

THEME: Being an Energy Hero

BACKGROUND

This session aims to explore the importance of understanding energy within the school

By the end of the session, pupils should be able to:

- *Understand how energy is created.*
- *Identify the positive actions that the school is already doing to improve energy efficiency, while also identifying areas where the school could improve.*
- *Understand the school's energy consumption and how that can be impacted during different seasons in the year.*
- *Brainstorm different ideas to support the school reducing its energy consumption.*

The Great Energy Hunt (Activity One)

Find the energy survey located within the same pack you received with this lesson plan– titled 'Energy Survey'.

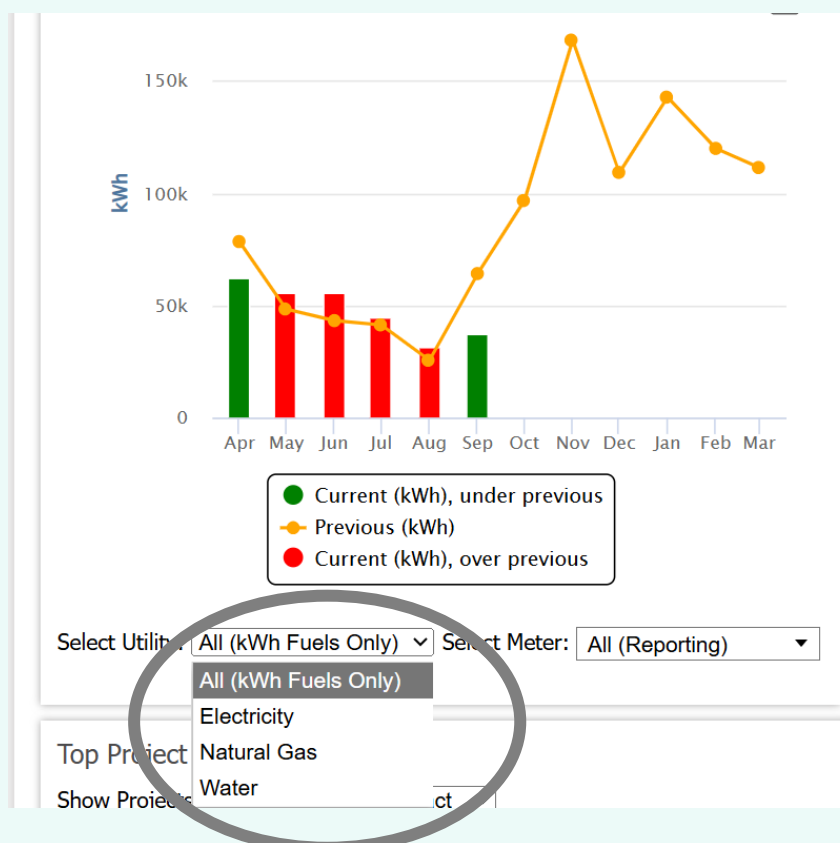
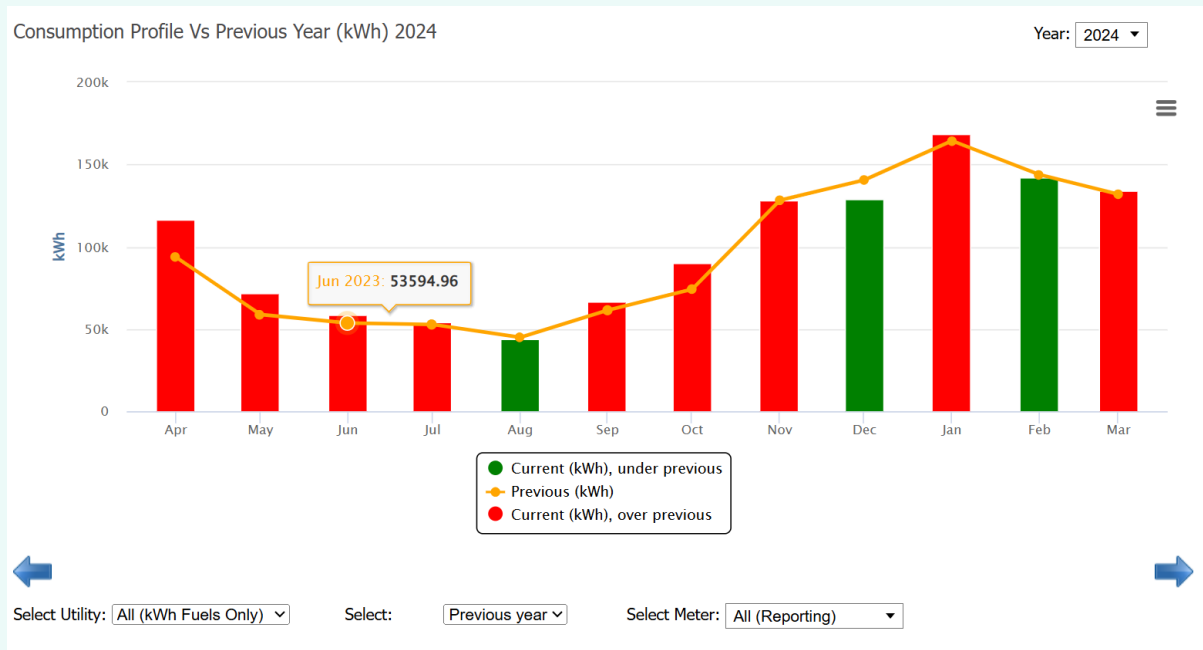
Instructions are located on the energy survey, you can find ways to decrease or increase the difficulty of the task in the lesson plan titled 'Activity Adaptations'

The Great Energy Mystery (Activity Two)

Steps on accessing [digital energy](#) and [guidance document](#)

- Check if the school already has an account set up. Typically reception or the caretaker will have an account.
- If they do not, email the Energy Unit inbox (Energy.Unit@flintshire.gov.uk)
- Once an account is set up, follow the email instructions.
- Once you have access, you should be able to see you school's energy information on a dashboard.
- Scroll down the page to access the graphs
- This will direct you to the full screen of the graph – showing the current years energy consumption.
- Click the arrow on the left hand side to view a full year's worth of energy consumption (2024-2025)
- Hover over one of the months to see that month's consumption data
- Write down each of the month's figures for the year, and create a pair of axes ready for the pupils to add to their graphs (If needed).

- If you would like to download the image or excel report for the graph click on the three lines.



- There is also an option to change the graph to the separate energy the building uses if this is a more long term project as you will be able to observe more change in energy use.

Why consumption varies throughout the year:**Increase in consumption during winter:**

- Increased heating requirements to keep the school comfortable.
- Increased lighting needs.

Decrease in consumption during summer:

- Much less heating requirements to stay comfortable
- Majority of the time it is much brighter, reducing the need for as much lighting

Graph Key

Yellow Line = What the previous year's consumption was

Green = The school is consuming less energy than it was the previous year

Red = The school is consuming more energy than the previous year

Generating Energy Saving Ideas**Actions which could support energy savings (Good Practice Guidance):**

- Use the School Climate Toolkit
- Set up an Eco-Champion/Power Rangers for each classroom checking if equipment is all turned off, radiators are clear, etc.
- Use the digital energy platform once a month to track progress
- Take meter reads – Gas, Electricity & Water
- Champion change within your school – Posters, Eco Committee, make sure the school is inputting their meter reads once a month.
- Set up a red, amber, green sticker system to understand which equipment must be switched off or kept on (Monitors, charging stations, etc.).
- Radiators are free from clothes/equipment, etc.
- Radiators are cleaned regularly - dust, pencils, etc.
- Close doors & windows if the heating is on.
- Turn lights off when leaving a room - consider natural light before turning them on (Not applicable if school has sensors).
- Make sure twist taps are switched off once used.
- Making sure all equipment is turned off at the end of the day/term.
- Go through your most recent DEC assessment;
 - What recommendations have been made?
 - Could any of them be implemented?
- Input meter reads into digital energy & incorporating it into the classroom
- If applicable, are blinds open to utilise daylight instead of turning lights on.
- Adjust temperatures (Thermostat) of radiators if possible in the room before opening windows (Temperature control).
- Each term, conduct spot checks by the Eco Committee - encouraging key user actions e.g., lights etc.

- Discuss actions in the classroom/assemblies/Employee meetings.

Useful Terms

Term	Definition
Non-Renewable Energy	Taken from a finite natural resource including coal, oil and natural gas also known as fossil fuels. They are consumed much faster than they can be replenished.
Renewable Energy	Derived from natural resources which cannot be depleted quicker than they are consumed, which includes sunlight, wind and geothermal heat (Underground heat).
Climate Change	It is the long-term shift in the Earth's average temperatures and weather conditions.
Energy Efficiency	Using less energy to perform the same task, eliminating energy waste.
Energy Consumption	The amount of energy used overall or for a specific activity/process.

LINKS & RESOURCES

Background and Definitions

[What is energy](#) – General information surrounding energy, section on electrical is more relevant to this topic.

[How is Electricity Made](#) (9:44 minutes)

[Fossil fuels & Renewable energy](#) (1:50 minute)

[Live UK Electricity Grid Mix](#)

[How to Save Energy BBC Bitesize](#) – This also includes a video on energy saving (2:37mins)

[UK Department of Education: Tips to Reduce Water and Energy Use within Schools](#)

[National Energy Action: School & Education Resources \(KS1-5\)](#)

[Welsh Government: Climate Action Wales](#)

Links to Flintshire Resources

[Digital Energy](#)

[Digital Energy Guidance Document](#)

[School Climate Toolkit](#)

[Climate Change Webpage](#)

