



## School Automatic Meter Reading – children’s activities

Designed for those schools that have smart meters, this document provides an example of how the AMR data to be used with class groups KS2 and up.

### Introduction to AMR

In 2010-11, Wiltshire Council paid and arranged for 196 of our schools to be fitted with 356 smart meters.

Smart meters, also known as ‘Automatic Meter Reading’ (AMR), automatically take a meter reading every half hour and send the data directly to the supplier via a telephone line. This information is then made available to Wiltshire Council and schools via an energy management system called Systemslink. AMR allows users to manage, analyse and monitor energy data effectively and also creates more accurate readings and billing.

To find out if your school has a smart meter and how to retrieve your data please contact [LearningforSustainability@wilshire.gov.uk](mailto:LearningforSustainability@wilshire.gov.uk)

**Preparation time:** 20 minutes

**Implementation time:** 45 minutes

**Curriculum links:** Science, Maths, Business and IT

**You’ll need:** your half-hourly profile data from Systemslink printed out onto A4 paper; a sheet of A3 paper to stick it on to, sticky tape and pens.

**Learning objective:** to give an increased awareness and understanding of energy consumption at school through: observation, analysis and interpretation of the graph of maximum electrical demand, group discussion and the production of an energy poster.

#### Aim

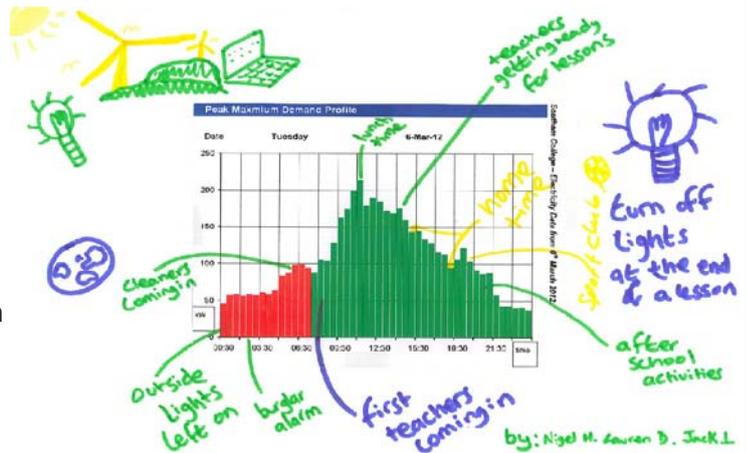
The purpose of this activity is to introduce pupils to graph interpretation in a real life scenario. Doing so effectively will allow them to recommend changes to improve your schools energy consumption.

## Preparation

1. Log in to and access your half-hourly profile data from Systemlink.  
<http://www.systems-link.co.uk/webreports/default.aspx>.
2. Once you have logged-in, you can click on the graph icon of the electricity account and you will be directed to Data Set Reports.
3. Select One Month Profile Summary Report and glance through your previous months consumption to find your day of maximum demand, then click the back button to return to Data Set Reports
4. Select Profile Daily Comparison and choose your day of high demand.
5. Copy your chosen graph into word and print onto A4. Then fix this A4 page to the middle of a sheet of A3 paper to create a large poster with lots of space to write on.

## Activities

1. Look at the Peak Maximum Electricity Demand Profile poster and write down how the electricity in your school has been used to make a poster. For instance -
  - a. What is the base load – the average lowest demand of the day in kW?
  - b. What is this energy used for? – e.g. computers, outside and security lights, chargers, office equipment left on overnight, refrigerator, things left on stand-by etc.
  - c. Is anything left on overnight, all day, during weekends or during holiday periods?
  - d. Is heating or inside lighting left on all day or at night time?
  - e. Who is first into the school in the morning?
  - f. When are the computers turned on and off?  
Is there a server room?
  - g. Are there any water heaters? What time are they on?
  - h. Can you see when lunchtime starts?
  - i. Is any cooking done on site?
  - j. Are any electricity using activities undertaken to prepare for lessons?
  - k. Are there any before or after school clubs?
  - l. Can you see when home time is? Etc.



2. Decorate this poster with pictures of what has been using electricity.
3. Note what time of day has the highest electricity consumption and why.
4. Note what time of day has the least electricity consumption and why.
5. Give a few examples of how energy can be saved at the school e.g. slogans such as “switch off the lights at the end of a lesson”.
6. Present your findings to the rest of the class.

## Conclusion

Engage the students in a quick discussion about:

- What exactly they have learned about energy use in the school.
- Do they still have unanswered questions about the school's energy use?
- What, if anything, do they think should happen next?
- Summarise the characteristics of energy use at the school.

If you have any questions or need further information on energy data and ideas about how to save energy at school contact: [LearningforSustainability@wilshire.gov.uk](mailto:LearningforSustainability@wilshire.gov.uk) or visit <http://www.wiltshirehealthyschools.org/sustainability>