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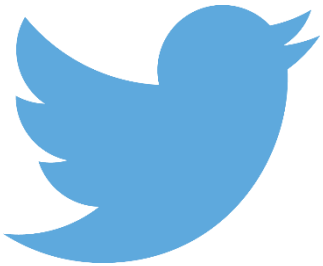

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Managing the energy in your assets

By Alan Barber

APSE Energy Associate

& Director of Salvis

What do we use the energy data for?

BE PREPARED

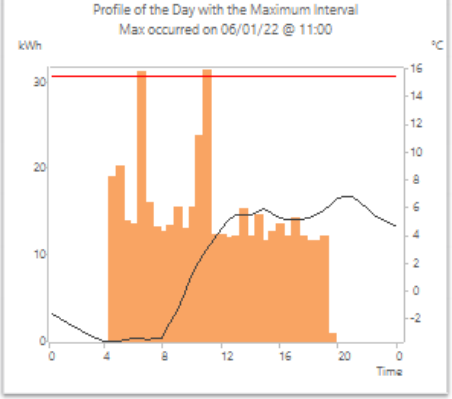
Is your asset data appropriate?

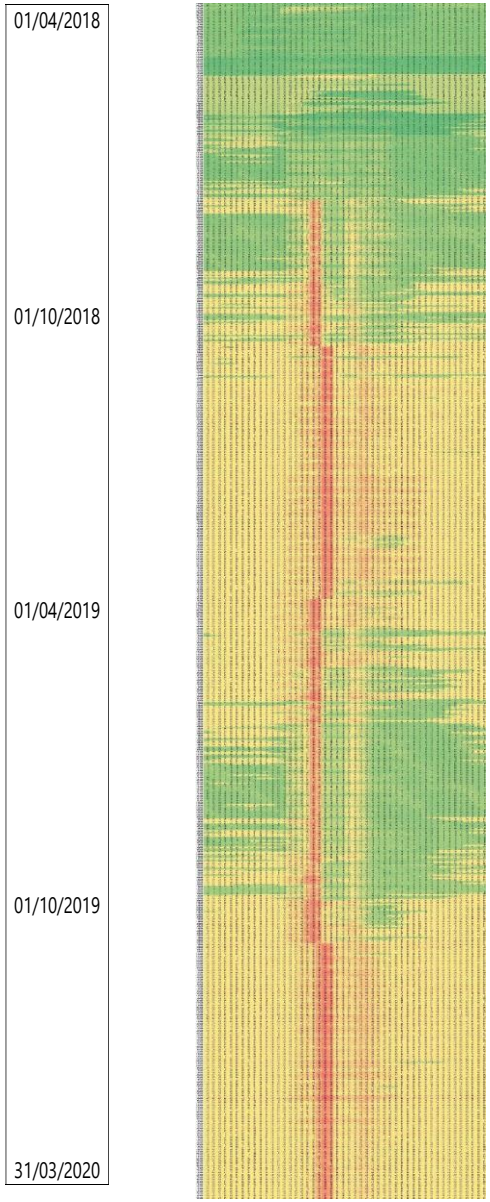
- Create a prioritised asset list
  - Energy usage
  - Opportunity for greatest savings
  - Age of building and services
  - Available space
  - Pick projects that can be delivered quickly

Automatic Meter Reader - Gas

Consumption	
Total (kWh)	13,048
Average Interval (kWh)	8.8
Maximum Interval (kWh)	31.4
Minimum Interval (kWh)	0.0

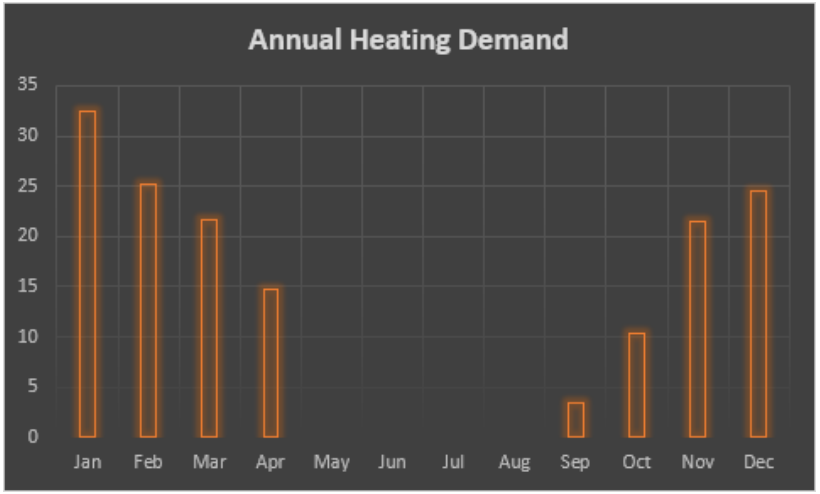
Temperature	
Average (°C)	4.0
Maximum (°C)	13.6
Minimum (°C)	-3.6
Heating Degree Days @ HBT of 15.5°C	348.4

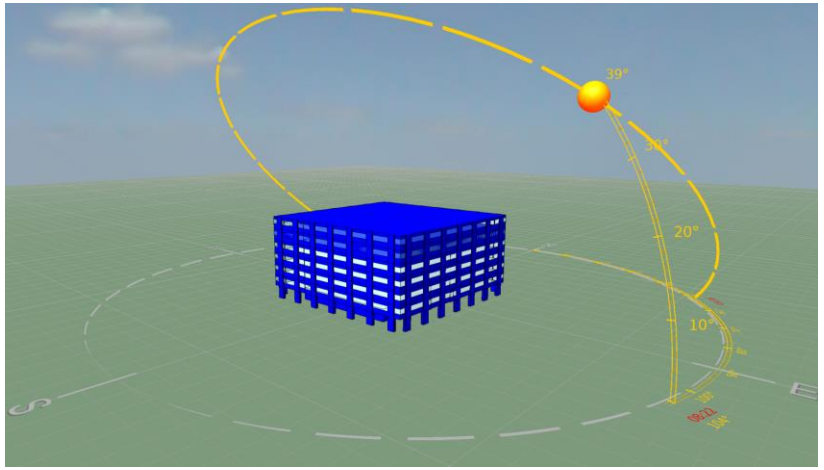



01/04/2018
01/10/2018
01/04/2019
01/10/2019
31/03/2020

Calculating Building Heat Demand

- Automatic Meter Reading (AMR)
- Capacity of existing plant
- Rule of Thumb
- Calculation
- Building Modelling





Energy Audits

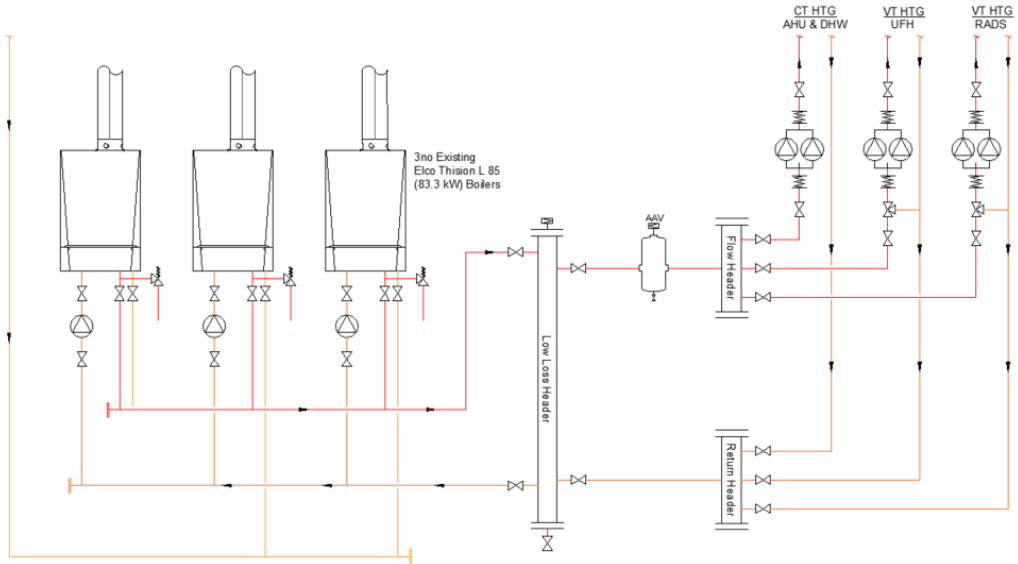
Building Fabric Review

- Windows
- External Walls
- Roof
- Post 1995 Buildings

Survey of Existing Services

Existing Heating Plant

- Heat Sources
- Heating Distribution
- Heating Control



Technical Options Appraisal

- Low Carbon Heating Solutions

ASHP vs GSHP vs WSHP

LOW TEMP vs HIGH TEMP

HEAT PUMP vs HYBRID

Technical Options Appraisal

- Low Carbon Hot Water Solutions

DIRECT ELECTRIC

VS

HEAT PUMP

VS

HYBRID

Budget Costings

Item	Description	Cost
1	Preliminaries	£7,000
2	Removal of Existing	£9,000
3a	Heating Air Source Heat Pumps	£95,000
3b	ASHP Acoustic Attenuation	£10,000
3c	Buffer Vessel	£4,500
3d	Primary & Secondary Pumps	£22,000
3e	Plant Room Pipework,Valves, & Ancillaries	£10,000
4	Distribution Pipework & Radiators	£80,000
5	Automatic Controls & Electrical	£52,000
6a	External Pipework	£10,000
6b	Builderswork (incl trenching, fencing, bases)	£35,000
6c	Glycol Anti-Freeze	£4,000
7a	Testing & Commissioning	£2,500
7b	Record Information	£1,500
8	Contingency Sum	£35,000
9	**Works Budget Total**	**£377,500**
10	Professional Fees	£31,000
11	**Project Budget Total**	**£408,500**

Technical Options Appraisal

- Building Fabric
- Lighting & Controls
- Renewable Technologies
- Building Management System
- Heat Recovery

Energy Savings

- Must provide detailed calculations of energy savings
- Existing and proposed energy usage

Public Sector Decarbonisation Scheme

- Technical application
- Existing and proposed energy usage (whole building and services)
- Pre and post peak heat loss and system sizing
- Age of plant (end of useful life)
- Detailed cost breakdown
- Electrical capacity
- Like for like boiler costs
- 12% Compliant Marginal Project Value
- £325 tCO_2eLT

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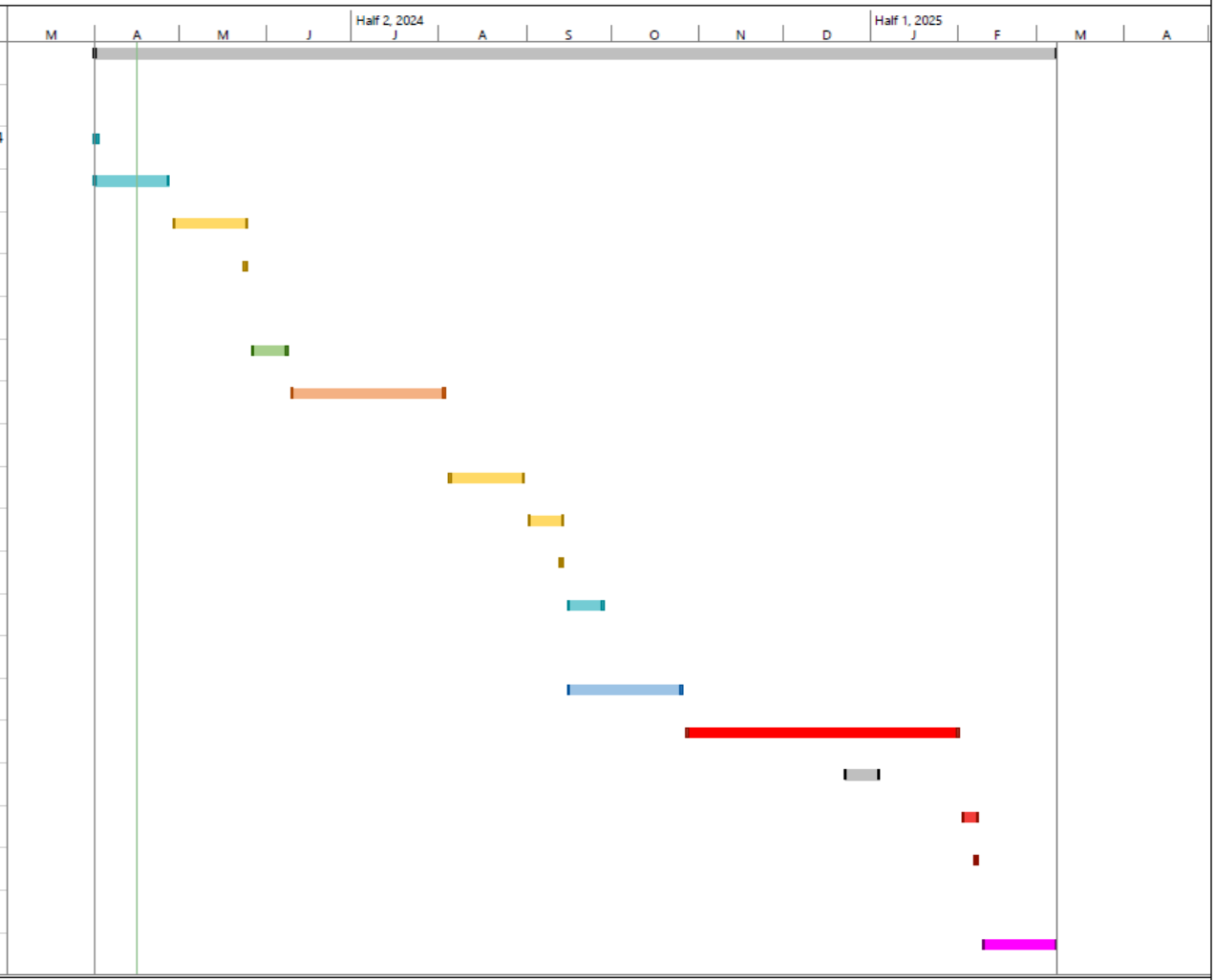
ID	Task Name	Start	Duration	Finish
1	Project	Mon 01/04/24	245 days	Fri 07/03/25
2				
3	Funding Award	Mon 01/04/24	1 day	Mon 01/04/24
4	Client Mobilisation	Mon 01/04/24	20 days	Fri 26/04/24
5	Consultant Procurement	Mon 29/04/24	20 days	Fri 24/05/24
6	Contractor Appointment	Fri 24/05/24	1 day	Fri 24/05/24
7				
8	Consultant Lead In	Mon 27/05/24	10 days	Fri 07/06/24
9	Technical Design	Mon 10/06/24	40 days	Fri 02/08/24
10				
11	Tender	Mon 05/08/24	20 days	Fri 30/08/24
12	Tender Evaluation	Mon 02/09/24	10 days	Fri 13/09/24
13	Contractor Appointment	Fri 13/09/24	1 day	Fri 13/09/24
14	Procurement Standstill	Mon 16/09/24	10 days	Fri 27/09/24
15				
16	Contractor Lead In	Mon 16/09/24	30 days	Fri 25/10/24
17	Installation	Mon 28/10/24	70 days	Fri 31/01/25
18	Christmas Shutdown	Mon 23/12/24	10 days	Fri 03/01/25
19	Commissioning & Testing	Mon 03/02/25	5 days	Fri 07/02/25
20	Hand Over	Fri 07/02/25	1 day	Fri 07/02/25
21				
22	Collation of Salix Info	Mon 10/02/25	20 days	Fri 07/03/25

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Project Risks

1. DNO
2. Procurement
3. Resources
4. Market / Pricing Volatility
5. Internal Projects Approvals

The Net Zero Journey Summary

- Get your data and estate in order
- Calculate emissions
- Do a Net Zero trajectory
- Carry out on-site energy audits
- Engineering design
- Procurement
- Installation
- Measurement and verification

Contact details

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