



Estate Decarbonisation

Scrutiny for Policies and Environment Committee
14 December 2022

Update from Corporate Property team



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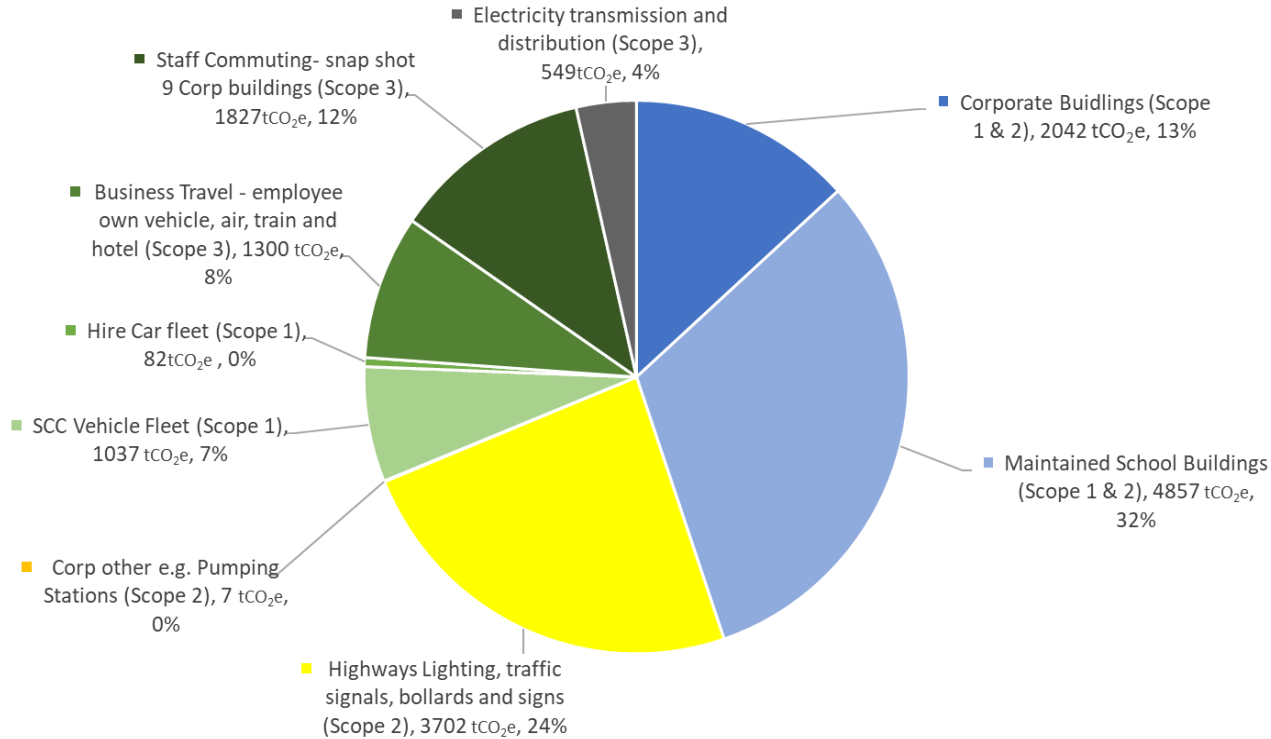
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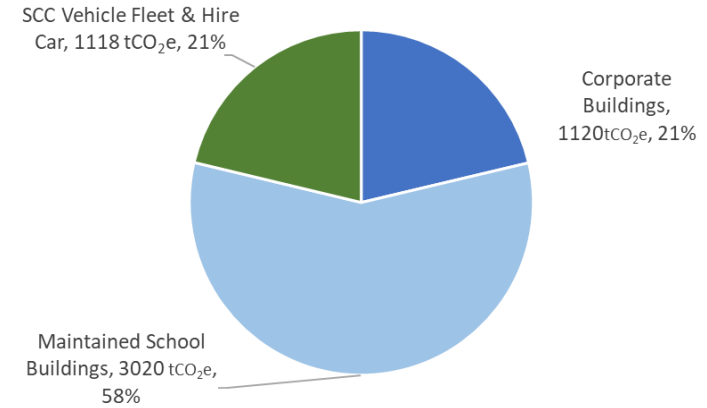
County Council's Carbon Footprint



Somerset County Council Carbon Footprint 2019/20
15,402.79 tCO₂e



Distribution of Reported Scope 1 Emissions

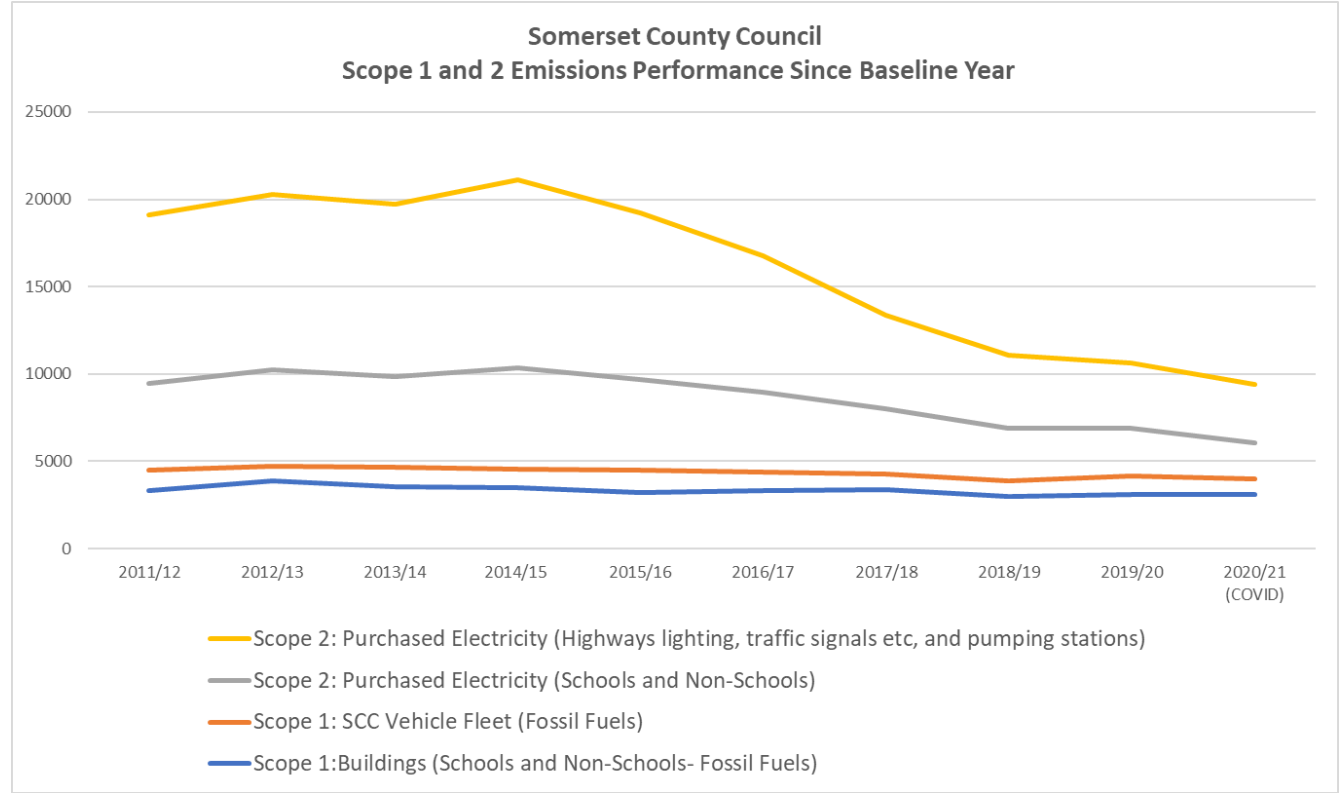


Scope 1: Emissions related to direct fossil fuel usage i.e., heating/hot water, vehicle fleet emissions

Scope 2: Emissions related to purchased electricity

Scope 3: Indirect emissions. (Optional to include under GHG protocol due to issues with data collection, & reliability. Annual data collated where currently measurable)

Scope 1 and 2 Emissions Performance Since Baseline Year



This graph presents the Council's Scope 1 and 2 emissions performance since the baseline year (excluding emissions reduction resulting from property rationalisation and Academy School conversions)

Scope 2 emissions have reduced significantly since the baseline year due to the implementation of Highways Lighting energy efficiency schemes, coupled with the Grid has become greener due to increased renewable and low carbon energy generation, and closure of fossil fuel power stations.

Scope 1 emissions attributed to the consumption of fossil fuels for heating and transport have remained relatively constant since the baseline year mirroring the UK's greenhouse gas emissions performance to date.

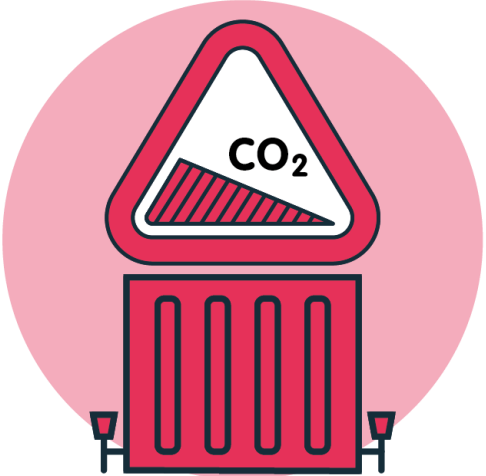
To achieve Net- Zero it is imperative to eliminate the use of fossil fuels for heating and transport.



Summary: Somerset County Council's Decarbonisation Position



	Corporate Buildings (Council Occupied)	Maintained School Buildings
Total No. of sites	58	124
All Electric	11	5
Fully decarbonised	8	0
Partial decarbonisation/ energy efficiency work	3	3
Current PSDS Bids	2	2
Current decarbonisation projects (non- PSDS)	4 (+6)	1
Heat Decarbonisation Feasibility Studies (LCSF)	23	73
Energy Audits commissioned by Corporate Property (ELENA)	28	0

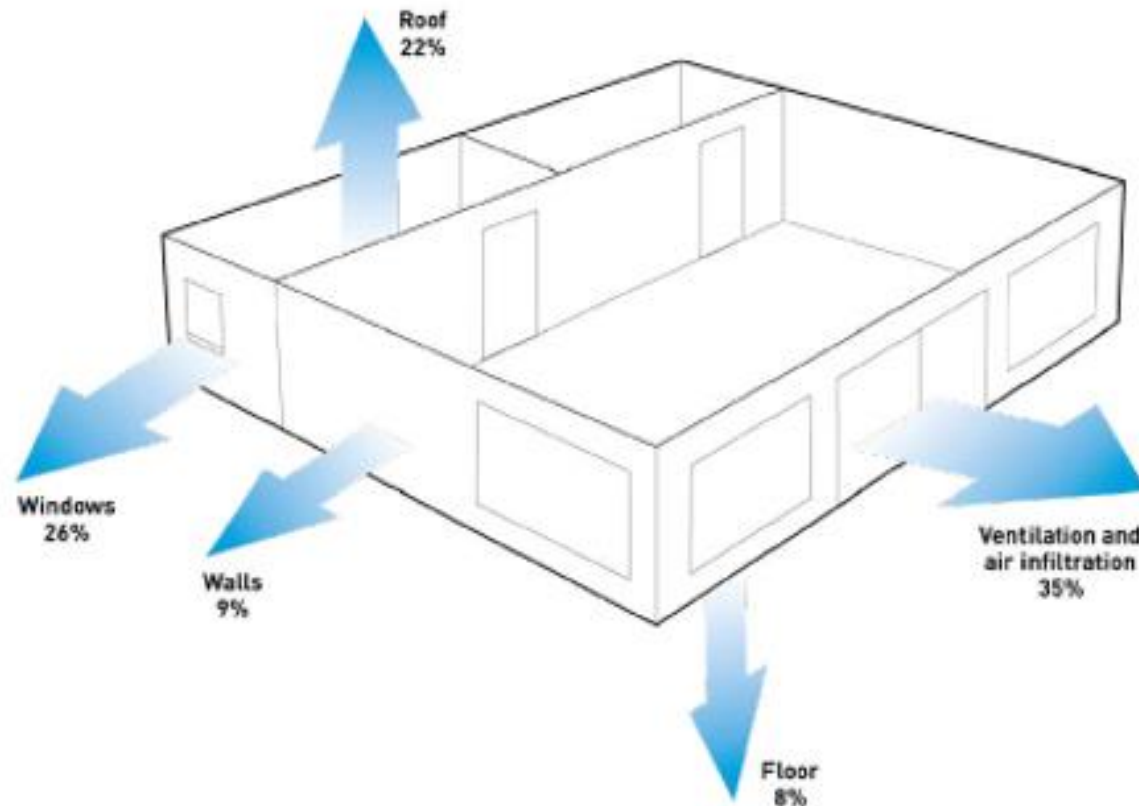


The approach to the challenge



From the Carbon Trust.

Taking a "fabric first" approach is fundamental to the energy performance of a building. The building fabric refers to the roof, walls, windows, floors and doors of a building.



Somerset's Climate Emergency Strategy

GOAL 1

"To decarbonise Local Authorities, the wider public sector estates and reduce our carbon footprint"

Typically 65% of heat input is lost through the building fabric: 35% through vent / air losses.

The Somerset strategy:

- Undertake practical fabric upgrade measures which are financially viable. Opportunity to address building condition programme work at the same time
- Reduce **air infiltration** – where possible installation of a managed ventilation system and heat recovery.
- Remove gas **fuel** supplies and replace with electric
- Include **local generation** (PV) to reduce scope 2 emissions.

The approach to the challenge



Timeline of Somerset County Council's Decarbonisation Journey.

- **Yeovil Library:** Commissioned decarbonisation study December 2019
- August 2020 Initial PSDS Phase 1 announced for October submission
- Bid Announced as successful December 2020
- Construction work May- November 2021 (+7 months)

- **County Hall and Taunton Library**
- Funding awarded February 2021
- Construction period September 2021 to January 2023

- **7 Sites Projects (Frome, Glastonbury, Burnham Libraries, Sydenham and Highbridge Family Centres, Frome Key Centre and Beechtrees Children's Home)**
- Renewable Heat Pilot Study Summer 2020
- PSDS funding awarded March 2021
- Phased approach- 2 priority sites June – September 2021, remaining sites October 2021 – May 2022.

Challenges:

- Pandemic
- Government stimulus package created a shortage of ASHP's (!)
- SALIX: Not been easy!
- Technology + Infrastructure

What has been achieved

Yeovil library



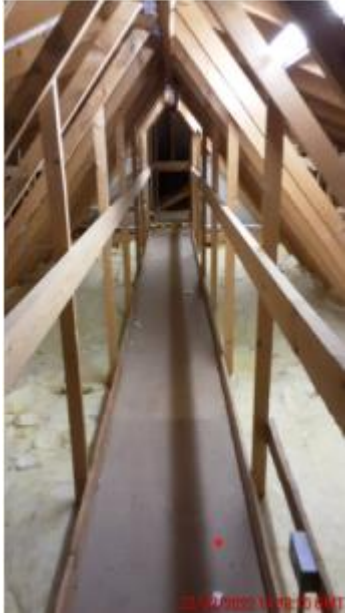
Frome Key Centre



Frome library

Burnham library

What has been achieved



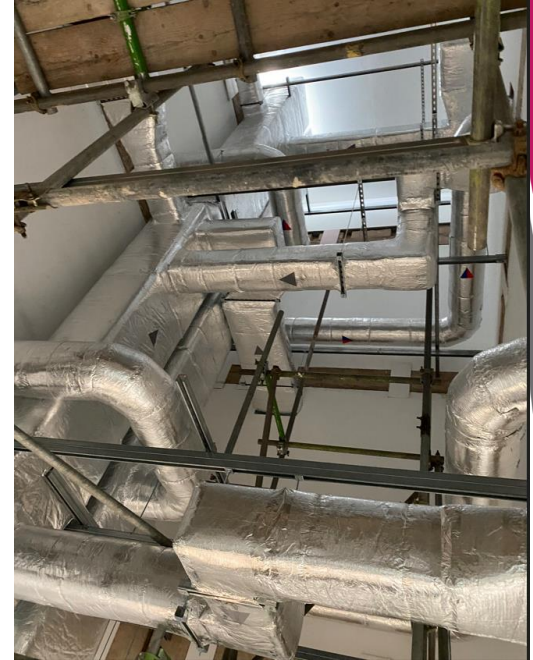
Glastonbury library



Beechtrees



Sydenham Family Centre



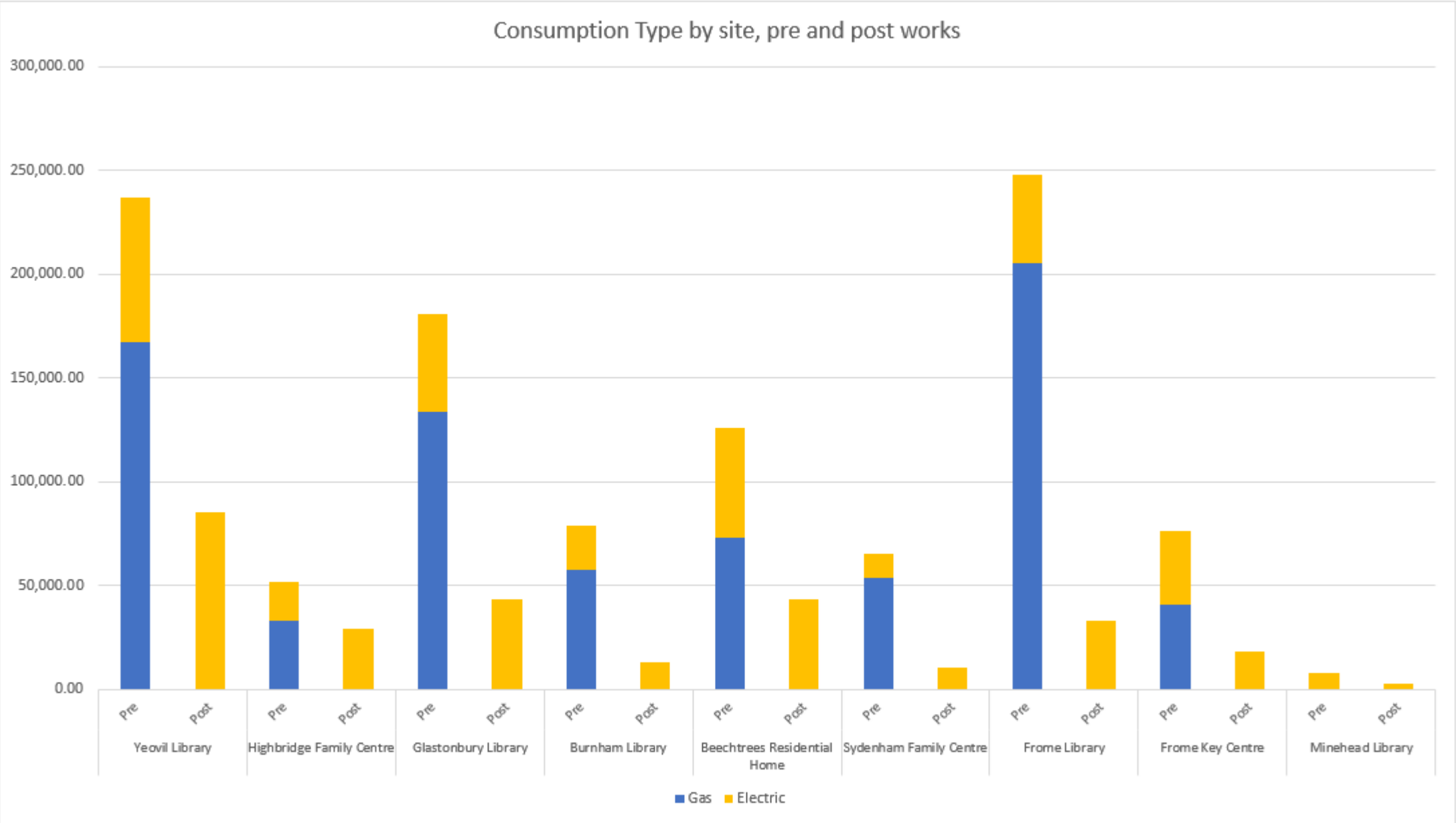
County Hall



Highbridge Family Centre



Results so far



What has been achieved



Summary of completed and in progress energy / decarbonisation projects - November 22

Project	PSDS?	Est. annual tCO ₂ e reduction (bold= estimates based on actual readings to date)	Total cost of schemes (note - covers de-carbonisation and condition elements)	Delivery by	Site works dates	£funded by SCC
Chilthorne Domer Primary School	Y	0.63	5,142	SSE	July 21-30/10/21	0
Milford Infants School	Y	2.9	22,315	SSE	22/7/22-6/9/21	0
Yeovil library	Y	29.39	425,000	Futures4Somerset	14/06/21-12/11/21	113,800
Highbridge Family Centre	Y	4.39	119,000	Futures4Somerset	16/08/21-24/9/21	42,206
Glastonbury library	Y	26.65	308,000	Futures4Somerset	18/10/21-04/02/22	15,133
Burnham Library	Y	12.75	269,000	Futures4Somerset	31/01/22-4/4/22	123,505
Beechtrees residential home	Y	16.1	194,000	Futures4Somerset	27/09/21-end March	42,904
Sydenham Family Centre	Y	10.61	314,000	Futures4Somerset	06/12/22-31/3/22	194,242
Frome library	Y	41.54	344,000	Futures4Somerset	06/12/21-31/03/22	111,885
Frome Key Centre	Y	11.29	250,000	Futures4Somerset	15/11/21-11/03/22	152,678
Taunton library	Y		835,000	Willmott Dixon	25/04/22 – 19/9/22	4,913,900
B Block County Hall	Y	190	6,665,000	Willmott Dixon	08/11/21 – 21/11/22	
Shepton Mallet library	N	1.7	81,000	Qube	12/04/21-4/06/21	72,000
Minehead Library	N	1.08	800,000	HBC	03/07/21 - 11/03/22	800,000
Wookey Primary School	N	13.2	377,839	Futures4Somerset	24/10/22-31/3/23	377,839
Wellington library	N	t.b.c.	1,350,000	to be confirmed	March-Nov 23 tbc	1,350,000

New Build / Acquisition Projects

Our Corporate Landlord model allows the council to ensure decarbonisation is considered in every project, including the acquisition or construction of new buildings.

- Taunton Digital Innovation Centre
- St. Dunstans' ASC unit, Glastonbury
- Orchard Grove Primary school
- Children's Residential Homes



The next 6 months

- PSDS 3B funding opportunities and bids
 - Bid window opened 12 October 22
 - £635 million total fund - "sector caps" being introduced – levels not known yet
 - Bids submitted for 6 sites
 - Kilve Court (outdoor education)
 - Williton library
 - Frome Community College
 - Oaklands Primary School, Yeovil
 - Wellington Sports Centre (SW&T)
 - Alcombe Centre (SW&T)
 - Bid outcomes expected March 23
 - Match funding will be required if bids are successful – links to MTFP
- Measuring, targeting, and reporting energy usage/ carbon emissions- property estate.
- Alignment of energy contracts, updating energy policies and procedures in consultation with District Councils.
- Reinvigorating 'Watts On' campaign in conjunction with the Communications Team



The longer term



1. The Clean Growth Strategy states that it wants the public sector to be leader in reducing emissions, to play a key role in demonstrating best practice and catalysing markets in energy efficiency by implementing measures at scale.
2. The Government's pathway to 2032 targets sees emissions from the public sector falling by around 50% compared to today.
3. Decarbonising the public estate is estimated to cost in the region of £30billion.

Heat Decarbonisation Plan

Corporate property has been successful in securing £426k from the Government's Low Carbon Skills Fund to support the development of Heat Decarbonisation Plans (HDP) for the property estate.

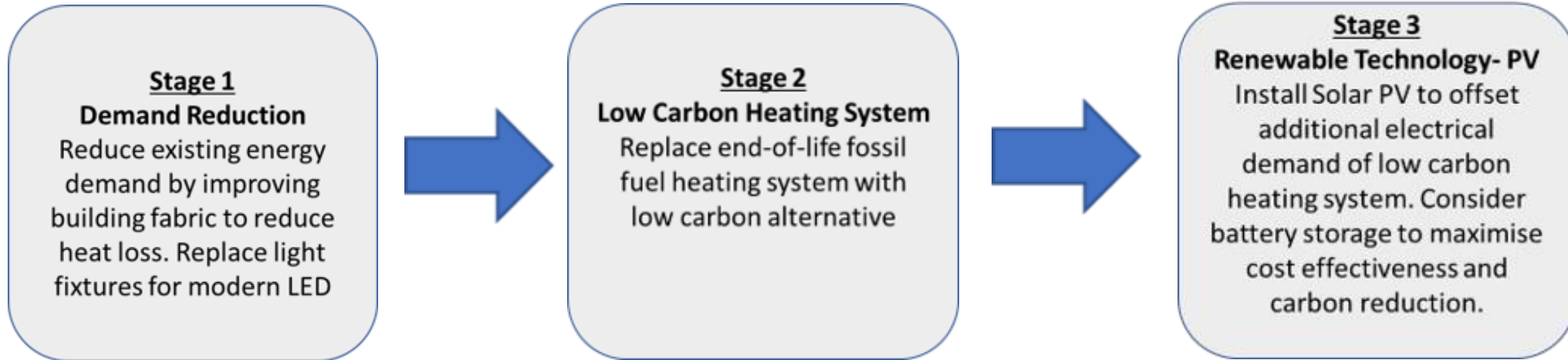
- HDP 1 (£65K)- 14 Corporate sites (owned and occupied)
- HDP 2 (£361K)- 73 Maintained schools
- Sites selected for inclusion prioritised by energy usage, floor area and age of buildings.
- 'Whole Building' approach to maximise efficiency and savings



Heat Decarbonisation Plan Outputs



- Bespoke reports for each building (no two buildings are the same)- consisting of three key stages:



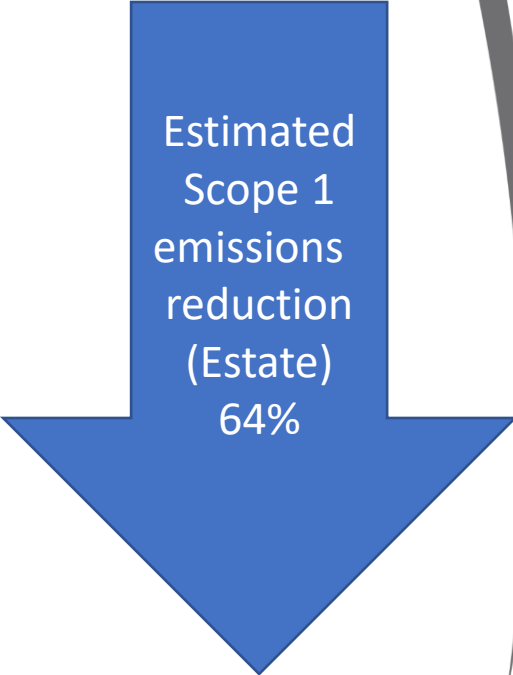
- Opportunities to decarbonise heat across all sites surveyed
- Prioritisation of schemes for investment based on when fossil fuel heating systems due for replacement in line with PSDS requirements; Priority 1 (1-2 years), Priority 2 (3-5 years), Priority 3 (5+years)- informs Net Zero Emissions Pathway.
- Identification of Investment required, and information to support future PSDS bids
- Building decarbonisation strategies could be implemented progressively until it is more suitable to transition to a low carbon heating system.
- Identification of energy efficiency 'quick wins' e.g. LED lighting and Solar PV. Key drivers- rising energy costs and energy security!



Heat Decarbonisation Plan- (1 & 2)

HDP 1 Priority	Estimated project Cost	Carbon Saving (tCO ₂ e)
Priority 1 (6 buildings/ blocks)	£2,983,391	79.24
Priority 2 (7 buildings/ blocks)	£1,429,148	62.32
Priority 3 (5 buildings/ blocks)	£855,053	38.43
Totals	£5,267,592	179.99

HDP 2 Priority	Estimated project Cost	Carbon Saving (tCO ₂ e)
Priority 1 (36 buildings/ blocks)	£24,788,550	747.72
Priority 2 (38 buildings/ blocks)	£11,836,100	361.49
Priority 3 (49 buildings/ blocks)	£29,808,700	970.85
Totals	£66,433,350	2080.06



Estimated
Scope 1
emissions
reduction
(Estate)
64%

Looking ahead – Somerset Council

- Joint working – sharing skills, knowledge, best practice
- Property rationalisation & decarbonisation
- Challenges for the new council
 - Uncertainty - what will the future estate look like?
 - Data / information – incomplete / inconsistent picture
 - Affordability
 - Complexity of estate

