

Sustainable approaches to energy for museums



Shelaine Siepel

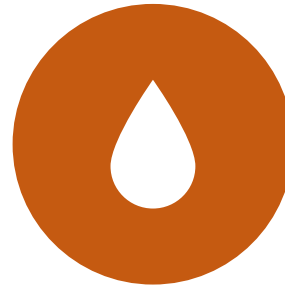
The Sustainable Business Partnership CIC

October 2020

Agenda



Introduction



Recap – water workshop



How efficient is the
operation of our heating.
Stan Rayfield



Q&A group discussion on
energy, ventilation,
heating etc.

Recap – water workshop



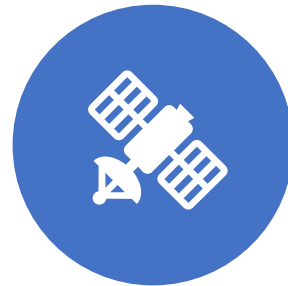
Water supply and waste-water treatment



Water bills – things to look out for



Dealing with water on site – too much and not enough



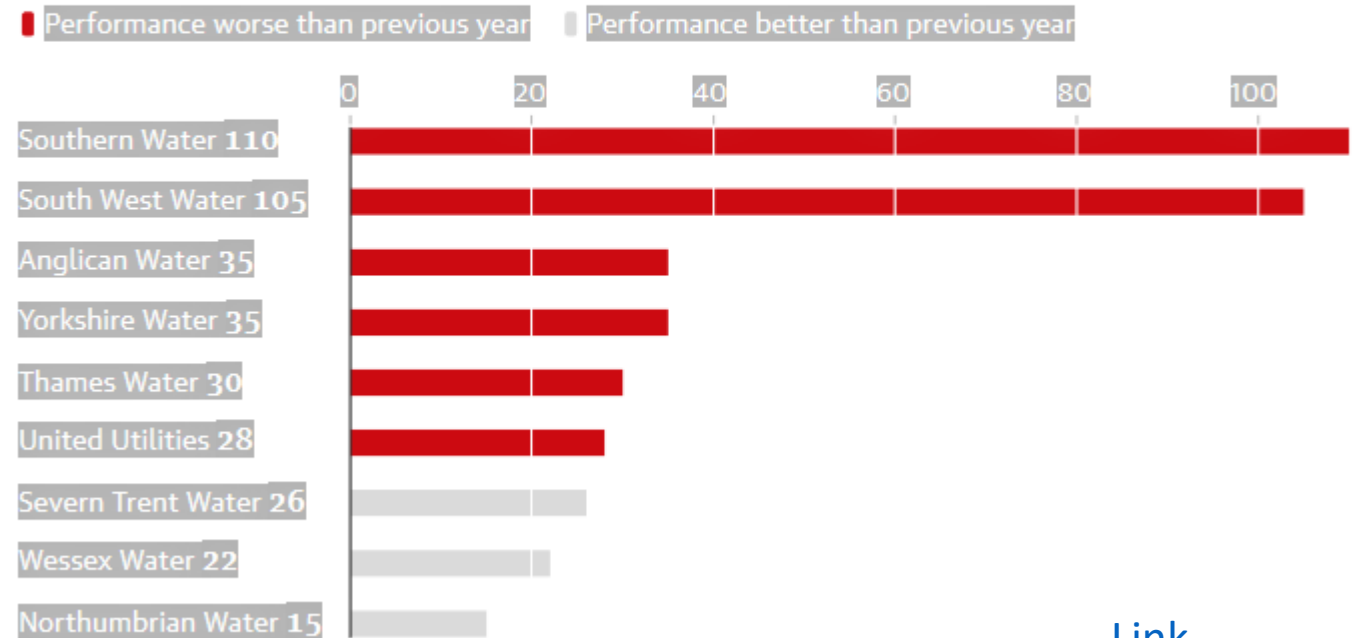
Future scanning – water issues in the future to build into planning

Follow up – Water Company Performance

- Environment Agency Water Company [performance assessment](#) says pollution from the nine water companies at worst level in five years
- The worst performing companies are South West Water, Anglian, Northumbrian and Southern
- No river in England is in a good overall condition - sewage discharges and agricultural and industrial chemicals entering the water system
- 2,204 “pollution events” in 2019
- Southern Water was responsible for 458 pollution incidents, nearly double its 2018 total.

Southern Water reported over twice as many pollution incidents as it did in 2018

Pollution incidents for every 10,000km (6,213 miles) of sewer



Guardian graphic. Source: EPA

[Link](#)

Southern Water paid its chief executive Ian McAulay a £538,100 bonus despite reporting an 'unacceptable' rise in pollution across its network. The award took his total annual pay and pension to £1.1million, more than double his basic salary of £435,000.

How efficient is the
operation of our heating

Energy analysis

1. Benchmarking
2. Consumption profiling
3. Outside temperature comparison

Benchmarking

This certificate indicates how much energy is being used to operate this building. The operational rating is based on meter readings of all the energy actually used in the building including for lighting, heating, cooling, ventilation and hot water. It is compared to a benchmark that represents performance indicative of all buildings of this type. There is more advice on how to interpret this information in the guidance document *Display Energy Certificates and advisory reports for public buildings* available on the Government's website at: www.gov.uk/government/collections/energy-performance-certificates.

Energy Performance Operational Rating

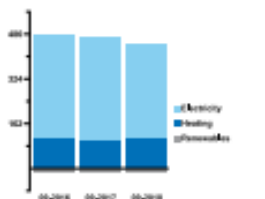
This tells you how efficiently energy has been used in the building. The numbers do not represent actual units of energy consumed; they represent comparative energy efficiency. 100 would be typical for this kind of building.

More energy efficient



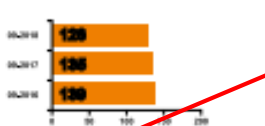
Total CO₂ Emissions

This tells you how much carbon dioxide the building emits. It shows tonnes per year of CO₂.



Previous Operational Ratings

This tells you how efficiently energy has been used in this building over the last three accounting periods.



Technical Information

This tells you technical information about how energy is used in this building. Consumption data based on actual meter readings.

Main heating fuel: Natural Gas
 Building environment: Heating and Natural Ventilation
 Total useful floor area (m²): 4696
 Asset Rating: 98

	Heating	Electricity
Annual Energy Use (kWh/m ² /year)	117	135
Typical Energy Use (kWh/m ² /year)	122	95
Energy from renewables	0%	2.6%

Administrative Information

This is a Display Energy Certificate as defined in the Energy Performance of Buildings Regulations 2012 as amended.

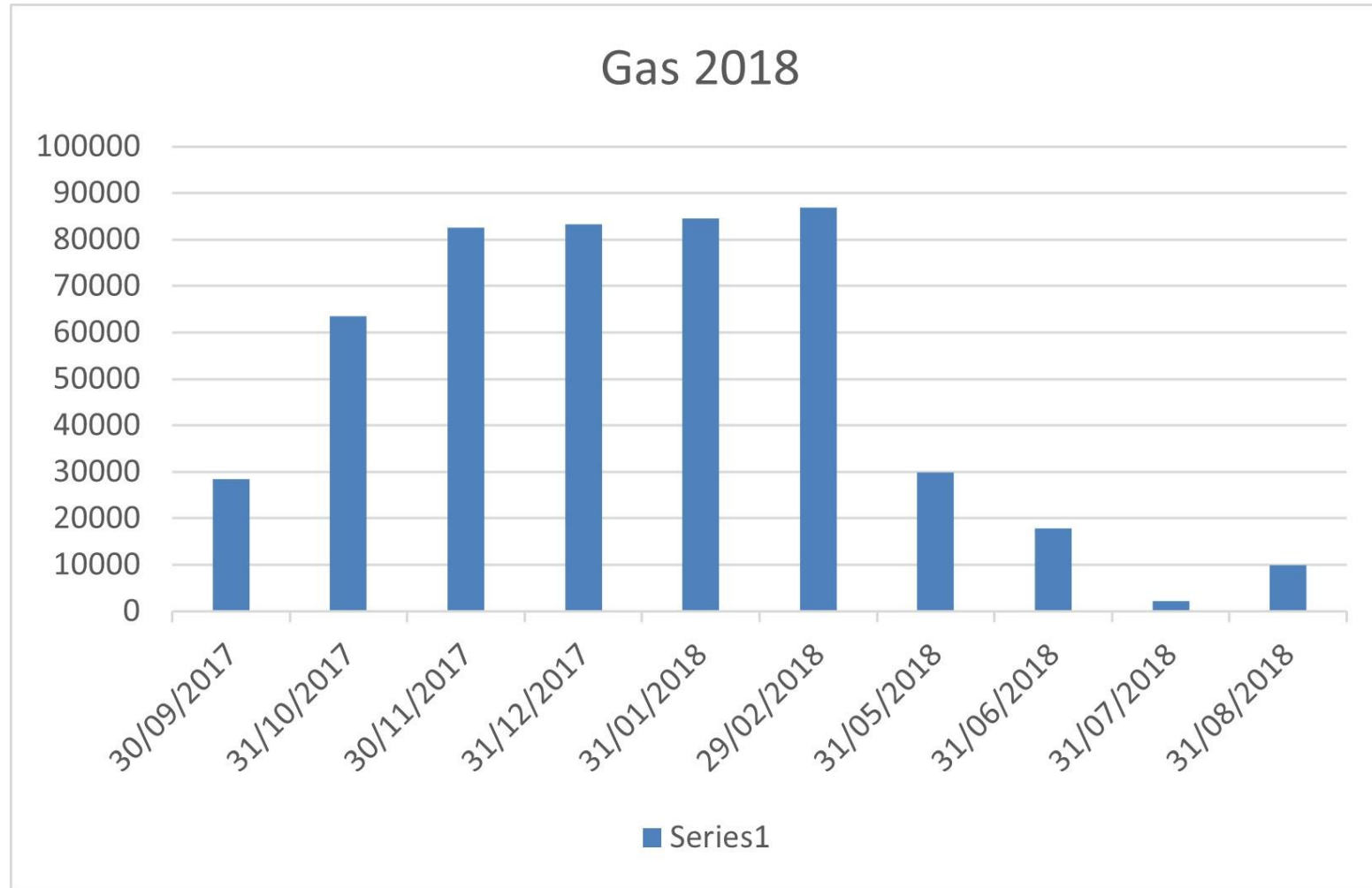
Assessment software: DDUG, ORCalc, v3.8.3
 Project reference: 213475920000
 Assessor Name: Stanley Rayfield
 Assessor Number: STCR000252
 Accreditation Scheme: Sterling Accreditation Limited
 Employer/Trading Name: Survey and Test Ltd
 Employer/Trading Address: Marlowe Innovation Centre, Marlowe Way, Romsgate, CT12 6FA
 Issue Date: 01-02-2019
 Nominated Date: 30-09-2018
 Valid Until: 29-09-2019
 Related Party Disclosure: Not related to the occupier.

Recommendations for improving the energy performance of the building are contained in the associated Recommendation Report - . You can obtain contact details of Sterling Accreditation Limited at www.sterlingaccreditation.com.

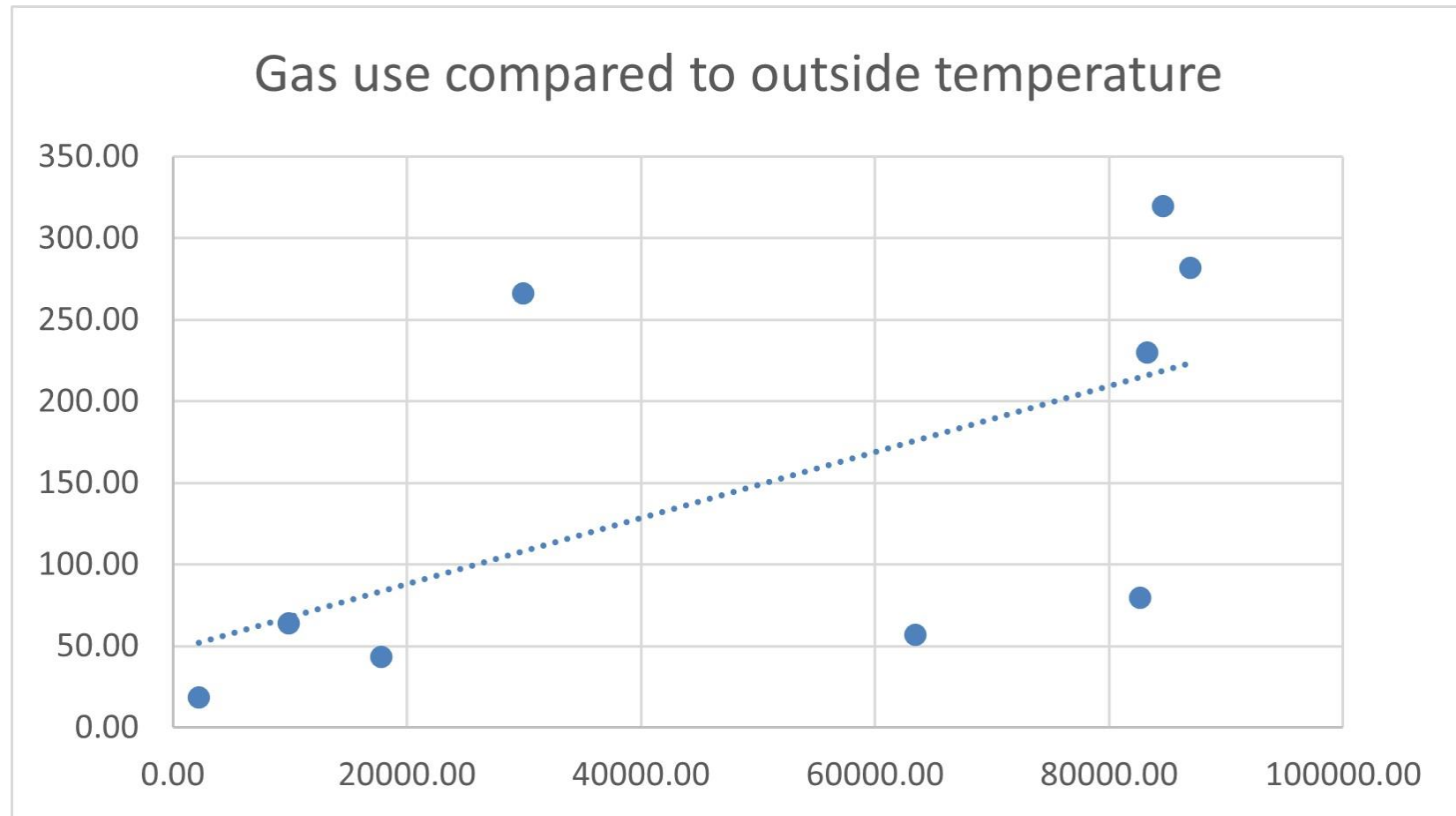
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Consumption profiling



Comparison with outside temperature



What have we discovered?

Gas consumption is at an average level (scope for improvement)

Summer consumption higher than expected

Gas consumption isn't closely in line with how cold it is

Raises questions for how the system is controlled

Issues discovered

Wrong setting for
summer/winter switch
(august)

Night time set back –
temperature too high

Pumps ran most of the year





Q&A Group Discussion

Thank you for your time

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