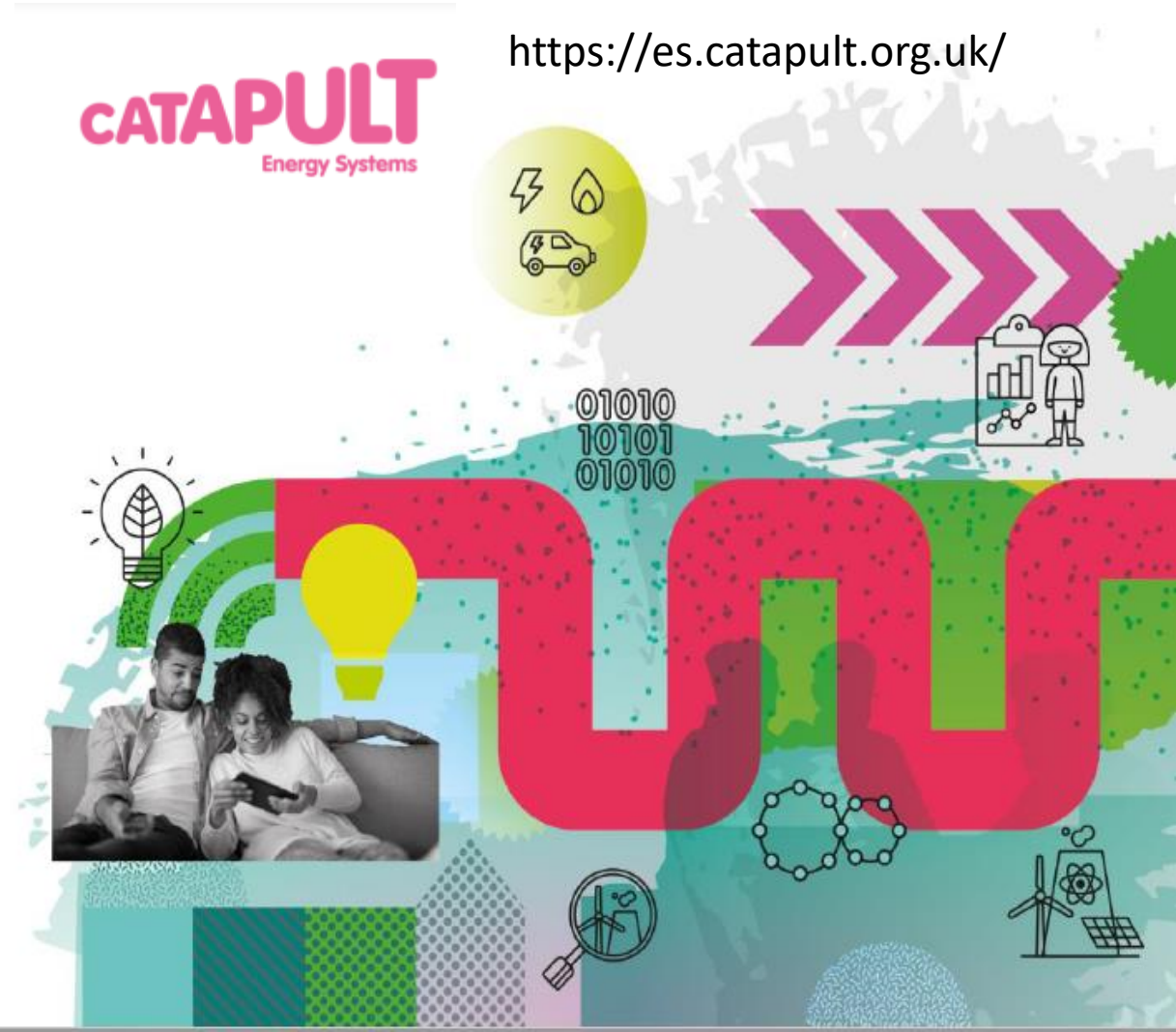
Heating

Design and Operation

Refurbishment

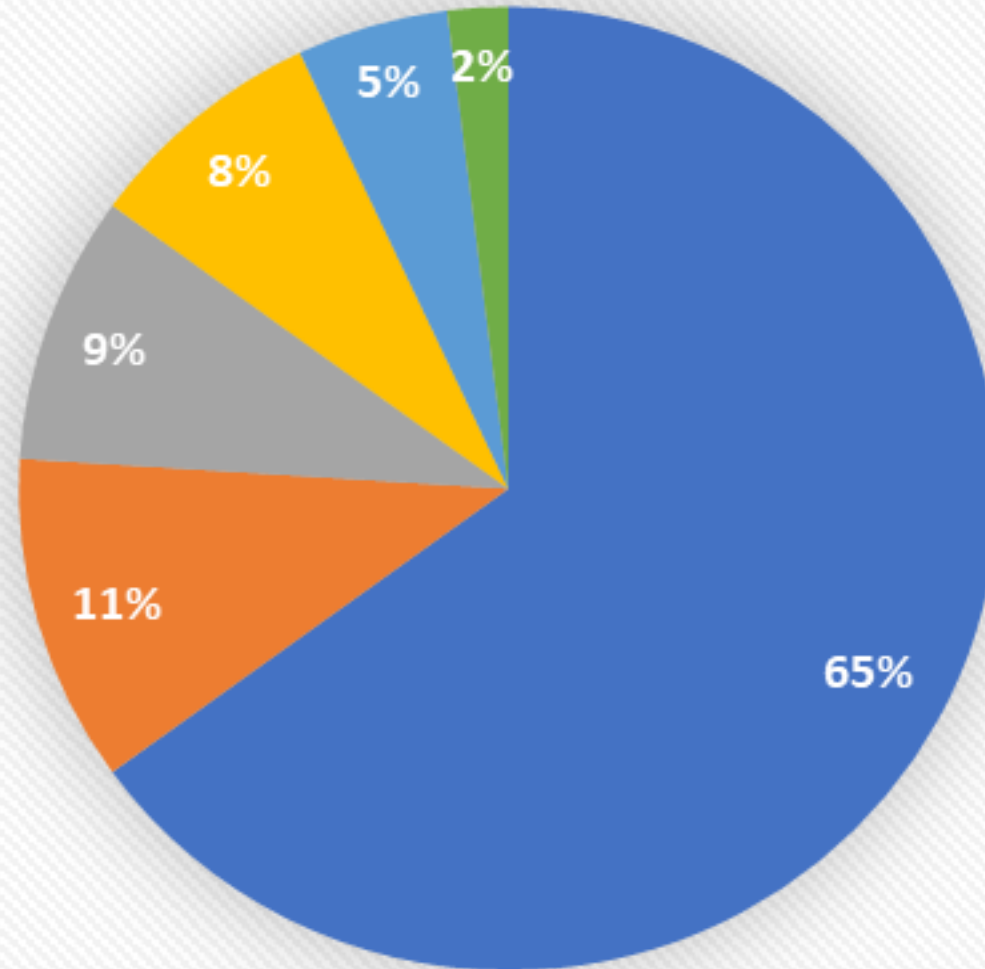
Energy Monitoring

Energy Plan



Energy End Use

- Space Heating
- Hot water
- Lighting
- Catering
- Appliances
- Cooling and Fans



Operation and Maintenance of Heating (the report identified)

- Lack of understanding from staff
- Badly set up the heating system
- Dependence on one person - site manager
- Poor understanding of occupancy patterns

AMR
meters



AMR identifies
what time gas is
coming on and off
& can assist site
managers ✓

Projects & Funding – Challenges

Barrier - **Cost** and **time** required to tackle the entire school estate

Teacher - Are not **energy professionals**

Face to face
AMR
training
provided✓

Support/sign
posting from
Property
Services....✓

Low cost
and quick
wins✓

Council 0%
interest free
loan✓

Design & Operation Challenges

Designing a building or refurbishment of a building will not guarantee the intended performance

**We have learnt many lessons over the years re new builds.
We know there needs to be a strong hand over on the buildings operations to the people using it day to day so they feel confident ✓**

Cheswick – Good Refurbishment

The DFE reported that refurbishment of an existing school to a **low carbon** standard is possible but the cost will vary.

- Refurbishment completed in 2013
- Cost to build was £1.6 million
- Bigger school – lower energy
- Savings - 42% decrease in kWh p.a equates to £4,600 cost saving on energy per annum



Cheswick - Refurbishment

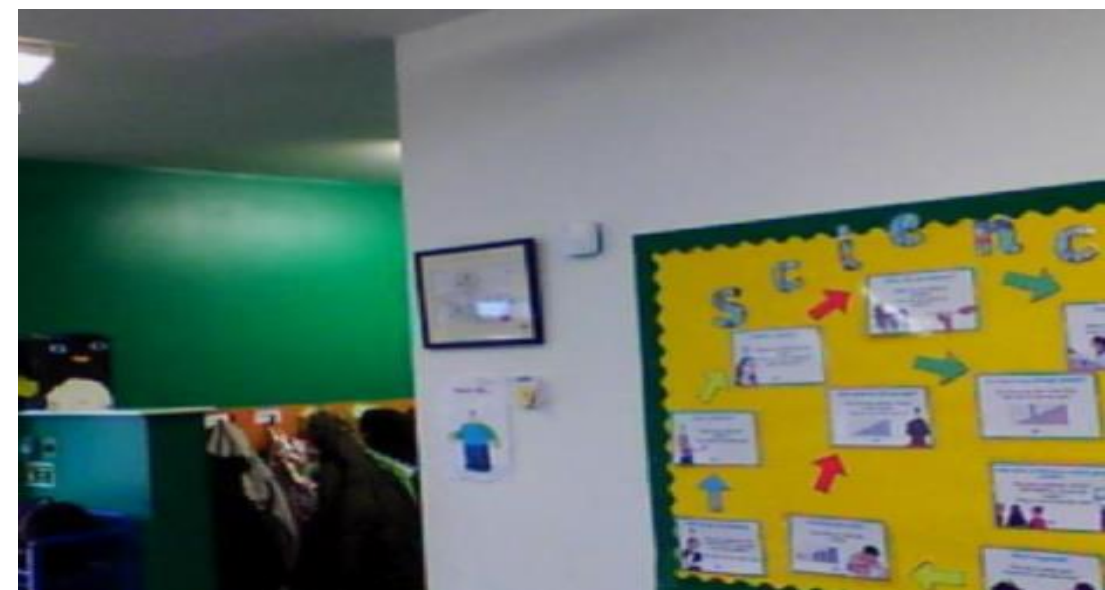
Insulation very good in
walls and ceiling 24 / 25
degrees

Insulation - best insulation

Underfloor Heating – better
comfort, more space

Zoning

Good management



Cheswick - Refurbishment

SOMETHING YOU (AND I) MIGHT NOT CONSIDER – TIME FOR SOMETHING A BIT DIFFERENT...

- **Daylight Orientation**
- Windows solar film & blinds
- Sunshade – provides protection from the sun in summer and creates a nice outdoor space
- Different heat settings

Windows replacement – think modern UPVC compared to draughty old metal single glazed



Cheswick- Refurbishment

Lighting

- Initially had bad inefficient tubes old lighting (T8's)
- Motion sensor installed
- T5 – Good
- BUT TECHNOLOGY HAS MOVED ON... WE'D FIT EVEN BETTER - LEDS



Old tubes



T5's

Energy Monitoring - Opportunity

- Understand how and why energy is being used.
- Target measures aimed at reducing energy use and eventually replacing it with low or zero-carbon sources.

Solihull Schools
already have
AMR✓

Schools already
understand how?
and Why? energy
is being used✓

The Council
monitor energy
on a quarterly
basis - to show if
consumption is
up or down yr on
yr✓

Energy Plan – Opportunity

- In school energy plan
- Linking :-
Management / Curriculum / To behaviour – teacher / pupils

Ashden Less CO2 Programme (5yrs)

Programme has 4 workshop including a workshop on energy engaging children in the (curriculum)

Schools students looked at AMR profiles and identified waste (educational)

Out of hours walk round looking smart boards, vending machines and lights left on unnecessarily. (behaviour)

Programme recorded energy consumption & reduction and savings (important to management team)

Each school received a free energy audit & children got to use infra red camera (educational)

Engaging the whole school



Who can do what ?

Actions Essential	Head Teacher	Teacher	Student	Business Manager
Identify responsibilities / Eco Team	✓			
Leading Role in Whole School Approach	✓	✓		
Raise Awareness of Staff and Pupils	✓	✓	✓	
Record Analyse / Monitor energy consumption			✓	✓

SMBC SUPPORT Schools Energy Programme

Solihull can
provide support
directly on.....

