Public Sector Energy Monitoring & Reporting System

Frequently Asked Questions (FAQ)

Schools

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1 LEGISLATION & KEY OBLIGATIONS

1.1 What are the Public Sector's energy efficiency obligations?

The National Energy Efficiency Action Plan (NEEAP) and the European Union (Energy Efficiency) Regulations 2014 (SI No. 426 of 2014) set out several obligations on public bodies with respect to their "exemplary role" for energy efficiency. These include obligations with regard to:

- Energy efficient procurement;
- Exemplar energy management practices;
- Energy audits;
- Energy services;
- Use of energy efficient buildings – public bodies may only purchase or lease buildings with Building Energy Ratings of A3 or higher;
- Maintenance and construction of energy efficient buildings;
- Reporting data.

1.2 What are the Public Sector energy efficiency targets?

The latest National Energy Efficiency Action Plan (NEEAP) re-affirmed Government's commitment to a stretching 33% target for the sector: "*The public sector will improve its energy efficiency by 33% and will be seen to lead by example — showing all sectors what is possible through strong, committed action.*" The 33% target is an *energy efficiency* target and it applies to all public bodies, i.e. all public bodies must improve their energy efficiency by 33% by 2020. It is equivalent to 3,240 GWh across the entire sector (primary energy equivalent).

1.3 What are the Public Sector's obligations with respect to reporting energy savings?

Since 1st January 2011 public sector bodies are required to report annually on their energy usage and actions taken to reduce consumption – in accordance with SI No. 426 of 2014 (and previously with SI 542 of 2009). There are two key obligations:

- Requirement to report the organisation's energy performance directly to SEAI each year – to track progress towards the 2020 target (Regulation 5(3), SI No. 426 of 2014);
- Requirement to include a statement on the organisation's energy performance in the organisation's own annual report (Regulation 5(5), SI No. 426 of 2014).

1.4 From when do the reporting obligations apply?

All annual reports published after 1st January 2011 must include a section on energy performance.

All public bodies must report their energy data to SEAI from 2013 onwards (they must provide data going back to their baseline {FAQ 8.10}).

1.5 Are schools obliged to report?

Yes.

Schools and centres for education, as defined in section 2 of the Education Act 1988, are specifically designated as public bodies in the context of the public sector's exemplary role with respect to energy efficiency (in SI 426 of 2014).

The approach to reporting depends on the school type.

- The sixteen Education & Training Boards (ETBs) are required to report at an ETB level, i.e. each ETB reports in aggregate on behalf of the schools under its aegis{FAQ 10.3};
- All other schools are required to report on a school by school basis.

1.6 What's in it for our school?

There is a real 'business case' for investing in better energy management in the schools: energy savings reduce costs and free up budget that can be allocated to 'core' activities. They also reduce CO_2 emissions and deliver other environmental benefits as well as improving energy security at both organisational and national levels.

The reporting system can create value for your school. It is a powerful tool for tracking, benchmarking and improving your energy performance.

1.7 How does the monitoring & reporting system work?

The key principles of the system are:

- Individual schools report their energy consumption for *all fuel types* (electricity, thermal fuels and transport fuels.
- Schools report baseline {FAQ 8.10} data on a once off basis (default baseline is 2013, but schools can elect to use earlier baselines).
- Schools then report their energy consumption *annually* for the previous year.
- For electricity & natural gas, all schools have to do is submit their meter numbers once to SEAI (MPRNs {FAQ 13.1} & GPRNs {FAQ 13.2}). SEAI accesses the energy consumption data corresponding to these meter numbers directly from the regulated meter operators (ESB MRSO and Gas Networks Ireland) each year.
- Each year, schools self-report their total consumption subtotals for all non-network connected energy sources (e.g. heating oils, LPG, solid fuels, diesel) directly to SEAI.
- Each year, schools self report pupil numbers as an activity metric {FAQ 7.1} that describes the activity level in their organisations.
- Savings are calculated by comparing changes in each school's energy consumption and pupil numbers each year.

Detailed information on different elements of the methodology is included throughout this FAQ.

1.8 What are the benefits to us in using the system?

As well as enabling you to fulfil your legal obligations with respect to reporting, using the system offers several benefits to your school:

- Provides a summary of your school's overall energy performance for reported years – through an attractive energy performance scorecard;
- Gives you access to your school's electricity and natural gas consumption data for recent years;
- Helps you understand your energy consumption, target areas for improvement, identify opportunities, review progress, monitor & benchmark performance and validate savings – all at an organisational-level;
- Opportunity to compare your progress in making savings to date with that of other schools and to showcase your achievements;
- Catalyst for wider good energy management practices;

2 WHAT'S INCLUDED? WHAT'S NOT INCLUDED?

2.1 Is residential accommodation included?

Some is and some is not.

If your school provides residential accommodation for your staff or for pupils, then the energy consumption of this accommodation should be reported.

2.2 Our organisation contracts the provision of a service or functional activity to a (private) contractor – is this included?

Yes.

If a contractor provides a service to third parties on behalf of your school, then the consequent energy use by the contractor is reportable within your organisation's energy consumption.

If your school contracts or outsources the undertaking of a functional activity on your school's behalf, then the consequent energy use by the contractor is reportable within your school's energy consumption. Examples include (but are not limited to): canteen services; ESCo-operated energy facilities {FAQ 2.4}.

Note that the above guidance should not be interpreted as including every single activity or service for which your school contracts a service provider. The overarching principle is that schools cannot reduce its energy consumption – or circumvent part of its energy efficiency obligations – by outsourcing or subcontracting activities.

Examples of contracted services that are not within the scope of your school's energy consumption include (but are not limited to): professional & legal services; delivery of goods or consumables to your school; outsourced cloud computing etc.

2.3 Some of our energy facilities are operated and maintained by a private contractor. We own the facilities. Are these facilities included?

Yes. Your school should report the energy consumption of all of the energy facilities that provide energy services for your school, including those that may be managed / operated / maintained by private contractors.

2.4 Some of our energy facilities are operated, maintained and owned by a private contractor. Are these facilities included?

Yes.

Even if a private contractor owns the on-site energy assets serving a school (e.g. boiler equipment) the energy consumed by these facilities must be included in the relevant school's annual submission.

If such facilities also export electricity or heat to a third party, then this exported energy flow should be deducted from the school's consumption in accordance with the mechanism for dealing with district heating. {FAQ 5.8}.

2.5 Is public lighting included?

Yes. If your school provides public lighting, then this electricity consumption is included in the scope of your reportable energy consumption. This can be reported by submitting the relevant MPRNs and GMPRNs.

2.6 Should we report the energy consumed in leased vehicles?

Yes.

In cases where the lessor (the company leasing the vehicle to the school) pays for the fuel consumption, the school should ensure that the provision of energy consumption data by the lessor to the school is a contractual requirement.

2.7 We contract with a private operator for transport services. How should we account for this?

Some schools contract with private operators to provide passenger transport services, e.g. taxi services, couriers, coach services for school tours etc. You should not report the energy consumed in the provision of these services.

However, if your school contracts with a private operator for regular daily services collecting pupils or staff, then the vehicle is considered to be operated by your school and the relevant consumption should be included.

2.8 Should we report staff 'mileage'?

No. Fuel purchased by staff for travel that is reimbursed via a 'mileage' payment should <u>not</u> be included in reported consumption.

However, if any fuel is paid for directly by the school but consumed in staff members' own vehicles (no matter what the purpose of the travel), then this fuel should be included in the submission.

Note that it is not necessary to report this consumption as a separate line item. This consumption should be included in the relevant transport fuel sub-total, e.g. diesel, gasoline.

2.9 Should we report energy consumption for staff travel on public / commercial transport services?

No. Staff travel on public or commercial transport services (road, rail, air, water) should not be reported.

The only exception is where the mode(s) of public transport is/are owned or operated by the school in question.

Note that you may wish to record this data internally for use in calculating your carbon footprint.

2.10 Should we include fuels used in mobile plant & equipment?

Yes. The only exception is fuel consumed directly in the construction of capital projects {FAQ 2.12}.

This applies for both plant and equipment owned by the school and for plant and equipment leased/rented by the school. In cases where the lessor (the company leasing the plant to the school) pays for the fuel consumption, the school should ensure that the provision of energy consumption data by the lessor to the public body is a contractual requirement.

Note that it is not necessary to report this consumption as a separate line item. This consumption should be included in the relevant fuel sub-total, e.g. Gasoil, Road Diesel etc.

2.11 Should we include fuel/energy used for maintenance projects?

Yes.

2.12 Should we include fuel/energy used for capital projects?

The fuel/energy consumed directly in the construction of capital projects is not included in your baseline calculation, nor is it included in the calculation of your organisation's progress towards the 33% target. Therefore, it is not currently reportable through the M&R system. SEAI is currently considering how to track the energy consumed in the construction of future capital projects.

The fuel/energy used in the operation and maintenance of capital projects is reportable and must be included. This consumption is included in your baseline calculation and in the calculation of your organisation's progress towards the 33% target.

2.13 We supply fuel to other organisations. How should we account for this?

If your organisation purchases fuel and then sells it to other organisation(s) (public or private) for consumption by other organisation(s), then this fuel should not be counted when collating your consumption.

3 ENERGY REPORTING OVERVIEW

3.1 How often do we have to report data?

Annually. There will be a defined reporting window each year.

The milestone dates for the latest reporting window are available here.

3.2 For which period(s) must we report data?

You must report all data on a calendar year basis for:

- Every year from the start of your preferred baseline period (on a once off basis, to establish your baseline). There is a choice of three baseline periods {FAQ 8.10}.
- The previous calendar year (annually). For the current reporting window, you must report data for the years up to 2016 inclusive.

3.3 What data do we have to report?

The annual reporting process involves undertaking the following reporting steps:

1. Adding / editing school's details, if necessary, e.g. contact details for key contact etc.
2. Selecting a baseline period {FAQ 8.10} and reporting values for pupil numbers, staff numbers and floor area.
3. Reporting energy usage:
   - Selecting the energy types {FAQ 3.5} that your school uses.
   - Entering/editing & validating your MPRNs {FAQ 13.1} & GPRNs {FAQ 13.2}. Non-validated MPRNs or GPRNs or meter numbers entered after the deadline will not be processed (why?{FAQ 13.6}) for this reporting cycle. *Note that you do not need to enter the consumption data corresponding to these meter numbers. The system automatically accesses this data from the regulated meter operators (ESB MRSO and Gas Networks Ireland).*
   - Reporting your non-network energy consumption data (e.g. for heating oil, diesel, etc.) on an annual basis.
4. Reporting details on energy saving projects already implemented and proposed for implementation.
5. Reporting details of any formal assessments your school has undertaken on its energy management programme.
6. Reviewing a scorecard report.

Steps (1) – (5) must be completed by the Reporting Deadline.

The system will not accept reports beyond the deadline.

3.4 What energy consumption must be reported?

The following energy consumption data must be reported by schools:

- *Electricity:* All electricity consumed by the school, which comprises all electricity imported from the grid (i.e. through a meter).
- *Thermal*: All solid, liquid and gas fuels used for non-transport purposes. This includes both fossil and renewable fuels used for boilers, space & process heating systems, catering and in all plant, equipment & other non-road-mobile vehicles. It also includes any heat imported from district heating schemes, net of any heat exported by the school to district heating schemes.
- *Transport:* All transport fuels used by the school's transport vehicles.

3.5 Which specific fuels/energy types can we report on?

Public bodies should report their annual consumption subtotals at an organisational level for each of the following energy types:

Electricity:

- Metered electricity;

Thermal Energy:

- Natural gas;
- LPG;
- Kerosene;
- Gasoil;
- Coal;
- Sod peat;
- Peat briquettes;
- Wood chips;
- Wood pellets;
- District heating - heat imported;
- District heating - heat exported;
- Solar thermal.

Transport Energy:

- Road Diesel (DERV);

There is extensive guidance on identifying which fuels are used in these FAQ pages.

3.6 What level of data detail do we need to submit?

Schools report energy consumption data and pupil numbers.

For all energy types except electricity and natural gas, schools report the consumption sub-total for each energy type across the entire school, e.g. separate subtotals for kerosene, LPG, wood chips, diesel.

For electricity and natural gas, the school's consumption is calculated automatically by the software by aggregating up meter-level consumption data. However, the schools do not have to provide this consumption data; once the MPRNs {FAQ 13.1} & GPRNs {FAQ 13.2} have been entered and validated, SEAI accesses the relevant consumption data annually from the regulated meter operators.

Schools can optionally self-report all or part-of their electricity or natural gas consumption, i.e. they can provide annual consumption sub-totals instead of submitting MPRNs and GPRNs.

3.7 What does 'network-connected' energy mean?

In the context of this system, network-connected energy supplies refer to either electricity or natural gas.

3.8 What does 'non-network-connected' energy mean?

In the context of this system, non-network-connected energy supplies refer to all energy supplies that are not network connected, i.e. all energy types except natural gas and electricity.

Note that LPG is a non-network-connected energy supply.

3.9 Are renewable fuels included?

Yes. The following are all included and should be explicitly reported:

- Renewable thermal fuels (e.g. wood chips);
- Solar thermal systems;

Note, however, that the source of electricity purchased ('imported') from the electricity network is not specified when reporting your electricity consumption. In other words you do not differentiate between the green/renewable and brown/fossil electricity that your organisation purchases ('imports'). It is all recorded as imported electricity.

3.10 What units do we use to submit energy data? What are the conversion factors used?

Electricity and natural gas data is sourced automatically from the meter operators in kilowatt hours (kWh). You typically report the other energy data in the units in which it is billed, e.g. litres for

heating oils and transport fuels, tonnes for wood chips and solid fuels. The system automatically converts all energy consumption to kWh on a net calorific value basis. It is very important that you enter data in the correct units.

The following are the current conversion factors used to convert energy consumption from the reported units to kilowatt-hours (kWh). The conversion factors are based on net calorific values and they can change slightly from year to year.

Energy Type	Reporting Units	Conversion Factor (to kWh)
Electricity	kWh	1.000
Natural Gas	kWh (Gross)	0.902
LPG	Litre	6.654
LPG	Kilogram	13.099
Kerosene	Litre	9.821
Gasoil	Litre	10.169
Coal	Tonne	7,734
Sod Peat	Tonne	3,640
Peat Briquettes	Tonne	5,152
Wood Chips	Tonne (wet)	3,229
Wood Pellets	Tonne	4,800
District Heat Imported	kWh	1.000
District Heat Exported	kWh	1.000
Solar Thermal	kWh	1.000
Road Diesel (DERV)	Litre	10.169

3.11 Our data is in different units. How can we convert to the units used by the system?

The system is designed to accept data in the units in which the different energy types are most frequently sold, recorded and counted. In the unlikely event that your records are in different units, you can use the following conversion factors to convert to the system units:
http://www.seai.ie/Energy-Data-Portal/Frequently-Asked-Questions/data_and_data_manipulation_FAQ/

Remember that 1 GWh = 1,000 MWh = 1,000,000 kWh.

It is very important that you enter data in the correct units.

3.12 What are the carbon emission factors used?

The system calculates the CO2 emissions attributable to the reported energy consumption using carbon emission factors. These are used to convert energy consumption (in kWh NCV[1]) into kg of CO_2 and they can vary slightly from year to year.

Energy Type	kgCO2/kWh (2015)
Net Electricity Imports	0.494
Natural Gas	0.205
LPG	0.229
Kerosene	0.257
Gasoil	0.264
Coal	0.341
Sod Peat	0.374
Peat Briquettes	0.356
Wood Chips	0.000
Wood Pellets	0.000
Solar Thermal	0.000
Road Diesel (DERV)	0.264

Note that the conversion for a given year do not become available until some months into the following year. The factors in the system – and this FAQ – are updated when they become available. The latest factors are always in the system by the time that the reporting cycle closes.

3.13 Can we submit energy consumption data in Euro?

No.

While better energy management and energy efficiency does deliver valuable financial savings for organisations, the savings targets at national and organisational levels are based on actual energy consumption, not on energy spend.

At best, energy spend is a relatively crude proxy for energy consumption, not least because different schools pay different unit rates (due to different scales of consumption) and because of price fluctuations over time.

It is very important that you enter data in the correct units.

[1] Net calorific value

4 REPORTING ELECTRICITY CONSUMPTION

4.1 What electricity consumption should be reported?

All of the school's electricity consumption, which comprises all electricity imported from the grid (i.e. through a meter).

4.2 Do we have to work out how much electricity & natural gas we use and report ourselves?

No. All you have to do is enter your meter numbers (MPRNs {FAQ 13.1} & GPRNs {FAQ 13.2}) into the system and the system then automatically accesses the consumption data corresponding to each meter directly from the regulated meter operators (ESB MRSO and Gas Networks Ireland). The meter operators can provide consumption records to SEAI for all MPRNs and GPRNs from 2006 onwards no matter which electricity and gas suppliers you use/used.

Therefore, you do not have to calculate, and must *not* report the energy consumption corresponding to the validated meters (MPRNs & GPRNs) in the system.

Entering the MPRNs & GPRNs is a once off exercise, although the list must be reviewed and re-validated each year. MPRNs or GPRNs that have not been validated cannot be processed by SEAI.

Notes:

- You must validate your MPRNs {FAQ 10.7} and GPRNs {FAQ 10.9} by the *Reporting Deadline* at the latest. Non-validated MPRNs or GPRNs or meter numbers entered after this date will not be processed.
- At the moment, it takes several months for the data exchange process, i.e. for SEAI to access the consumption data. SEAI hopes to streamline this process in future years.
- You have the option to self-report your electricity {FAQ 10.7} or natural gas {FAQ 10.9} consumption instead of submitting MPRNs or GPRNs, in which case you only need to submit consumption data for your school. *You should be careful not to double count your consumption, i.e. not to self-report consumption through MPRNs (GPRNs) that you have also entered into the system.*

4.3 Can we self-report our consumption of electricity from the grid?

Yes. While it is preferable – and in most cases simpler – to enter the MPRNs {FAQ 13.1} for your electricity connections and let SEAI access the consumption data directly from the meter operator (ESB MRSO), this is not possible in all cases. In these instances, you can self-report the balance of your school's electricity consumption. However, you should be careful not to double count your consumption, i.e. not to self-report consumption through MPRNs that you have also entered into the system.

As the MPRN-derived consumption data is not available for the period 2001-2005, schools wishing to use this earlier baseline {FAQ 8.10} must self-report their consumption for this period.

4.4 We purchase renewable electricity from the grid. How should we account for this?

There is no requirement to report the source (or fuel or generation type) of any electricity that your organisation purchases. Therefore, you are not required to differentiate between renewable electricity or brown electricity purchased by your organisation.

4.5 Why are we asked to report if we use electricity for heating rooms?

The majority of schools only use thermal energy for heating rooms e.g. natural gas, heating oil. However, a relatively small number of schools use a significant portion of their electricity consumption for heating rooms.

If your school was partially (or entirely) heated by electricity, then the system adjusts the relevant electricity consumption quantity for degree days to account for weather-related variations in energy consumption.

If your school does not use electricity for heating rooms, then the system assumes that your school only uses thermal energy for heating rooms and does not adjust your any of your *electricity consumption* for degree days.

4.6 Which MPRN(s) and GPRN(s) should our school report?

You should report the MPRN(s) {FAQ 13.1} for the electricity connection(s) used by your school. Every school has at least one MPRN, with the vast majority of schools having just one.

You should report the GPRN(s) {FAQ 13.2} for the natural gas connection(s) used by your school (if any). Every school that consumes natural gas has a GPRN, with the vast majority of those schools having just one.

A large school may have more than one MPRN or GPRN, especially if it was built in phases or is spread out across a campus. The system can accommodate multiple MPRNs & GPRNs.

There also are some circumstances in which your school may not have to report MPRNs / GPRNs:

- If your school is currently temporarily located at another school's premises, then your school probably doesn't need to report (at all) in its own right – see this FAQ {FAQ 14.8}
- If your school is based in a hospital, then it probably doesn't need to report (at all) in its own right – see this FAQ {FAQ 14.10}
- If your school is based at the premises of another public body, then it may not need to report (at all) in its own right – see this FAQ {FAQ 14.11}

5 REPORTING THERMAL ENERGY CONSUMPTION

5.1 What is meant by thermal energy?

In the context of the reporting system, thermal energy refers to all solid, liquid and gas fuels used for non-transport purposes. This includes both fossil and renewable fuels used in boilers, space & process heating systems, catering and in all plant, equipment & other non-road mobile vehicles. It also includes any heat imported from district heating schemes, net of any heat exported by the public body to district heating schemes.

5.2 Can we self-report our consumption of natural gas from the gas grid?

Yes. While it is preferable – and in most cases simpler – to enter the GPRNs {FAQ 13.2} for your natural gas connections and let SEAI access the consumption data directly from the meter operator (Gas Networks Ireland), this is not possible in all cases. In these instances, you can self-report the balance of your organisation's natural gas consumption. However, you should be careful not to double count your consumption, i.e. not to self-report consumption through GPRNs that you have also entered into the system.

As the GPRN-derived consumption data is not available for the period 2001-2005, schools wishing to use this earlier baseline {FAQ 8.10} must self-report their consumption for this period.

5.3 We use wood chips with a moisture content other than 35%. How should we report this consumption?

Wood chips are available in several different specifications. The key parameter in specifying wood chip supplies is the moisture content: the higher the moisture content, the less energy content per unit weight.

The reporting tool can accommodate reported consumption for wood chips with 35% moisture content. These have an energy content (referred to as the *net calorific value*) of 3,700 kWh per tonne of wet chips. If your wood chips have a higher or lower moisture content they will have a different energy content. Entering the consumed tonnage of these chips under 'Wood Chips' would distort your overall energy figures when converted to kWh.

You can work out the conversion factor - *from wet tonnes to kWh* - for your wood chips as follows:

Conversion Factor = Net Calorific Value = 277.78 x (19.2- (0.2164 x MC)) kWh/wet tonne

where MC is the percentage moisture content. So, for example, the conversion factor for 30% moisture wood chips is:

277.78 x (19.2- (0.2164 x 30)) kWh/wet tonne = 3,530 kWh/tonne

- Work out the conversion factor for your wood chip and use it to determine the total annual energy content for your tonnage of wood chips.
- Divide your total energy content by 3,700 kWh/tonne to calculate the equivalent tonnes of wood chips at 35% moisture content.

- Report this quantity of wood chips in tonnes as 'Wood chips'.

Additional information on wood energy is available from Coford's wood energy FAQ at www.woodenergy.ie/frequentlyaskedquestions/.

5.4 We use wood chips in a boiler but we measure the heat output rather than the biomass fuel input. How should we report this consumption?

The basis for reporting consumption data is the quantity of input fuel that is consumed. However, in some cases this may not be measured.

If you consume wood chips in a boiler but you do not measure the quantity of wood chips consumed and you do measure the heat output – via a heat meter – then you should use the following alternative approach to report your consumption:

- Determine the quantity of heat output from the boiler in the year – as measured by the heat meter. It is likely that the heat meter readings are in kWh; if not, then convert the data to kWh.
- Divide the total quantity of heat output from the boiler by the actual average thermal efficiency of the boiler during the year. This will give you the heat input in kWh.
- Divide the heat input in kWh by 3,229 kWh/tonne to calculate the quantity of wood chips consumed in tonnes.
- Report this quantity of wood chips in tonnes as 'Wood chips'.

5.5 We have solar thermal systems. How should we report this consumption?

If your school uses these systems and you can work out how much energy they provide (many are unmetered), you can report this in the relevant field in kilowatt hours (kWh).

5.6 We have heat pump systems. How should we report this consumption?

You do not explicitly report the electricity consumption by, or the heat output from, heat pump systems. The electricity input to these systems is reported as part of your school's overall electricity consumption – it is not explicitly reported as heat pump consumption. The methodology used for aggregating energy consumption across your school – using the total primary energy requirement (TPER) {FAQ 8.4} – implicitly accounts for the efficiency benefits of heat pumps.

5.7 What is district heating?

District Heating refers to systems for distributing heat through insulated pipes in the form of hot water (sometimes steam). The hot water is passed through heat exchangers to provide hot water and space heating in buildings. District heat is measured in kilowatt hours (kWh).

5.8 We *consume* heat from a district heating system. How should we account for this?

The way you report district heating consumption depends on the configuration of the district heating network. The overall reporting principle is that the primary energy (e.g. gas, wood chips) and the distributed heat energy should not be double counted.

- For district heating networks that are *only* fed from your school's* own boilers (or CHP etc.) you should report the primary energy used in the boilers etc. under the relevant fuel type (e.g. gas, wood chips etc.). You should *not* report any consumption for these systems under 'District Heating – Heat Imported'.
- If the district heating system is (also) fed from one or more heat sources (e.g. boilers / CHP units) that is not attributable to your school*, then you should report the heat that is imported 'over the fence' from the district heating network by your school as 'District Heating – Heat Imported'. In these instances, you should *not* report the primary energy consumption (i.e. gas, wood chips etc.) of the external heat generation facilities.

*In considering which of the above applies to your school, remember that the primary energy consumption of an onsite boiler (or CHP unit) is reportable by your school even if that plant is operated or owned by a private contractor {FAQ 2.4}.

If your school also supplies heat into a district heating system, then see the FAQ on supplying district heat {FAQ 5.9}.

5.9 We *supply* heat into a district heating system. How should we account for this?

The way you report district heating consumption depends on the configuration of the district heating network. The overall reporting principle is that the primary energy (e.g. gas, wood chips) and the distributed heat energy should not be double counted.

- If the district heating system only serves your own school, then all you need to do is report the energy consumed in the boiler(s) and/or CHP plant(s) in the normal way**, i.e. in the relevant subtotals for gas, oil, wood chips, etc. You should *not* report the heat energy distributed through the district heating system.
- If the district heating system (part-)serves heat customers that are not part of your school, then you should:
  - Report the energy consumed in the boiler(s) and/or CHP plant(s) in the normal way**;
  - Include any heat that is exported 'over the fence' to other organisations as 'District Heating – Heat Exported'.

**In considering which of the above applies to your school, remember that the primary energy consumption of an onsite boiler (or CHP unit) is reportable by your school even if that plant is operated or owned by a private contractor {FAQ 2.4}.

If your school also consumes energy from a district heating system, then see the FAQ on consuming district heat {FAQ 5.8}.

6 REPORTING TRANSPORT FUEL CONSUMPTION

6.1 Should we include transport fuels?

Yes. Fuel used for transport in vehicles owned or operated by schools should be included in annual submissions of consumption data.

This does not include private transport services {FAQ 2.7}.

7 REPORTING PUPIL NUMBERS

7.1 What is an activity metric?

An activity metric is a measure of the activity that your school undertakes. (In the simplistic example of a coffee stall, a good activity metric would be the number of cups of coffee sold in a year.) For schools, the activity metric is pupil numbers.

7.2 What activity metrics should schools report?

The activity metric used to track energy performance for schools is pupil numbers.

Schools that are open outside the normal school day for evening classes or other formal education classes can also submit the approximate number of additional hours per year that they are open and the average number of students in attendance during these times. The system uses this additional data to calculate a figure for full time *equivalent* pupils, which is used as the activity metric.

Schools, like all other public bodies, are also required to report:

- Full time equivalent (FTE) employees;
- Total useful floor area (TUFA).

7.3 Why do we have to report pupil numbers?

Pupil numbers are required to determine your school's energy performance by calculating an energy performance indicator (EnPI) {FAQ 7.4}.

7.4 What is an Energy Performance Indicator (EnPI)?

An energy performance indicator (EnPI) is a way of measuring your school's energy performance. An EnPI is calculated for a school by dividing the total energy consumption by its pupil numbers:

$$EnPI = \frac{Energy\ Consumption}{Pupil\ numbers}$$

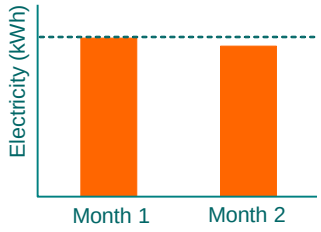
An EnPI may also be referred to as *specific energy consumption*.

7.5 Why do we need to calculate an Energy Performance Indicator (EnPI)?

Many organisations mistakenly try to measure their energy performance simply in terms of the total energy used. But energy performance is not the same as energy use. Measuring energy use alone does not enable you to determine if energy is being used *efficiently* or not.

A much better approach is to use an Energy Performance Indicator (EnPI) {FAQ 7.4} to measure performance. This enables you to determine how efficiently your organisation is using energy because it accounts for changes in the activity level (i.e. pupil numbers) at your school.

Consider the following simple example: If a coffee stall reduces its electricity consumption by 5% from the previous month, it may appear to be managing its energy consumption well:



But if the 5% reduction coincides with a 20% drop in the number of cups of coffee sold, then the energy used per cup of coffee sold has actually increased. Therefore, the energy performance – or energy efficiency – has worsened. This ratio of energy used per cup of coffee sold is the Energy Performance Indicator or EnPI for the coffee stall:

7.6 How do we calculate full-time pupils?

This is the number of full time pupils enrolled in your school.

If your school opens outside the normal school day for evening classes or other formal education classes, then you can optionally report additional data so that your school's performance is tracked on the basis of full time *equivalent* pupils {FAQ 7.7}.

It is essential that you calculate full-time pupils in the same way each year. If you do not, then your EnPI will be distorted. For this reason, you should retain records of your calculation for each year.

7.7 How do we account for evening classes at our school?

Evening classes and other similar and other formal education classes that occur outside the normal school day involve the consumption of additional energy over and above what should be consumed during a normal school day.

If your school opens outside the normal school day in this manner, then you can *optionally* report additional data so that your school's performance is tracked on the basis of full time *equivalent*

pupils. The advantage of doing this is that the additional evening time activity is factored into the calculation of your school's energy performance.

To do this you need to:

- Enter the approximate number of hours over the course of the year during which the school is open for the delivery of formal education classes outside the normal school day;
- Enter the average number of students in attendance during the delivery of those formal education classes that are outside the normal school day, e.g. average number of students in attendance at evening classes.

Note that you should seek to operate your school in an energy efficient manner at all times – during the normal school day and during any additional classes, activities etc.

7.8 How important is it to have accurate data for pupil numbers?

Having accurate data is essential for calculating robust EnPIs {FAQ 7.4}. Incomplete or inaccurate data can result in misleading conclusions and erroneous decision making.

7.9 Why do we have to report our FTE employment and total useful floor area (TUFA)?

These are both metrics favoured by the European Commission for national reporting at sectoral level.

FTE employment is also a metric that is applicable to all public bodies and data for this metric should be relatively straightforward to source. (Note: FTE employment will not be used for like-for-like comparisons of energy performance across the public sector for two main reasons. Firstly, the relationship between energy use and FTE employment varies significantly in different types of public body. Secondly FTE employment may be calculated in slightly different ways in different organisations.)

The floor area metric provides useful data that is relevant for other current and future energy reporting requirements, e.g. Energy Performance in Buildings Directive, future EU requirements for a national inventory of public buildings.

Guidance on how to calculate these metrics is available in this FAQ:

- Total useful floor area (TUFA) {FAQ 7.11};
- Full time equivalent (FTE) employees {FAQ 7.10}.

7.10 How do we calculate our Full Time Equivalent (FTE) employment?

One Full Time Equivalent (FTE) employee corresponds to one full year of work by one person. Your organisation probably has a well-established methodology for calculating FTE employment – your HR department/person should be able to give you the relevant FTE employment figures for each year and explain the methodology used.

For the purposes of the energy reporting system, it is important that your organisation submits FTE employment data calculated in the same way every year. If your school changes the basis for the FTE employment calculation, then you will need to either:

- Continue to calculate FTE employment data using the 'old' method for the purposes of energy reporting OR;
- Re-submit FTE employment data calculated using the 'new' method for your chosen baseline year(s) {FAQ 8.10} onwards.

The OECD defines FTE employment as follows: "Full-time equivalent employment is the number of full-time equivalent jobs, defined as total hours worked divided by average annual hours worked in full-time jobs."

7.11 How do we calculate total useful floor area (TUFA)?

This methodology is identical to that used for the calculation of floor area for Display Energy Certificates (DECs) – in compliance with *European Union (Energy Performance of Buildings) Regulations 2012* (SI 243 of 2012).

TUFA should only be calculated for buildings (defined as roofed constructions having walls) in which energy is used to condition the indoor climate, i.e. for which energy is used for space heating, cooling, ventilation etc. Therefore, buildings in which no energy is used for heating, cooling or ventilation should not be included in the TUFA calculation. Once you have calculated the TUFA for each relevant building, you should add the values together to calculate a total organisation-level TUFA in square meters (m^2) for your organisation.

Total Useful Floor Area (TUFA) is based on the building area measurement specified in Irish building legislation. This is the same as the Gross Internal Area (GIA) commonly used in commercial property surveying, and for which measurement conventions are based on the SCS/IAVI Measuring Practice Guidance Notes. The method of measurement of total useful floor area is also set out in Technical Guidance Document L of the Building Regulations, which states that 'linear measurements for the calculation of wall, roof and floor areas and building volumes should be taken between the finished internal faces of the appropriate external building elements'.

In this convention:

- The area of sloping surfaces such as staircases, galleries, raked auditoria, and tiered terraces should be taken as their area on plan; and
- Areas that are not enclosed such as open floors, covered ways and balconies are excluded.

Some building sectors commonly use alternative measures of area, notably Net Lettable Area (NLA) for the commercial office sector, and Sales Floor Area (SFA) for retail premises. Where these are the only measurements available for these building types, then the calculation may use standard, conservative, conversion factors to obtain TUFA from NLA or SFA. These conversion factors and the building categories for which they may be applied are as follows:

Category	Brief Description	Approved Alternate Floor Area	Default Multiplier Applied to Alternate Floor Area to Obtain TUFA
General office	General office and commercial working area	Net lettable area (NLA) as measured by Royal Institution of Chartered Surveyors (RICS)	1.25
General retail	General street & retail services	Sales Floor Area (SFA)	1.80
Large non-food shop	Retail warehouse or other large non-food store	Sales Floor Area (SFA)	1.80

Source: SEAI Methodology for the production of Display Energy Certificates (DEC)

The only alternative to using these defined conversion factors is to measure and provide the total useful floor area directly.

7.12 Can we change our activity metric?

No. Schools outside the Education and Training Board (ETB) sector must use pupil numbers as the activity metric {FAQ 7.1}.

8 CALCULATING SAVINGS & TRACKING PROGRESS

8.1 How are energy efficiency savings calculated?

It is physically impossible to 'measure' energy savings. Therefore, determining energy savings always involves analysing changes in other parameters that are directly related to energy use. The methodology used in this system calculates savings on a top down basis for each school.

There are two key reporting indicators calculated for each organisation each year:

- *Primary reporting indicator:* Energy performance indicator (EnPI) {FAQ 7.4};
- *Secondary reporting indicator:* Total primary energy requirement (TPER) {FAQ 8.4}.

8.2 How are energy efficiency savings calculated using the *Primary Reporting Indicator* (EnPI)?

The SEAI system uses energy performance indicators (EnPIs) {FAQ 7.4} to measure each school's energy performance. This enables schools to determine how efficiently they are using energy because it accounts for changes in the activity level related to the energy use - or activity metric {FAQ 7.1} - of the school.

Each year, an EnPI is calculated by dividing the school's total primary energy requirement (TPER) {FAQ 8.4} by pupil numbers:

- The TPER is a measure of all of the energy consumed by the school, which accounts for the energy that is consumed and/or lost in transformation, transmission and distribution processes (e.g. electricity generation transmission and distribution). The TPER is calculated by applying published conversion factors to each element of the school's energy consumption. There are different conversion factors for electricity and for each of the thermal and transport fuel types. The calculation of TPER is explained here {FAQ 8.6}.
- The activity metric (pupil numbers) is a measure of the activity a school.

So, a school's year 201X EnPI would be calculated as follows:

$$EnPI_{201X} = \frac{Energy\ Consumption\ (as\ TPER)_{201X}}{Pupil\ Numbers_{201X}}$$

A school's energy saving (%) between any two periods is calculated as the change in the school's energy performance indicator (EnPI) divided by the EnPI value for the earlier of the two periods. For example, the energy savings made between the baseline {FAQ 8.10} and year 201X are calculated as follows:

$$Savings_{201X} = \frac{EnPI_{Baseline} - EnPI_{201X}}{EnPI_{Baseline}}$$

This methodology accounts for a school's energy performance as well as its energy consumption. Energy performance relates energy use to the service or activity output of the school. Specific advantages of this approach include:

- Workable because it requires relatively limited data compared to bottom-up approaches;
- Focuses on school level performance;

- Avoids the double counting problem (interference between energy saving measures);
- Avoids requirement to demonstrate causality between measures and savings;
- More easily understood than bottom-up approaches;
- More robust than other top-down approaches;
- Consistent with the definitions of 'energy efficiency' and 'energy savings' used by the European Commission;
- Facilitates benchmarking;
- Gives credit to schools for implementing measures that reduce transformation and system losses at a national level.

8.3 How are energy efficiency savings calculated using the *Secondary Reporting Indicator* (TPER)?

Notwithstanding the many advantages of the EnPI {FAQ 7.4} approach, the European Commission is also considering alternative approaches based on simple changes in total final energy consumption.

Therefore, the *secondary indicator* for tracking each organisation's energy savings is the change in the organisation's energy consumption (as TPER) {FAQ 8.4} each year. Expressed as a percentage savings between the baseline {FAQ 8.10} and year 201X, this is calculated as follows:

$$Savings_{201X} = \frac{TPER_{Baseline} - TPER_{201X}}{TPER_{Baseline}}$$

As the Commission is currently considering different approaches to establishing targets and tracking progress against them, the relative primacy of the two different reporting indicators used by the monitoring & reporting system may evolve over the coming years.

8.4 What is the Total Primary Energy Requirement (TPER)?

Total primary energy requirement or TPER is a measure of all of the energy consumed by the school and accounts for the energy that is consumed and/or lost beyond the boundary of the school – in energy transformation, transmission and distribution processes, e.g. electricity generation transmission and distribution.

TPER is different from the total final consumption (TFC), which is the energy consumption as recorded or measured at the boundary of the school. TFC is recorded on meters and is typically the quantity shown on bills.

A school's TFC is essentially its TPER less the quantities of energy required to transform primary sources such as crude oil into forms suitable for end use consumers such as refined oils, electricity etc. Transformation, processing or other losses entailed in delivery to final consumers are known as 'energy overhead'. TPER is calculated by applying conversion factors {FAQ 8.8} to each element of a school's TFC.

Schools enter data into the system in total final consumption (because this is what is shown on bills and meters) but the monitoring & reporting system tracks performance on the basis of total primary energy requirement (TPER).

The rationale for using TPER is explained here {FAQ 8.5} and the methodology for calculating your school's TPER is set out here {FAQ 8.6}.

8.5 Why does the system track savings on the basis of total primary energy requirement (TPER)?

Schools enter data into the system in total final consumption (because this is what is shown on bills and meters) but the monitoring & reporting system tracks performance on the basis of total primary energy requirement (TPER) {FAQ 8.4} because:

- TPER gives a more complete measure than total final consumption of the impact of the individual school and the public sector as a whole on energy use and on energy-related CO_2 emissions;
- The targets set out in the National Energy Efficiency Action Plan and in the European Communities (Energy End-Use Efficiency and Energy Services) Regulations 2009 are in primary energy;
- TPER accounts for the inherent higher value of electricity compared to other energy types and it is more closely aligned to the relative costs of different energy types. For example, 1 kWh TFC of electricity typically costs over three times more than 1 kWh TFC of natural gas. In TFC terms, both are counted as 1 kWh. However, in TPER terms the 1 kWh of electricity is counted as 2.39 kWh and the 1 kWh of natural gas is counted as 1.1 kWh (based on 2010 conversion factors).

8.6 How is our school's total primary energy requirement (TPER) calculated?

Each school's total primary energy requirement (TPER) {FAQ 8.4} is calculated every year as follows:

- All reported energy consumption is converted {FAQ 3.10} from the reported units to kilowatt hours on a net calorific value basis. Note that the biofuel components of conventional specification road diesel and petrol {FAQ 12.12} are calculated automatically based on national average blend rates. These are carried forward as separate biofuel sub-totals in the overall calculations.
- The system then adjusts the reported thermal energy consumption for the year to take account of degree day variation from a 25-year average. Degree days give a measure of the effect of the reporting year's temperature on energy requirements. For each day that the average temperature, as recorded at eight different Met Éireann weather stations, is one degree below the designated base temperature (15.5°C), one degree day is accumulated. The calculation applies the weather station specific degree day data to the school's geographic location, which is determined from:
    - The county of the school's natural gas consumption. This is used for making degree day adjustments to natural gas consumption.

  - The county of the school's MPRNs that have been self-classified as buildings. This is used for making degree day adjustments to other thermal consumption.

- The system uses the same approach to also adjust a portion of the reported electricity consumption for the year to take account of degree day variation from the 25-year average. The portion adjusted is the percentage of consumption that is reported as being used for heating rooms. The calculation applies the weather station specific degree day data to the school's location, which is determined from the county of the school's MPRNs that have been self-classified as buildings. This is used for making degree day adjustments to the electrical space heating consumption.
- The weather adjusted total final consumption for each energy type is then converted to primary energy using conversion factors (see FAQ 8.8). The conversion factors can change from year to year. The conversion factor for electricity is especially prone to change.
- These primary energy values for all of the reported energy types are then added together to calculate the school's overall TPER for the year.

This total is referred to as the school's TPER.

8.7 Should we adjust our consumption for degree days before reporting?

No. The system automatically adjusts your reported thermal energy consumption, as well as the portion of your electrical consumption reported as being used for heating rooms, to take account of degree day variation from a 25-year average {FAQ 8.6}.

8.8 What are the conversion factors used to calculate TPER?

TPER {FAQ 8.4} is calculated by applying the following conversion factors to each element of the school's total final consumption. The conversion factors can change from year to year. The conversion factor for electricity is especially prone to change.

Energy Type	2015Primary Energy Conversion Factor: TFC to TPER
Electricity Imports	2.113
Natural Gas	1.10
LPG	1.10
Kerosene	1.10
Gasoil	1.10
Coal	1.10
Sod Peat	1.10
Peat Briquettes	1.10
Wood Chips	1.10
Wood Pellets	1.10
District Heat Imported	1.10
District Heat Exported	1.10
Solar Thermal	1.00
Road Diesel (DERV)	1.10

The system uses annual values for primary energy conversion factors from 2001 onwards – these are applied to the reported consumption from the relevant year.

The factors for all thermal and transport fuels have remained unchanged since 2001. However, the conversion factor for electricity has changed over time – as the efficiency of the electricity system has changed. The following is the time series of primary energy conversion factors used in the system for 'Imported Electricity'.

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
3.010	2.896	2.750	2.682	2.670	2.566	2.462	2.354	2.332	2.363	2.223	2.289	2.214	2.179	2.113

SEAI has also prepared a forecast for the primary energy conversion factor for electricity out to 2020. The 2020 value is based on the assumption that Ireland meets its targets as set out in the National Energy Efficiency Action Plan (NEEAP) and in the National Renewable Energy Action Plan (NREEAP). It is also based on all of the macro and price assumptions inherent in SEAI's Energy Forecasts for Ireland publication. The forecast value for the primary energy conversion factor will be reviewed periodically by SEAI.

The forecast and actual values for 'Imported Electricity' are:

	2013	2014	2015	2016	2017	2018	2019	2020
Forecast	2.170	2.132	2.093	2.054	2.016	1.977	1.939	1.900
Actual	2.214	2.179	2.113					

8.9 What is a normalised EnPI?

Another way of illustrating your school's progress uses a normalised EnPI. This normalisation involves setting your normalised EnPI value in the baseline period {FAQ 8.10} to 100 and quantifying progress since then as movement from this 100 level. The normalised EnPI is calculated as follows (for year 201X):

$$EnPI_N = \frac{EnPI_{201X}}{EnPI_{Baseline}} \times 100$$

There are two key advantages of normalised EnPIs:

- They are useful for publication as they are relatively easily understood to persons outside the school and actual energy consumption cannot be derived from them;
- They facilitate *limited* comparison between schools. However, such comparisons should be made with care. Comparing two schools' normalised EnPIs is akin to comparing the percentage change in height of two different children over a year – the %s don't tell you how tall (energy efficient) the children (schools) were at the beginning of the year or the number centimetres grown (kWh saved) over the year. What these metrics do tell you is how the two children (schools) have performed 'against themselves' since last year.

The calculation of energy savings using EnPIs is explained here {FAQ 7.4}.

8.10 What is the baseline period?

There are several alternative baseline periods. Schools can choose whichever of the following baseline periods suits them best:

- 2001-2005 (energy consumption and pupil numbers averaged across these years);
- 2006-2008 (energy consumption and pupil numbers averaged across these years);
- 2009 (energy consumption and pupil numbers for this single year).
- 2010 (energy consumption and pupil numbers for this single year);
- 2011 (energy consumption and pupil numbers for this single year);
- 2012 (energy consumption and pupil numbers for this single year);
- 2013 (energy consumption and pupil numbers for this single year).

The 33% savings target is applied to whichever baseline period is selected by the school. Therefore, selecting an earlier baseline will enable a school that has taken early action to benefit from that action by having a shorter distance to target.

8.11 What is the default baseline period?

2013 is the default baseline for all schools. All schools must provide energy consumption data and pupil numbers from their baseline period onwards.

8.12 Who selects the baseline?

You do: a school can select its preferred baseline {FAQ 8.10} option. However, a baseline is only valid upon submission of sufficient valid data for the selected baseline period.

8.13 Why is there a choice of baselines?

More recent baselines are easier to populate with data whereas more historical baselines enable schools to take credit for energy saving initiatives undertaken over several years:

- 2013 is a convenient baseline in that it is recent (compared to the alternative baselines) and data should be more readily available.
- The baseline period set out in the National Energy Efficiency Action Plan is an average of the period 2001-2005. Using this baseline will enable schools to take credit for actions taken since then. However, gathering the baseline data may be more challenging.

Offering alternatives enables individual schools to consider the trade-off between effort (data gathering) and reward (distance to savings target) in the context of their own schools: for some it will be worthwhile developing a full 2001-2005 baseline; others will opt for the convenience of only providing the 2013 data.

The concept of enabling participants to self-select from alternative baseline periods based on multi-year averages is well established, e.g. in the EU ETS. Using baselines based on averages over several years has the advantage of smoothing out any unrepresentative years in a baseline period. For thermal fuel consumption in particular, the use of a multi-year average baseline has the advantage of taking account of variations in weather conditions over a period of several years.

8.14 What is the impact of baseline selection on our organisation's target?

The 33% savings target is applied to whichever baseline period is selected by the school. Therefore, selecting an earlier baseline will enable a school that has taken early action to benefit from that action by having a shorter distance to target.

The table below sets out an example in which it would be worthwhile for a school with a 33% target which has already improved its energy performance indicator (EnPI) {FAQ 7.4} to obtain robust data for the 2001-2005 period and select this as its baseline.

Baseline	Energy Consumption [kWh TPER {FAQ 8.4}]	Activity Metric {FAQ 7.1}	EnPI	2020 EnPI Target (based on 33% improvement from selected baseline)
2001-2005	100	100	1.0	0.67
2006-2008	130	150	0.866	0.58
2009	100	140	0.714	0.478

The school's 2009 EnPI is 0.714. If the organisation uses the 2009 baseline, its target EnPI would be 0.478 KWh/unit (a 33% reduction from 2009), whereas its target would be 0.58 if it selects the 2006-2008 baseline (a 19% reduction from 2009) and just 0.67 if it selects the 2001-2005 baseline (a 6% reduction from 2009).

8.15 If we select one of the earlier baselines, do we provide data for each year in the baseline period or do we just report averages for the period?

If you elect to use either the 2001-2005 or 2006-2008 baseline periods {FAQ 8.10}, you must provide data for each of the years in the baseline period. You must also provide data for each year since the baseline.

8.16 How are the averages calculated for the 2001-2005 and 2006-2008 baselines?

For baselines {FAQ 8.10} based on either the 2001-2005 or 2006-2008 periods, the baseline EnPI {FAQ 7.4} is calculated by dividing the average annual energy consumption (as TPER {FAQ 8.4}) by the average annual pupil number values in the relevant period. These averages are calculated as arithmetic means.

8.17 Can we use one of the earlier baseline periods if we only report data for some of the years covered by the baseline?

No.

You can only use one of the earlier baseline periods {FAQ 8.10} if you can provide valid and robust data for all of the years covered by the relevant period (inclusive). So, to use the 2001-2005 baseline period, you must report valid data for all of the years 2001 to 2005 inclusive.

8.18 Can we change our baseline period?

Yes. You can change your preferred baseline {FAQ 8.10} to one of the alternatives once sufficient valid data is provided for every year from the new baseline period onwards.

Schools that change baselines once an initial baseline has been selected will be the focus of greater scrutiny.

8.19 Can we change the data we submitted for our baseline period?

Yes.

If better data emerges, you can resubmit data for your baseline {FAQ 8.10} at a later date.

8.20 Do we have to submit data for every year since the baseline?

Yes. All schools must submit valid energy consumption and activity metric {FAQ 7.1} data from the start of their baseline period {FAQ 8.10} and for every subsequent year.

8.21 What data do we have to submit for the baseline?

The following data must be submitted to establish a valid baseline {FAQ 8.10} for your school:

- Energy consumption data for all energy consumed by the school in the baseline period;
- Activity metric {FAQ 7.1} data (i.e. pupil numbers) for the school in the baseline period.

8.22 How are baselines and targets set for new schools?

The baseline period {FAQ 8.10} for newly established schools will be the school's first full calendar year in existence.

The new school's target will be applied from its baseline period. The school's target will be calculated on the basis of a constant 'glidepath' of efficiency improvement from 2009 to 2020. In other words, it will be assumed that had the school been in existence since 2009 it would have made a steady 3% improvement in performance each year between 2009 and 2020 (3% x 11 years = 33%). For example, if a new school had a baseline in 2015, its 2020 target would be 5 x 3% = 15%.

9 TARGETS

9.1 What are the public sector energy efficiency targets?

For the year 2020: "*The public sector will improve its energy efficiency by 33%"* (NEEAP)

9.2 What is meant by an 'energy efficiency' target?

The target is an energy efficiency target. Although it will deliver significant CO_2 savings and should stimulate some fuel switching to more sustainable energy sources including renewables, it is not calculated as an emissions or a renewables target.

9.3 What is the energy efficiency target for schools?

The savings target for the non-ETB schools sector is a 33% improvement in energy efficiency *in aggregate* by 2020. Each school is expected to contribute towards this. The reporting system tracks each school's contribution, by expressing its performance with respect to a 33% improvement by 2020.

9.4 What forms of energy come under the targets?

All energy consumption comes under the targets, including energy sourced from electricity, fossil fuels, renewables, transport fuels and fuels used for machinery.

9.5 Do renewables count towards the target?

All energy consumption must be reported, i.e. both fossil and renewable. Different fuels are reported separately so, from a *reporting* perspective, separate figures are reported for different renewable and fossil fuels. However, they are added together to calculate your school's overall energy consumption (TPER) {FAQ 8.4}.

The savings and targets methodologies are based on *energy efficiency*. Therefore, simply switching fossil consumption to renewable energy consumption does not count as making efficiency savings or as progression towards the target. *Note: 'fuel switching' to less Carbon-intensive energy sources such as renewables can bring several benefits and can contribute to the achievement of renewable energy targets at national level.*

9.6 Do procurement savings count towards the target?

Many schools can realise valuable financial savings by reducing the unit cost of their energy supplies, through *inter alia* better procurement practices and the elimination of non-energy penalties on electricity bills. While such initiatives are important elements in good energy management practice, they do not save energy *per se* (in terms of kWh); therefore, they do not count towards the target.

9.7 What is the target for the different energy users and facilities within our organisation?

It is up to each individual school to determine how its target can be best achieved in the context of the school. The target does not 'trickle down' to specific end users within schools.

Therefore, in theory, you could meet your target by focussing only on those energy users with greatest potential for savings and undertaking significantly less effort in other areas – as long as the overall savings across the school are 33%.

9.8 What does the 33% target mean? How is it applied to our school?

Your organisation's overall energy performance indicator (EnPI {FAQ 7.4}) must improve by at least 33% between the baseline period {FAQ 8.10} and 2020. This means that if your baseline organisation-level EnPI{FAQ 8.9**Error! Reference source not found.**} is 100, then your target EnPI (by 2020) is 67 – a 33% improvement. Using this approach ensures that your target is not distorted by changes in the activity level in your school.

Expressed mathematically, to achieve the target the following must hold true for your school:

$$Savings_{2020} = \frac{EnPI_{Baseline} - EnPI_{2020}}{EnPI_{Baseline}} \geq 33\%$$

Example: if a school's baseline energy consumption is 320,000 kWh and its baseline pupil numbers is 100 (e.g. 100 pupils), then the school's baseline EnPI is 3,200 kWh/pupil. The school's target is a 33% improvement on its baseline:

$$Savings_{2020} = \frac{3{,}200 - EnPI_{2020}}{3{,}200} \geq 33\%$$

Multiplying this out gives:

$$EnPI_{2020} \leq 3{,}200 - (33\% \times 3{,}200)$$

$$EnPI_{2020} \leq 2{,}144$$

So, in this example, to achieve the target the school must have reduced its EnPI to 2,144 kWh/pupil or lower by 2020 - a 33% improvement.

9.9 How is our school's progress to 2020 calculated?

Each school's progress to 2020 is calculated on the basis of the savings made since the baseline period {FAQ 8.10}, as follows (example of progress as of year 201X):

$$Savings_{201X} = \frac{EnPI_{Baseline} - EnPI_{201X}}{EnPI_{Baseline}}$$

See FAQs 8.10 to 8.22 for detail on the baseline period.

9.10 Will our school be penalised if we have already made savings?

No. You can choose whichever baseline period {FAQ 8.10} suits your school best for the initial target. This should incentivise schools that have taken action over the last decade to choose earlier baselines, because energy saving initiatives that have improved energy efficiency over this period will be 'rewarded' in terms of a shorter distance to target (see FAQ 8.14).

10 USING THE M&R SYSTEM

10.1 How do we access the system?

The secure online M&R system is at https://psmr.seai.ie/. Users require a valid user name and password to access the system.

If you do not already have a valid user name and password, you should request login credentials by emailing mandr@seai.ie, quoting the school's roll number (If the school logged in last year the credentials will be the same).

10.2 Can we get multiple user names / logins for our organisation?

Your school will be issued with a single login for the system by SEAI. Once you login, you can create additional users for colleagues within your school.

10.3 What are the arrangements for reporting in 2017?

All schools are required to report data from 14 November 2016 to 28 April 2017. This is referred to as the *2016 Reporting Cycle*.

10.4 We have previously reported data to SEAI through the M&R project. Do we have to resubmit the data we submitted already?

No. If yours is one of the many schools that submitted data during the last reporting cycle, then the data you previously reported is already in the M&R system. This year, you will need to report data for 2016 and, if appropriate, add additional historical data to fill any data gaps in your previous submissions. You will also need to validate your MPRNs {FAQ 13.1} & GPRNs {FAQ 13.2} for *all relevant years*.

You can edit any of the data you previously submitted and you can even change your baseline period {FAQ 8.10} if you want to, as long as you report sufficient historical data to complete your baseline.

10.5 Data entry tile (1): How do we report information on our school?

To enter this data, you should select 'Submit Your 2016 Report' and then use the tile labelled '(1) Your School'. Click 'Review & submit your data'.

There are eight key steps as follows:

1. Enter your school name, roll number and type of school. Note: The name of the school as entered by you here will be the version of the organisation name published by SEAI.
2. Enter your lead contact for energy reporting and for alternative contact person(s).
3. Enter any alternative system user(s) for energy reporting.

4. Select your preferred baseline period {FAQ 8.10} from the seven options on the drop-down menu. You can choose whichever period suits your school.
5. Submit pupil numbers for each year from your baseline period onwards {FAQ 8.10}. If your school opens outside of normal school hours for evening classes or other formal education, then also enter data from your baseline period {FAQ 8.10} onwards for 'number of additional hours of classes per year' and 'number of students in attendance for each hour of additional classes'.
6. Enter data for full-time equivalent (FTE) employees {FAQ 7.10};
7. Enter data for Floor Area {FAQ 7.11}; The values entered for all metrics must be calculated in the same way for each year;
8. Select (at least) one of the Energy Management options relating to any formal assessments your school may have undertaken over the year on your energy management programme. SI 542 of 2009 sets out several obligations on public bodies with respect to their "exemplary role" for energy efficiency. SEAI's Public Sector Programme {FAQ 17.3} provides tailored advice in this area.

The *M&R Video Guides* provide additional information on how to enter data and complete your report.

10.6 Data entry tile (2): How do we select the energy types that we use?

To enter this data, you should select 'Submit Your 2016 Report' and then use the tile labelled '(2) Energy Consumption'. Click 'Review & submit your data'.

You must select the energy types before you can report consumption for them. Once selected, your energy types remain selected from year to year, i.e. there is no need to select your energy types every year – you just need to add any new energy types that your school has started using over the previous year.

Select your energy types by clicking the relevant check boxes. If you point your curser at an energy type, a brief description of the energy type will appear. There is extensive guidance on identifying & understanding what energy types you use here {FAQ 11}. To select an energy type that is not listed, select 'Other energy types?'.

The *M&R Video Guides* provide additional information on how to enter data and complete your report.

10.7 Data entry tile (2): How do we report our electricity consumption?

There are two ways in which you can report your electricity consumption:

- The first, and best, way is to enter your electricity meter number(s) and the system will automatically calculate your consumption. These meter number(s) are referred to as MPRNs are available from your bills. Most schools have only one MPRN.
- The second and alternative option is to calculate your annual consumption yourself and enter the relevant figures into the system. This is referred to as 'self-reporting'.

SEAI strongly advises that you adopt the first approach, as this is easier for you and generally more robust.

To enter your electricity, you should select 'Submit Your 2016 Report' and then use the tile labelled '(2) Energy Consumption'.

Select your energy types

Click 'Review & submit your data' and then select:

- 'Electricity (I know my meter numbers)' to enable the system to access the consumption attributable to the MPRNs that you enter into the system. Note, however, that this data is only available from 2006 onwards, so if you have chosen the 2001-2005 baseline period {FAQ 8.10} you will also need to choose 'Other energy types' and then click 'Next' to select 'Electricity (no meter numbers)' (see below).
- Select 'Electricity (no meter numbers)' to self-report some or all of your electricity consumption. You may wish to select this option because you cannot provide MPRNs for some or all of your consumption. You must select this if you have chosen the 2001-2005 baseline.

Click 'Next'

Enter your MPRN(s)

Select 'Yes' beside 'Do you want to add an electricity meter (MPRN) for your school?" and click 'Next'.

Enter the MPRN, meter location, county, type of building e.g. education building and click 'Save'.

Review the list of MPRNs in the system and, if necessary, click 'edit' to change the details.

Delete any MPRNs through which your school has not consumed any energy at any time since the beginning of your baseline. Note that you should not delete MPRNs through which you do not currently consume energy, but which were live at some other time since the beginning of your baseline (or vice versa). In these situations you should answer 'No' to the second question on the next screen. This is explained further below.

Click 'Next'

Validate your MPRNs

You will then be asked a series of questions about your electricity account(s) (MPRN(s))

Select either 'Yes' or 'No' to the question "Are the bills for all of these electricity account(s) addressed to your school and has the school been responsible for paying all of these bills for all years since 20XX?".

You should select 'No' if the electricity bill was paid on behalf of the school by another organisation for one or more years, or where another organisation occupied the premises (and paid the electricity bill) for one or more years.

Select either 'Yes' or 'No' to the question "Has the school consumed all of the electricity through each of these meter(s) since 20XX?".

You should select 'No' if your school shared a premises (electricity account) with another organisation for one or more years since your baseline.

Click 'Next'

If you clicked 'No' to either of the above two questions, you will be asked to provide more information to validate each MPRN by clicking on the red ! icons. This will prompt you to confirm if your school consumed electricity through this account in year 20XX.

Select either 'Yes' or 'No' to the question "Did your school consume electricity through this account in 20XX?"

- If you select 'No', then a grey/blue horizontal bar will appear beside the MPRN for the year 20XX. This indicates that the metered consumption is not being counted in your school's consumption for year 20XX.
- If you select 'Yes', then you must also confirm if your school consumed all of the electricity that was supplied through the relevant meter account in 20XX.

Select either 'Yes' or 'No' to the question "Did your school consume all of the electricity that was supplied through this account in 20XX?

- If your school shared the MPRN with other organisation(s) during the year 20XX, then enter the estimated % of the electricity consumption through that meter that is attributable to your school for year 20XX.

If you selected 'No' to the question ""Are the bills for all of these electricity account(s) addressed to your school and has the school been responsible for paying all of these bills for all years since 20XX?", you will be asked to confirm that consent to access the metered consumption has been given by the person or entity that pays the bill. You will need to select one of the following options and then click 'Save':

- The bill for this account is addressed to your school and your school paid the bill for 20XX.
- The bill for this account is addressed to a named individual (e.g. principal, member of Board of Management), but your school paid the bill for 20XX. Your school has consent from this named individual for the electricity meter operator to disclose to you and to SEAI the electricity account data for this MPRN for 20XX.
- The bill for this account is not addressed to your school and a landlord or a co-located school paid the bill for 20XX. Your school has consent from the bill payer to disclose to you and to SEAI the electricity account data for this MPRN for 20XX.
- Your school does not have consent from the person to whom the bill was addressed and/or who paid the bill for 20XX to access consumption data for this account for 20XX.

Review your list of MPRN(s), and icons under each year since the start of your baseline:

- A green tick means that the MPRN is being counted in your school's consumption for the relevant year.
- A grey/blue horizontal bar means that the MPRN is **not** being counted in your school's consumption for the relevant year.
- A red exclamation mark means that you still need to provide more information about this MPRN – you should click on it to do so.

You can click on the blue icon (it looks like a clock) at the bottom of each column to copy the validation status from the previous year to the next year for all of your MPRN(s), e.g. click the button below 2016 to copy the 2015 validation status for all of the MPRN(s) listed.

Ensure that you repeat the steps above until all years have green ticks (or grey/blue horizontal bars). Non-validated MPRNs shown with red ! icons will not be processed by the system.

Once completed, click 'Next' to report your next energy type.

Self-Report Electricity (no meter numbers)

If you have selected 'Electricity (no meter numbers)' as an energy type. Calculate your annual consumption and, when prompted by the system, enter the relevant figures in kWh. Take particular care not to report any consumption that will also be captured via your MPRNs. Otherwise your consumption will be double counted, which could significantly distort your school's apparent performance.

The *M&R Video Guides* provide additional information on how to enter data and complete your report.

10.8 Data entry tile (2): How do we report our electricity used for heating? {4}

If your school was partially heated by electricity, then you enter the number of rooms that were electrically heated in each year.

If your school was entirely heated by electricity, then you select this options for the relevant years.

The system then adjusts the relevant electricity consumption quantity for degree days to account for weather-related variations in energy consumption.

If your school does not use electricity for heating rooms, then answer 'No' when prompted and the system assumes that your school only uses thermal energy for heating rooms and does not adjust your *electricity consumption* for degree days.

If your school uses electricity for heating, report electricity used for heating your school {FAQ 4.5} by selecting 'Yes' beside the question 'Does your school use electricity for heating rooms?'.

Select any years where the school was entirely heated by electricity i.e. no boiler. Alternatively, if your school was only partially heated by electricity, enter the number of classrooms heated electrically each year.

10.9 Data entry tile (2): How do we report our natural gas consumption?

There are two ways in which you can report your natural gas consumption:

- The first, and best, way is to enter your natural gas meter number(s) and the system will automatically calculate your consumption. These meter number(s) are referred to as GPRNs are available from your bills. Most schools have only one GPRN.
- The second and alternative option is to calculate your annual natural gas consumption yourself and enter the relevant figures into the system. This is referred to as 'self-reporting'.

SEAI strongly advises that you adopt the first approach, as this is easier for you and generally more robust.

To enter your natural gas, you should select 'Submit Your 2016 Report' and then use the tile labelled '(2) Energy Consumption'.

Select your energy types

Click 'Review & submit your data' and then select:

- 'Natural Gas (I know my meter numbers)' to enable the system to access the consumption attributable to the GPRNs that you enter into the system. Note, however, that this data is only available from 2006 onwards, so if you have chosen the 2001-2005 baseline period {FAQ 8.10} you will also need to choose 'Other energy types' and then click 'Next' to select 'Natural Gas (no meter numbers)' (see below).
- Select 'Natural Gas (no meter numbers)' to self-report some or all of your natural gas consumption. You may wish to select this option because you cannot provide GPRNs for some or all of your consumption. You must select this if you have chosen the 2001-2005 baseline.

Click 'Next'

Enter your GPRN(s)

Select 'Yes' beside 'Do you want to add a gas meter (GPRN) for your school?" and click 'Next'.

Enter the GPRN, meter location, county, type of building e.g. education building and click 'Save'.

Review the list of GPRNs in the system and, if necessary, click 'edit' to change the details.

Delete any GPRNs through which your school has not consumed any energy at any time since the beginning of your baseline. **Note that you should not delete GPRNs through which you do not currently consume energy, but which were live at some other time since the beginning of your baseline (or vice versa). In these situations you should answer 'No' to the second question on the next screen. This is explained further below.**

Click 'Next'

Validate your GPRNs

You will then be asked a series of questions about your natural gas account(s) (GPRN(s))

Select either 'Yes' or 'No' to the question "Are the bills for all of these natural gas account(s) addressed to your school and has the school been responsible for paying all of these bills for all years since 20XX?".

You should select 'No' if the natural gas bill was paid on behalf of the school by another organisation for one or more years, or where another organisation occupied the premises (and paid the natural gas bill) for one or more years.

Select either 'Yes' or 'No' to the question "Has the school consumed all of the natural gas through each of these meter(s) since 20XX?".

You should select 'No' if your school shared a premises (natural gas account) with another organisation for one or more years since your baseline.

Click 'Next'

If you clicked 'No' to either of the above two questions, you will be asked to provide more information to validate each GPRN by clicking on the red ! icons. This will prompt you to confirm if your school consumed natural gas through this account in year 20XX.

Select either 'Yes' or 'No' to the question "Did your school consume natural gas through this account in 20XX?"

- If you select 'No', then a grey/blue horizontal bar will appear beside the GPRN for the year 20XX. This indicates that the metered consumption is not being counted in your school's consumption for year 20XX.
- If you select 'Yes', then you must also confirm if your school consumed all of the natural gas that was supplied through the relevant meter account in 20XX.

Select either 'Yes' or 'No' to the question "Did your school consume all of the electricity that was supplied through this account in 20XX?

- If your school shared the GPRN with other organisation(s) during the year 20XX, then enter the estimated % of the natural gas consumption through that meter that is attributable to your school for year 20XX.

If you selected 'No' to the question ""Are the bills for all of these natural gas account(s) addressed to your school and has the school been responsible for paying all of these bills for all years since 20XX?", you will be asked to confirm if consent to access the metered consumption has been given by the person or entity that pays the bill. You will need to select one of the following options and then click 'Save':

- The bill for this account is addressed to your school and your school paid the bill for 20XX.
- The bill for this account is addressed to a named individual (e.g. principal, member of Board of Management), but your school paid the bill for 20XX. Your school has consent from this named individual for the natural gas meter operator to disclose to you and to SEAI the natural gas account data for this GPRN for 20XX.
- The bill for this account is not addressed to your school and a landlord or a co-located school paid the bill for 20XX. Your school has consent from the bill payer to disclose to you and to SEAI the electricity account data for this GPRN for 20XX.
- Your school does not have consent from the person to whom the bill was addressed and/or who paid the bill for 20XX to access consumption data for this account for 20XX.

Review your list of GPRN(s), and icons under each year since the start of your baseline:

- A green tick means that the GPRN is being counted in your school's consumption for the relevant year.
- A grey/blue horizontal bar means that the GPRN is **not** being counted in your school's consumption for the relevant year.
- A red exclamation mark means that you still need to provide more information about this GPRN – you should click on it to do so.

You can click on the blue icon (it looks like a clock) at the bottom of each column to copy the validation status from the previous year to the next year for all of your GPRN(s), e.g. click the button below 2016 to copy the 2015 validation status for all of the GPRN(s) listed.

Ensure that you repeat the steps above until all years have green ticks (or grey/blue horizontal bars). Non-validated GPRNs shown with red ! icons will not be processed by the system.

Once completed, click 'Next' to report your next energy type.

Self-Report Natural Gas (no meter numbers)

If you have selected 'Natural Gas (no meter numbers)' as an energy type. Calculate your annual consumption and, when prompted by the system, enter the relevant figures in kWh. Take particular care not to report any consumption that will also be captured via your GPRNs. Otherwise your consumption will be double counted, which could significantly distort your school's apparent performance.

The *M&R Video Guides* provide additional information on how to enter data and complete your report.

10.10 Data entry tile (2): How do we report our other non-network-connected energy consumption?

To enter this data, you should select 'Submit Your 2016 Report' and then use the tile labelled '(2) Energy Consumption'.

In the context of this system, non-network-connected energy supplies refer to all energy supplies that are not network connected, i.e. all energy types except natural gas and electricity.

Select your energy types

Click 'Review & submit your data' and then click the relevant check boxes. There is extensive guidance on identifying & understanding what energy types you use in FAQ 11. To select an energy type that is not listed, tick the 'Other Energy Types' option.

Report your annual consumption

Click 'Next' and, when prompted, enter the annual consumption values in the units shown for each energy type. It is imperative that you enter the values in the units shown; otherwise, your data could significantly distort your school's apparent performance.

The *M&R Video Guides* provide additional information on how to enter data and complete your report.

10.11 Data entry tile (2): How do we report on the completeness of our data?

All data entered must be valid and robust. Data will be subject to review for validity. However, it is recognised that some schools may struggle to gather all of the required data within the reporting window, especially in the first few years when they may be developing better information systems to collate and report data internally.

In this context, the system gives you an opportunity to classify the completeness of your submission as either 'barely complete', 'somewhat complete', 'almost complete' or 'complete'. You can also include a note identifying what data is missing.

Notwithstanding this, there is limited value in submitting only partial data that is not substantially complete. Furthermore, you should only submit 'incomplete' data if you genuinely intend to fill the gaps in the subsequent reporting cycle. Incomplete submissions will not be accepted as final demonstrations of progress against the 2020 target.

10.12 Data entry tile (2): There are MPRNs / GPRNs shown that we did not submit to SEAI. Where did these come from?

Both the energy suppliers and the National Procurement Service submitted MPRNs {FAQ 13.1} & GPRNs {FAQ 13.2} to SEAI for schools. Any 'additional' MPRNs and GPRNs from these sources have been added to those that your school may have submitted since 2010. You can update or delete all of the MPRNs and GPRNs shown for your school.

10.13 Data entry tile (3): How do we report our project data?

To enter this data, you should select 'Submit Your 2016 Report' and then use the tile labelled '(3) Energy Saving Projects'.

Click 'Review & Submit' to add a new project (or to review projects that you have previously reported).

To add a 'new' project that either been implemented already or that is planned, answer 'Yes' to the question "Has your school completed any energy saving projects since 2001 for which you can quantify savings? Or, has it any plans for future projects for which it can estimate savings?".

Select "Next" and you will then be prompted to enter the following data:

- Project name;
- Implementation year;
- Status – planned or complete;
- Basis for reporting energy savings (total savings or broken down by electricity, heating, transport) – see guidance on reporting savings from groups of projects {FAQ 10.16};
- Energy savings attributable to the project in kilowatt-hours (kWh);

- Project type (select from menu);
- Indicate whether the project used Triple E equipment. If the project involved the procurement of equipment or vehicles, were the equipment or vehicles used either classified as Triple E by SEAI {http://www.seai.ie/Your_Business/Triple_E_Product_Register/} or did they meet the energy efficiency criteria published by SEAI for relevant product categories?
- Approach / methodology used (/proposed for use) to verify savings {FAQ 10.15} (select from menu);
- Comments (Optional).
- Indicate whether SEAI can use it as the basis for a mini case study (for publication);

The *M&R Video Guides* provide additional information on how to enter data and complete your report.

10.14 Data entry tile (3): How far back can we go with our energy savings project list?

Generally you can enter details for projects implemented as far back as your baseline period {FAQ 8.10}. However, if projects implemented before this period are still generating energy savings for your organisation, you can also include them.

10.15 Data entry tile (3): Why do we have to report a 'verification methodology'? What are the reporting options?

Measurement and verification (M&V) is the process of using measurement to reliably determine the actual savings achieved within a facility by an energy management project/projects. It is an important element of effective energy management because projects do not always yield the level of savings that are anticipated prior to implementation.

You can select one of the following verification methodologies (listed in descending order of robustness) for the projects that you report:

- 'IPMVP or equivalent': the International Performance Measurement and Verification Protocol (IPMVP), developed by the Efficiency Valuation Organisation (EVO), is an internationally referenced framework that is used to 'measure' energy (or water) savings. As savings cannot be directly measured, savings are calculated by comparing measured consumption before and after project implementation.
- 'Retrospective analysis of savings': an analysis of relevant energy consumption data *undertaken after project implementation* - to calculate the savings attributable to the project(s), but the analysis did not use the formal IPMVP or equivalent framework.
- 'Projected savings': an analysis of relevant energy consumption and other data *undertaken before project implementation* - to calculate the projected savings.
- 'None': No verification undertaken – the value(s) entered for energy savings are estimates based on professional judgement alone.

10.16 Data entry tile (3): We have undertaken a suite of energy efficiency projects at our school. Should we report this as a single project or as several smaller projects?

If you have implemented a suite of energy efficiency projects at a school, you have two options with respect to reporting the projects:

- Preferred option: report each sub-project as a separate entry complete with quantified energy savings for each individual sub-project;
- Alternative option: report the entire suite of projects as a single entry, complete with quantified energy savings for the overall suite of projects.

If, for example, you have insufficient data to report using the preferred option, you can use the alternative option, which requires less data. If you have sufficient data to report using the preferred option, then please use this option.

Importantly, however, the savings reported must match the suite of projects/sub-project as you have described them/it. Be careful not do double count any reported savings, e.g. by reporting the total savings attributable to a suite of projects more than once for separately reported sub-projects.

10.17 What is the scorecard?

An energy performance scorecard can provide a visually appealing insight into the energy performance of an organisation. The M&R scorecard communicates important energy metrics to your organisation. The scorecard includes:

- Your savings since your baseline period {FAQ 8.10} and your progress towards the 2020 target;
- Your EnPI {FAQ 7.4} for the most recent year and data on how this has changed since the previous year and how it compares to the target;
- Graphical representation of your EnPI over time and how it compares to the 2020 target 'glidepath';
- Graphical summary of your school's energy consumption over time;
- Benchmarking of your progress towards 2020 compared to other schools.

Note: the scorecard can only be meaningfully used when all of your consumption data is entered. For this reason, it will not account for the most recent year's data until after the electricity and natural gas consumption data has been sourced from the meter operators and uploaded to the system.

10.18 How do we submit our data?

Red warning signs (exclamation marks in red triangles) on the 'Your 2016 Report' page will highlight to you any aspects of your report that are incomplete. When these warnings have been replaced by large green ticks on all three tiles, you have entered data in all of the mandatory fields.

The data that is in the system by the *Reporting Deadline* is automatically submitted to SEAI.

10.19 When are the key reporting milestones, dates & deadlines?

The reporting cycle is based on the key milestones set out below. The dates corresponding to these milestones for the current reporting cycle are available here.

Reporting Window Open Date	Schools can enter data into the system from this date.
Reporting Deadline	This is the deadline for the receipt of data for the reporting cycle. **The system will not accept late submissions beyond this deadline.** The data submitted by this date will be that scrutinised via the data verification assessment process.
Final Scorecard Date	*Final* scorecards will be available via the online system from this date – for schools that submitted sufficient data to generate a scorecard.

10.20 What happens if we miss the *Reporting Deadline*?

The system will not accept submissions after the Reporting Deadline. Schools that have not reported will be listed accordingly in the SEAI report to be published following the end of the reporting cycle.

Click here for the timing of the *Reporting Deadline*.

10.21 What if we make a mistake in the data we submit?

There will be opportunity to review all of your data again next year. If you need to change anything then, you will be able to do so.

10.22 We have data in our own spreadsheets. Can we submit the data to SEAI in this format?

No. The data must be submitted via the online system.

10.23 Will we have to resubmit all of the data we report this year again in future years?

No. All data entered into the system is saved in the system and will be available for review – and in most cases to edit – in future years.

10.24 What will SEAI do with the data we submit?

SEAI will send the MPRNs {FAQ 13.1} & GPRNs {FAQ 13.2} submitted to the regulated meter operators (ESB Networks MRSO and Gas Networks Ireland), who will query their databases and return the corresponding consumption data to SEAI.

Once the data is returned by the regulated meter operators, SEAI will then upload this data to the system from which time your scorecard will be available.

Following the completion of the reporting cycle, SEAI will publish a report on the sector's progress towards the 33% target. This will highlight progress across the sector as a whole and showcase individual achievements. It will also illustrate each individual school's energy performance since its preferred baseline period {FAQ 8.10} and compared to its 2020 target – in terms of a percentage change in each school's energy performance indicator. Schools that fail to report their data in accordance with their obligations will be listed accordingly in this publication. The data that will be published is outlined under item 7 in the Public Sector Energy Monitoring and Reporting System Terms and Conditions {10.28}.

10.25 When will our Scorecard be available?

Your scorecard will available via the online system - assuming you submitted sufficient data to generate a scorecard. You will be notified by email when it becomes available.

10.26 What information will SEAI publish?

Upon completion of the reporting cycle, SEAI will publish a report on energy consumption in the public sector – based on the data collected through the monitoring & reporting system. In addition to aggregated data for the public sector and specific sub-sectors within it, the report will include the following information on each of the public bodies:

- School name and roll number.
- Reporting year, which is the year for which the data is being reported.
- Baseline period {FAQ 8.10} selected.
- Percentage change in energy performance indicator (EnPI {FAQ 7.4}) since previous year.
- Percentage change in EnPI since baseline.
- Percentage change in total primary energy requirement (TPER) {FAQ 8.4} since previous year.
- Percentage change in TPER savings since baseline.
- Scorecard graphic illustrating the trend in the school's normalised EnPI {FAQ 7.4} since the baseline period and with respect to a target glidepath to 2020. The normalisation is implemented by setting the baseline EnPI to 100 and calculating subsequent annual values for the EnPI relative to this. The normalised EnPI is a convenient way to express the school's performance since the baseline period and how it is doing compared to the target, without revealing the school's activity data.

- Status of the school's report for the reporting year; the four possible status classifications as 'No Report Submitted', 'Report not Complete', 'Report Submitted – data to be Verified' and 'Report Complete'. Submission date of the last report submitted.
- Quantity of grid electricity consumed by the school in the reporting year, expressed in both kWh TFC and kWh TPER.
- Quantity of fossil fuels consumed by the school in the reporting year, expressed in both kWh TFC and kWh TPER.
- Quantity of renewable fuels consumed by the school in the reporting year, expressed in both kWh TFC and kWh TPER.
- Quantity of TFC consumed in the reporting year, expressed in kWh.
- Quantity of TPER consumed in the reporting year, expressed in kWh.
- List of energy saving projects implemented in the reporting year and amount of energy savings reported for each, expressed in kWh TFC.
- List of energy saving projects proposed for implementation in years after the reporting year and amount of estimated energy savings reported for each, expressed in kWh TFC.

10.27 Is SEAI subject to the Freedom of Information (FOI) legislation?

Yes. SEAI is subject to the Freedom of Information (FOI) legislation.

Any requests made to the SEAI for M&R data under the FOI legislation will be handled in accordance with SEAI's internal freedom of information procedures.

10.28 What are the terms and conditions for the submission of data using SEAI's M&R system?

The terms and conditions for the submission of data to SEAI using the M&R system are available at this page.

11 GATHERING DATA: WHICH TYPES OF ENERGY DO WE USE?

11.1 How do we know which types of energy we use?

There are two approaches to working out *which types* of energy you use:

- Follow the money;
- Identify & understand your significant energy users.

The first (and best) way involves investigating what energy supplies your school spends money on. The vast majority of organisations pay for their energy directly, i.e. they pay energy supplier(s) in return for network connected supplies (electricity or gas), for deliveries (e.g. heating oils, solid fuels, LPG) or for energy supplied offsite (e.g. transport fuels from filling stations). If your organisation pays for energy, then the corresponding bills (invoices) must be on your financial system somewhere. These bills must specify the type and quantity of energy supplied.

If your school doesn't pay directly for its energy (e.g. if your school pays for your light & heat as part of your rent to a landlord), then you should ask your landlord which types of energy your building uses.

The second approach involves developing an understanding of your significant energy users. Some basic rules of thumb in this regard:

- All schools use electricity.
- Unless you use electricity for heating your facilities, your school also uses one or more forms of thermal energy for heating.
- If your school has central heating or a boiler, then you use one or more gas, oil, renewable or solid fossil fuel. Most schools use either gas or oil.
- If your school has a fuel tank, then it uses some form of oil or LPG. LPG is stored under pressure in sealed tanks. Oil tanks are naturally ventilated.
- If you consume gas from the gas network, then you use natural gas.
- If you use gas from cylinders (for heating or cooking) or from a tank, then you use LPG.
- If your school uses mobile plant or machinery that requires liquid fuel, then you almost certainly use gasoil.
- If your school uses road vehicles, then you use some form of transport fuel, most likely road diesel.

11.2 What's the difference between natural gas and LPG?

Natural gas is a naturally occurring fossil fuel that is composed mainly of methane. It is piped through a national gas transmission & distribution network (in gaseous form, under pressure) directly to end users in the industrial, power generation, services and domestic sectors. The network can be viewed here: www.bordgais.ie/networks/index.jsp?p=104&n=141.

LPG or liquefied petroleum gas is manufactured in oil refining, crude oil stabilisation and natural gas processing plants. It consists of propane and/or butane gases. It is stored under pressure as a liquid in cylinders or bulk tanks and is delivered to end users in small cylinders (sold in kilograms (kg)) or in

tankers from which it is transferred to bulk tanks onsite (sold in litres (l)). It is typically used in boilers (for space & water heating) and for cooking.

11.3 How do we know what type(s) of heating oil we use? What's the difference between them?

There are two categories of heating oil used by schools:

- **Kerosene** is also known as **Paraffin** or **28-Second Heating Oil**. It is reddish in colour. It is typically used in boilers for space & water heating.
- **Gasoil** is also known as **Marked Gasoil** or **Distillate** or **35-Second Heating Oil** or **Green Diesel** or **Marked Diesel**. It is dyed green in colour and is typically used in boilers for space & water heating. It is also used in generators, mobile plant, construction machinery, agricultural machinery and marine engines.

If you're not sure about which one you use, you can:

- Check the wording on your fuel supply documentation (orders, invoices, delivery dockets, receipts, statements, etc.);
- Ask your supplier(s);
- See if there are any identification markings or stickers on your tank(s);
- Check the colour of the fuel.

11.4 How do we know what type(s) of solid fossil fuels we use? What's the difference between them?

Only very few schools use solid fossil fuels and those that do use relatively small quantities. The main fuels used are:

- **Coal** or **Bituminous Coal** is used in some older solid fuel boilers for space and water heating as well as in open fires. It is sold by weight. For the purposes on the Monitoring & Reporting system, this category also includes **Anthracite Coals**, **Manufactured Ovoids** and **Smokeless Coal**.
- **Sod Peat** is the turf that was traditionally used in Ireland. It is extracted from a bog in a roughly rectangular shape and air-dried before use. It is sold by weight and typically only used in open fires.
- **Peat Briquettes** are a manufactured product made from compressed dried peat. They are typically used in open fires or small solid fuel boilers (domestic scale). They are sold in bales (1 bale = 12.6 kg = 0.0126 tonne).

11.5 How do we know what type(s) of wood fuels we use? What's the difference between them?

There are two main categories of wood fuels used in the schools:

- **Wood Chips** are a renewable fuel comprising small pieces of wood that can be used in boilers for space and water heating. They are sold by weight and can have moisture contents of between 30-60%, depending on the source of the chips and the duration and nature of their storage prior to use. Typical moisture content is 35%. If you consume wood chips with a moisture content other than 35%, you should report them as an 'other energy type' {FAQ 5.3}.
- **Wood Pellets** are a manufactured product comprising wood shavings and sawdust that have been formed into pellets. They are sold by weight and typically used for heating in boilers and stoves.

Additional information on wood energy is available from Coford's wood energy FAQ at www.woodenergy.ie/frequentlyaskedquestions/.

11.6 How can we tell what the moisture content of our wood chips is?

If the sales documentation (i.e. orders, invoices, delivery dockets, receipts, statements, etc.) does not specify the moisture content, you should ask your wood chip supplier to tell you. Note that if you consume wood chips with a moisture content other than 35%, you should report them as an 'other energy type' {FAQ 5.3}.

11.7 How do we know what type(s) of road transport fuels we use? What's the difference between them?

The vast majority of road vehicles use either road diesel or petrol:

- **Road Diesel**, which is also known as **Auto Diesel**, **White Diesel** or **DERV** is used in nearly all diesel-engined road vehicles. It is clear in colour. Conventional specifications for Road Diesel include small quantities of blended biodiesel (about 3% in 2010).
- **Petrol**, which is also known as **Gasoline** or **Motor Gasoline** or **Motor Spirit** is used in nearly all petrol-engined road vehicles as well as in some mobile plant & equipment and some marine engines. It is clear in colour. Conventional specifications of Petrol include small quantities of blended bioethanol (about 3% in 2010).

12 GATHERING DATA: HOW MUCH ENERGY DO WE USE?

12.1 How do we know how much energy we have consumed?

In general, the energy use data should be derived either from either meters or bills:

- **Meters** record the quantity of energy that 'passes through' them. All electricity connections (except most public lighting) and all natural gas connections are metered. Some (but not all) heating oil tanks, bulk LPG tanks and onsite transport fuel tanks are metered. District heat connections are also typically metered. Remember:
  - Not all meters show consumption in the same units (even meters used for the same fuel type), so you should always note the metered units along with all readings.
  - Some meters require conversion factors to convert readings to meaningful units.
  - To work out the consumption over a period of time using a meter, you will need readings from the beginning and the end of the period and you should subtract the former from the latter to determine how much was used.
- All energy supplies that your schoolpays for are billed. **Bills** are a very useful source of consumption data as they *should* clearly specify the quantity of energy provided (e.g. in litres, tonnes etc.) as well as the Euro amount. If your bills are not clear ask your supplier to issue you with clear, unambiguous bills. For fuels purchased in bulk (e.g. heating oils, LPG, solid fuels), bills can provide the basis for estimating the energy consumption in a calendar year. However, the billed amount may not equal the amount you actually consumed in the period (see FAQ below).

Other methods appropriate for specific energy types include tank dipping, fuel card systems and direct enquiries to your supplier(s). In some instances, your suppliers' records may be better than yours! You should contact them and see what information they can provide. You should also incorporate obligations into future energy supply relationships to ensure that suppliers provide relevant, coherent data to you – to help you fulfil your reporting obligations.

The following FAQs address some of the issues typically encountered when seeking to determine consumption for specific energy types.

12.2 How do we know how much electricity we have consumed?

Note: The only instances in which you should have to work out your electricity consumption from bills are:

- For the years 2001-2005 if you have selected the 2001-2005 baseline period {FAQ 8.10}, and/or;
- If you have chosen to self-report (part of) your electricity consumption from 2006 onwards.

The M&R system automatically sources the electricity consumption data (from 2006 onwards) corresponding to your *validated* MPRNs directly from the regulated meter operator {FAQ 4.2}.

Electricity is metered and billed in kWh. The best way to calculate your annual consumption is to record your own meter readings regularly (including at the beginning and end of each year). Alternatively, you can work out your annual consumption by adding up all of the kWh on all of your bills for the entire year, as follows:

1. Identify the meter reading (bill) closest to the start of the year, i.e. closest to 1st January – this could be before or after this date;
2. Identify the meter reading (bill) closest to the end of the year, i.e. closest to 31st December – this could be before or after this date;
3. Subtract the meter reading shown in the start-of-period bill (step 1) from that shown in the end-of-period bill (step 2);
4. Multiply the result of step 3 by the meter multiplier to convert to kWh (note: this is usually 1.0, but is different for some meters - it is shown on your bills);
5. Divide the result obtained in step 4 by the number of days between the two meter reads and multiply by 365 to calculate the annual consumption for the year.

You can also get the information from the online energy bill reporting tools provided by the electricity suppliers. In all cases, you should retain records of your calculations.

12.3 If we are self-reporting electricity consumption for the period 2001-2005, do we have to provide actual annual consumption data for each year or is it sufficient to provide average annual consumption data for each of the years in the period?

It is preferable to submit actual annual consumption data. However, average annual consumption data over the 2001-2005 baseline period {FAQ 8.10} is acceptable - for electricity only. It is important that such averages are calculated in a robust manner. The following is an appropriately robust approach to undertaking the calculation for each electricity account:

1. Identify the meter reading (bill) closest to the start of the baseline period, i.e. closest to 1st January 2001 – this could be before or after this date;
2. Identify the meter reading (bill) closest to the end of the baseline period, i.e. closest to 31st December 2005 – this could be before or after this date;
3. Subtract the meter reading shown in the start-of-period bill (step 1) from that shown in the end-of-period bill (step 2);
4. Multiply the result of step 3 by the meter multiplier to convert to kWh (note: this is usually 1.0, but is different for some meters - it is shown on your bills.);
5. Divide the result obtained in step 4 by the number of days between the two meter reads and multiply by 365 to calculate the average annual consumption for each of the five years;
6. Add all of the calculated average annual consumptions for each meter to calculate the total electricity for each of the baseline years.

Note that the above approach is acceptable for self-reported electricity for the period 2001 to 2005 only.

In all cases, you should retain records of your calculations.

12.4 How do we know how much natural gas we have consumed?

Note: The only instances in which you should have to work out your natural gas consumption from bills are:

- For the years 2001-2005 if you have selected the 2001-2005 baseline period {FAQ 8.10}, and/or;
- If you have chosen to self-report (part of) your natural gas consumption from 2006 onwards.

The M&R system automatically sources the natural gas consumption data (from 2006 onwards) corresponding to your *validated* GPRNs directly from the regulated meter operator {FAQ 4.2}.

Natural gas is metered and billed in kWh. The best way to calculate your annual consumption is to record your own meter readings regularly (including at the beginning and end of each year). Alternatively, you can work out your annual consumption by adding up all of the kWh on all of your bills for the entire year, as follows:

1. Identify the meter reading (bill) closest to the start of the year, i.e. closest to 1st January – this could be before or after this date;
2. Identify the meter reading (bill) closest to the end of the year, i.e. closest to 31st December – this could be before or after this date;
3. Subtract the meter reading shown in the start-of-period bill (step 1) from that shown in the end-of-period bill (step 2);
4. Multiply the result of step 3 by the meter multiplier to convert to kWh (note: this is usually 1.0, but is different for some meters - it is shown on your bills);
5. Divide the result obtained in step 4 by the number of days between the two meter reads and multiply by 365 to calculate the annual consumption for the year.

In all cases, you should retain records of your calculations.

12.5 An electricity / natural gas bill period covers days in more than one year. What do we do?

Note: The only instances in which you should have to work out your electricity or natural gas consumption from bills are:

- For the years 2001-2005 if you have selected the 2001-2005 baseline period {FAQ 8.10}, and/or;
- If you have chosen to self-report (part of) your electricity or natural gas consumption from 2006 onwards.

The M&R system automatically sources the electricity and natural gas consumption data (from 2006 onwards) corresponding to your *validated* MPRNs {FAQ 13.1} & GPRNs {FAQ 13.2} directly from the regulated meter operator(s) {FAQ 4.2}.

Electricity and gas bills typically cover two-month periods that do not coincide exactly with calendar months. Therefore, for a bill that straddles a year end, you should use the following simple method to allocate consumption to the relevant year:

- Calculate the total number of days covered by each bill (no. of days between the current and last bill) – the cut-off dates will be on the bill;

- Work out how many of these days fall into each of the two years covered by the bill;
- Divide the number of energy units consumed (i.e. kWh of electricity or gas) by the number of days in the bill period;
- Multiply this daily value by the number of bill days in the year you're interested in – this is the consumption from this bill that is attributable to the year in question.

Remember that this means that you will need to include data from the first bill of the next year in your consumption figures for this year, e.g. a bill received in early February 2012 will include kWh consumed in December 2011.

12.6 How do we know how much LPG we have consumed?

LPG is sold in litres (for bulk deliveries, i.e. delivered in tankers) or by weight (small cylinders):

- If your **bulk** LPG supply is metered (i.e. if there is a meter between the tank and the equipment that uses LPG), then taking readings from this is the best way of determining your consumption. If you don't have a meter or sufficient meter readings you should estimate the consumption from your LPG bills. Remember though that the billed quantities won't necessarily match your consumption in a specific year because your tank(s) could have different levels at the start and end of the year. You should keep a record of LPG deliveries on a year to year basis. Over time this will assist you to better understand how LPG consumption changes on a monthly basis throughout the year and you will be able to make progressively better estimates of how much was consumed between deliveries.
- The quantity of LPG stored in **cylinders** is written on the cylinders in kilograms. Invoices (bills) should also have this information. Multiplying this by the total number cylinders used will give you the total weight used in a year in kilograms.

12.7 How do we know how much heating oil we have consumed?

The vast majority of oil fuels are sold in litres:

- If your oil supply is metered (i.e. if there is a meter between the tank and the equipment that uses the oil), then taking readings from this is the best way of determining your consumption.
- If you don't have a meter, tanks can be dipped to calculate the quantity used over time.
- Alternatively, you could estimate the consumption from your bills. Remember though that the billed quantities won't necessarily match your consumption in a specific year because your tank(s) could have different levels at the start and end of the year (and you won't know these levels unless you have dipped the tank(s)). You should keep a record of oil deliveries on a year to year basis. Over time this will assist you to better understand how oil consumption changes on a monthly basis throughout the year and you will be able to make progressively better estimates of how much was consumed between deliveries.

12.8 How do we know how much solid fuels we have consumed?

The vast majority of solid fuels (coal, peat, wood chips, wood pellets etc.) are sold in tonnes or, for smaller quantities, in kilograms. As solid fuels cannot be metered in the same way that liquids or gases can, you will almost certainly have to estimate your consumption over the year from your bills:

- For smaller quantities of fuels purchased in **packages (bags, bales etc.)** such as coal, briquettes & wood pellets, both the packaging and the invoices should show the weight of fuel contained in each package. You should multiply the weight by the quantity purchased to work out the consumption. As an example, the typical bag size for smokeless fuels and coal is 40 kg and the typical weight for a bale of briquettes is 12.6 kg.
- If you purchase solid fuels in **bulk** (e.g. coal, wood chips, wood pellets, loose briquettes), then the invoices (bills) should show the tonnes delivered. If your organisation operates a weighbridge, this could be used to calculate delivered quantities of bulk fuels.

As with oil, the billed quantities won't necessarily match your consumption in a specific year because your stores could have different stock levels at the start and end of the year (and you are unlikely to know what these levels are). You should keep a record of all deliveries on a year to year basis. Over time this will assist you to better understand how solid fuel consumption changes on a monthly basis throughout the year and you will be able to make progressively better estimates of how much was consumed between deliveries.

Remember that 1 tonne = 1,000 kilograms.

12.9 Do we report unconsumed quantities of fuel in stock at the end of the year?

No.

For liquid and solid fuels, the delivered (billed) quantities won't necessarily match your consumption in a specific year because your stores could have different stock levels at the start and end of the year. Only the fuel consumed in each calendar year should be reported. You should keep a record of all deliveries on a year to year basis and try to estimate the quantities in stock at year end. Over time this will assist you to better understand how fuel consumption changes on a monthly basis throughout the year and you will be able to make progressively better estimates of how much was consumed between deliveries.

12.10 How do we know how much district heating heat we have consumed?

In most cases the district heating supplies are metered through a 'heat meter'. The amount of energy used should also be shown on your energy bill from the operator/owner of the scheme. This will normally be billed in kWh.

If in doubt you should contact the operator of the system.

12.11 How do we know how much transport fuel (e.g. diesel) we have consumed?

All transport fuels are metered, dispensed and billed in litres. There are several ways to calculate your organisation's consumption, depending on the scale of consumption involved:

- If your organisation purchases fuels through a **fuel card** system, this is the easiest way to calculate consumption. You should be able to access all your purchases.
- If you don't operate a fuel card system, you can review your **bills** to determine the number of litres purchased in each transaction. **Trip computers** on vehicles can also be used to calculate fuel consumption.
- If your organisation purchases transport fuels in **bulk** (i.e. dispense at your facility), then you should meter your own dispense point. If you don't meter this consumption, then you will have to estimate it from your bills. Remember though that the billed quantities for bulk deliveries won't necessarily match your consumption in a specific year because your tank(s) could have different stock levels at the start and end of the year. You should keep a record of bulk deliveries; over time this will assist you to better understand how fuel consumption changes on a monthly basis throughout the year and you will be able to make progressively better estimates of how much was consumed between deliveries.

12.12 A small quantity of biofuels is blended with the diesel / petrol we use. How should we account for this?

Many fuel suppliers blend small quantities of biofuels (up to 7%, but typically closer to 4%) into 'conventional' (i.e. mineral) road diesel and petrol. More often than not, consumers are unaware of this biofuel component in the transport fuels they consume.

Biofuels consumed as part of standard specification diesel or petrol need not be explicitly reported. The system automatically assumes that a small percentage of this consumption is biofuels.

12.13 We are struggling to work out our consumption figures. What should we do?

Read all of the questions in this FAQ and review the other guidance materials {http://www.seai.ie/Your_Business/Public_Sector/Reporting/Schools/}.

SEAI's Energy Management Action Plan is an online tool which provides a step by step guide to creating a best practice action plan for energy management in organisations. Three of the twenty steps are particularly relevant for identifying and understanding energy consumption:

- Step 7: Identify total energy consumption and develop an energy baseline - http://www.seai.ie/EnergyMAP/Identify/Step-7-Identify-total-energy-consumption-and-develop-an-energy-baseline/
- Step 8: Survey energy use & identify significant energy users - http://www.seai.ie/EnergyMAP/Identify/Step-8-Survey-energy-use-identify-significant-energy-users-//

Step 9: Identify factors that influence energy use and establish Energy Performance Indicators (EnPI's) - http://www.seai.ie/EnergyMAP/Identify/Step-9-Identify-factors-that-influence-energy-use-establish-Energy-Performance-Indicators-EnPI-s-/

13 GATHERING DATA: MPRNS & GPRNS

13.1 What is an MPRN?

A Meter Point Reference Number (MPRN) is a unique 11-digit number assigned to every single electricity connection and meter in the country. Each individual meter has its own MPRN. An example of what an MPRN looks like is: 10009998888.

Your MPRN stays the same even if you change electricity supplier. Regardless of which electricity supplier supplies electricity through your meter, the MPRN is managed by the ESB Meter Registration System Operator (MRSO), which is a fully regulated ring-fenced business unit within ESB Networks.

Note that the MPRNs used for unmetered public lighting systems are referred to as *group* MPRNs (or GMPRNs). These are also eleven digits long, but they start with the digit 9.

13.2 What is a GPRN?

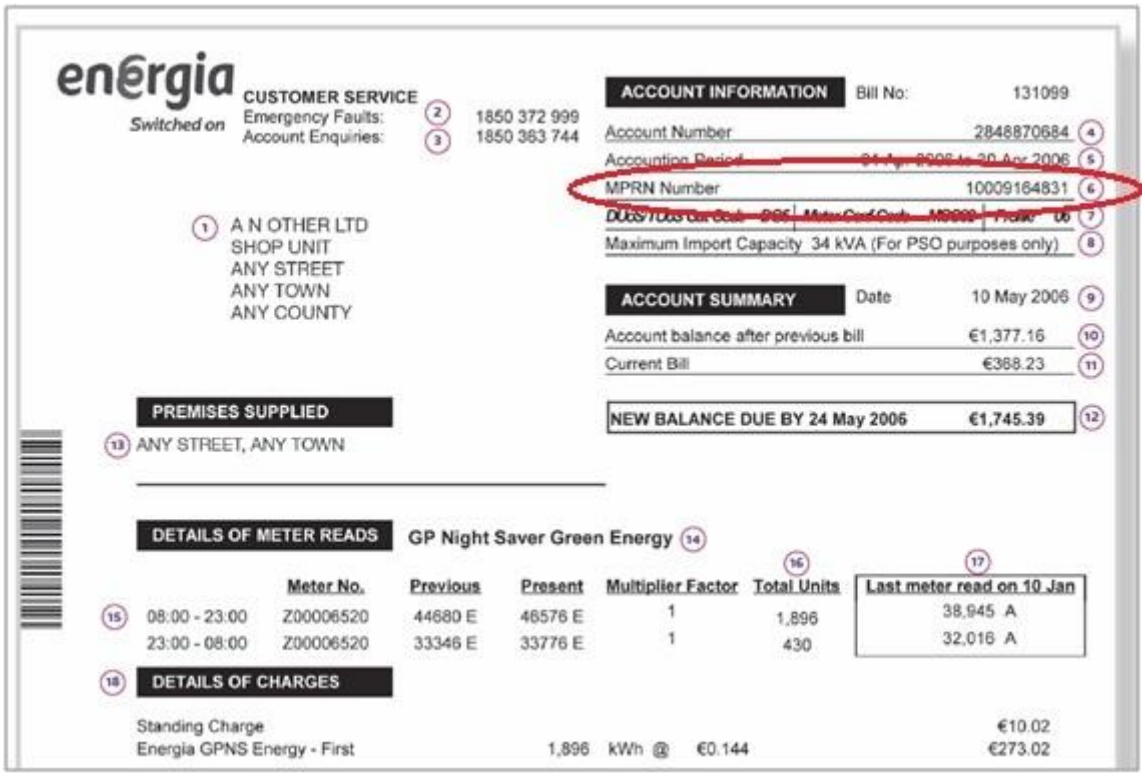
A Gas Point Registration Number (GPRN) is a unique reference number assigned to every gas point on the natural gas network. A gas point is a point where gas is off-taken from the gas network system, measured by a meter and consumed by an end user. Each individual gas point has its own GPRN. GPRNs have up to 7 digits. An example of what a GPRN looks like is: 2354868.

Your GPRN stays the same even if you change natural gas supplier. Regardless of which gas supplier supplies natural gas through your meter, the GPRN is managed on an independent basis by Gas Networks Ireland.

Only natural gas connections have GPRNs. LPG supplies do not have GPRNs.

13.3 How do we find our school's MPRN(s)?

Your MPRN(s) {FAQ 13.1} are prominently displayed on the electricity bills you receive from your supplier(s). For example, the MPRN (circled & labelled as 6) is shown on the top right of this extract from a sample Energia electricity bill.



energia
Switched on

CUSTOMER SERVICE
Emergency Faults: 2 1850 372 999
Account Enquiries: 3 1850 383 744

ACCOUNT INFORMATION Bill No: 131099
Account Number 2848870684 4
Accounting Period [illegible] 5
MPRN Number 10009164831 6
DUOS/TOUS Tariff Code [illegible] 7
Maximum Import Capacity 34 kVA (For PSO purposes only) 8

1 A N OTHER LTD
SHOP UNIT
ANY STREET
ANY TOWN
ANY COUNTY

ACCOUNT SUMMARY Date 10 May 2006 9
Account balance after previous bill €1,377.16 10
Current Bill €388.23 11
NEW BALANCE DUE BY 24 May 2006 €1,745.39 12

PREMISES SUPPLIED
13 ANY STREET, ANY TOWN

DETAILS OF METER READS GP Night Saver Green Energy 14

	Meter No.	Previous	Present	Multiplier Factor	16 Total Units	17 Last meter read on 10 Jan
15 08:00 - 23:00	Z00006520	44680 E	46576 E	1	1,896	38,945 A
23:00 - 08:00	Z00006520	33346 E	33776 E	1	430	32,016 A

18 DETAILS OF CHARGES

Standing Charge				€10.02
Energia GPNS Energy - First	1,896	kWh @	€0.144	€273.02

Source: Energia

The MPRNs are also clearly illustrated on the following sample bills from other suppliers:

- Airtricity: the MPRN is shown on the extreme top right of this sample bill: www.airtricity.com/ie/home/help-centre-ie/understanding-your-bill/start-here/your-bill-explained/electricity-cheque-direct-debit/your-bill-explained/
- Bord Gáis Energy: the MPRN is shown on the right of this sample (residential) bill: http://www.bordgaisenergy.ie/help-and-questions/home/electricity/billing/?q=16
- Electric Ireland: the MPRN (labelled as item 4) is shown on the top right of this sample bill: https://www.electricireland.ie/business/help/billing/understanding-your-electric-ireland-electricity-bill

In addition to the MPRN, there are often several other reference numbers shown on a bill, which can be confusing, e.g. Account Number, Meter Number and Invoice Number. Your MPRN should always be clearly labelled on your bill as the MPRN.

If you cannot find your MPRN(s), contact your electricity supplier(s) who will be able to check for you.

13.4 How do we find our school's GPRN(s)?

Your GPRN(s) {FAQ 13.2} are prominently displayed on the natural gas bills you receive from your supplier:

- Bord Gáis Energy: the GPRN is shown on the right of this sample natural gas bill: http://www.bordgaisenergy.ie/docs/help-and-questions/business/gas/G25886_BGE_Small_Bus_User_Bill_210410.pdf

- Airtricity: the GPRN is shown on the top right of this sample bill: http://www.airtricity.com/ie/home/help-centre-ie/understanding-your-bill/start-here/your-bill-explained/electricity-and-gas/your-bill-explained
- Electric Ireland: the GPRN (labelled as item 4) is shown on the top right of this sample bill: https://www.electricireland.ie/business/help/billing/understanding-your-electric-ireland-gas-bill

In addition to the GPRN, there are often several other reference numbers shown on a bill, which can be confusing, e.g. Account Number, Meter Number and Invoice Number. Your GPRN should always be clearly labelled on your bill as the GPRN.

If you cannot find your GPRN(s), contact your gas supplier who will be able to check for you.

13.5 We not know the meter numbers for one or more MPRN(s) or GPRN(s). What should we do?

If your school uses electricity and/or natural gas but your meter numbers are not available for entry into the system, please do not select the 'Electricity (I know my meter numbers)' or 'Natural gas (I know my meter numbers)' option(s). Choose the 'Other energy types' and then select the 'Electricity (no meter numbers)' or the 'Natural Gas (no meter numbers)' energy types instead and self-report the annual electricity or natural gas consumption for each year.

13.6 Why do we have to validate our MPRNs & GPRNs?

SEAI is committed to incorporating robust data protection principles into the M&R process. For this reason, SEAI requires that you confirm that your submitted meter numbers are valid and that you consent to SEAI requesting the relevant consumption data from the meter operator(s).

As the ownership of specific MPRNs {FAQ 13.1} & GPRNs {FAQ 13.2} can change over time (e.g. as organisations change premises), it is necessary to undertake this validation step every year.

MPRNs and GPRNs must be validated by the *Reporting Deadline* at the latest. Non-validated MPRNs or GPRNs entered after the deadline date will not be processed.

13.7 How many MPRN(s) and GPRN(s) does our school have?

Your school should have a separate, unique MPRN for every metered electricity connection. Some schools can have more than one metered connection and therefore will have more than one MPRN.

Your school should have a separate, unique GPRN for every metered natural gas connection. Some schools can have more than one metered connection and therefore will have more than one GPRN.

You may not receive a separate bill from your electricity supplier for each MPRN. Some electricity suppliers combine several connections (MPRNs) onto a single bill every billing period; however, in these cases each individual MPRN should be listed on the bill. Similarly, several gas connections (GPRNs) may be combined onto one bill, but all the individual GPRNs should be listed.

If you are unsure, you should contact your electricity and gas supplier(s).

13.8 What will the Department / SEAI do with our MPRNs & GPRNs?

The Department and SEAI will access the consumption data corresponding to these MPRNs {FAQ 13.1} & GPRNs {FAQ 13.2} on an annual basis directly from the regulated electricity and gas meter operators (ESB MRSO and Gas Networks Ireland respectively). This will help build a comprehensive picture of public sector electricity and gas use.

Meter level consumption data will be made available to those schools that submitted validated MPRNs and GPRNs.

13.9 Will we have to submit MPRNs and GPRNs every year?

No, but you will be required to validate MPRNs {FAQ 10.7} and GPRNs {FAQ 10.9} you previously submitted each year.

By providing your school's MPRNs and GPRNs now, the Department and SEAI will be able to access your electricity and natural consumption records directly from the meter operators (ESB MRSO & Gas Networks Ireland) on an annual basis. Under normal, 'business as usual' circumstances, your organisation's MPRNs and GPRNs will not change from year to year so you will not have to submit them annually.

Your MPRNs and GPRNs will only change if your school occupies a new premises, vacates an existing premises or adds/changes an electricity or natural gas connection. In these circumstances, you should update your list of MPRNs and GPRNs on the system.

Remember that switching electricity or gas supplier will not affect your MPRNs or GPRNs.

13.10 What are the benefits for our school of submitting our MPRNs & GPRNs?

Since 1st January 2011, all public sector organisations have been required to report annually on their energy usage and actions taken to reduce consumption to comply with 426 of 2014 (and formerly S.I. 542 of 2009). By submitting your organisation's MPRNs {FAQ 13.1} & GPRNs {FAQ 13.2}, the Department and SEAI can provide you with the energy consumption data corresponding to these MPRNs and GPRNs– by sourcing it directly from the regulated electricity and gas meter operators. You have ongoing access to your meter numbers and your data through the system.

This will greatly reduce the reporting burden on your organisation by eliminating the need for you to submit your electricity and natural gas consumption annually.

The collection of this data will enable SEAI to build a suite of tools and programmes specifically targeted at public sector bodies. These can assist your organisation in reducing your energy consumption, CO_2 emissions and costs.

Having all of your MPRNs and GPRNs collated in one location makes it easier for your organisation to switch energy suppliers to potentially avail of more cost effective supply options. (Your MPRNs and GPRNs are the key data items required when switching electricity and gas suppliers respectively.)

14 LANDLORD & TENANT

14.1 What do we submit if we lease a facility from a landlord and we pay the bills?

If your school pays the bills, then you should include the relevant information with your submission (e.g. MPRNs {FAQ 13.1} & GPRNs {FAQ 13.2} for network-connected energy, consumption data for non-network-connected).

If the consumption corresponding with the bills is shared with the landlord or another tenant, then see FAQ 14.7.

14.2 What do we submit if we lease a facility from a landlord and the landlord pay the bills?

Even though your school does not pay an energy supplier directly, the school still consumes energy and, therefore, has an obligation to report under the legislation.

In these circumstances you should request your landlord to give you access to as much relevant data as possible for the building (e.g. bills, meter readings, MPRNs, GPRNs, consumption data etc.) and work together to estimate the consumption attributable to your school.

If the consumption corresponding with the bills is shared with the landlord or another tenant, then see FAQ 14.7.

14.3 What if our landlord refuses to share information with us?

You should explain to your landlord that, as a public body, your school is obliged to report on your energy consumption annually in accordance with S.I. 426 of 2014 and that this consumption includes *inter alia* the energy consumption attributable to your organisation in buildings which your organisation leases. This includes energy consumption for which your school does not directly pay an energy supplier, e.g. consumption for which you pay as part of a rental payment to a landlord. Your school must report on the consumption in the billed units of energy delivery (i.e. kWh, litres, tonnes etc.) and not in Euro.

To facilitate good energy management practices in the longer run, you could consider the installation of sub-meters on your school's share of the energy supplies.

14.4 What if our school leases the building to tenant(s) and the tenant pay the bill?

If the tenant does not come under the aegis of your organisation, then you do not have to submit data *as long as the consumption does not come within the scope of your organisation's reportable consumption* – see the FAQ relating to the outsourcing or subcontracting activities {FAQ 2.2}.

If the consumption corresponding with the bills is partly attributable to your school, then see FAQ 14.7.

14.5 What if our school leases the building to tenant(s) and we pay the bill?

If the tenant does not come under the aegis of your school, then you do not have to submit data for this consumption *as long as the consumption does not come within the scope of your school's reportable consumption* – see the FAQ relating to the outsourcing or subcontracting activities {FAQ 2.2}.

If the consumption corresponding with the bills is partly attributable to your school, then see FAQ 14.7.

14.6 What do we do if we share a non-network energy supply with another organisation?

If your school shares a facility (e.g. building) with other organisation(s), it may share one or more non-network connected energy supplies (e.g. gasoil tank, LPG tank, biomass) with those organisation(s).

If your school shares one of these energy supplies, then you should estimate the percentage of the consumption that is attributable to your school and include that amount in the relevant energy subtotal that you self-report in your annual submission. For example, if you share a gasoil tank for heating a building, you should estimate the portion of the total annual billed quantity (in litres) that your school pays for – and add this amount to your school's gasoil total. The estimation could be done on the basis of your school's share of the floor area served by the boiler(s)/oil tank or by the ratio of staff or activity in the area served by the gasoil supply.

14.7 What do we do if we share an electricity or natural gas supply (meter/bill) with another organisation?

If your school shares a facility (e.g. building) with other organisation(s), it may share one an electricity (MPRN) and/or natural gas (GPRN) supply with those organisation(s).

If your school shares an MPRN (or GPRN), then you should report the MPRN (or GPRN) in the usual manner and estimate the percentage of the electricity (or gas) consumption through the meter that is attributable to your school. Simply put, you should estimate the portion of that MPRN's (GPRN's) bill that your school consumes. This could be done on the basis of your school's share of the floor area served by the meter or by the ratio of staff or activity in the area served by the meter.

14.8 Our school shares premises with another school on a temporary basis – do both schools need to report separately?

The school that is at the premises on a more permanent basis (the 'host school') should report on behalf of the school that is at the premises on a temporary basis. The following procedure should be followed:

- The host school should email the temporary school and mandr@seai.ie confirming that it will report on behalf of the temporary school. The email should reference both schools' roll numbers.

- The M&R Helpdesk will acknowledge this by email.
- The host school should include the energy consumption of the temporary school in its energy report. Note that it suffices to provide aggregate data for the two schools, i.e. there is no need to split/allocate the consumption between the two schools.
- The host school should include the pupil numbers of the temporary school in its energy report. Note that it suffices to provide aggregate pupil numbers for the two schools, i.e. there is no need to split/allocate the pupil numbers between the two schools.

When the temporary school moves out it should notify mandr@seai.ie. It will then be required to report as a standalone school. When this happens, the host school will no longer continue to report on its behalf, although the host school's historical consumption and pupil number data will continue to include that of the temporary school – as a record of its historical presence at the premises.

This approach avoids the reporting burden that would be involved in disaggregating consumption at shared premises. It does not penalise either school.

14.9 Our school is permanently collocated with another school – do we need to report separately?

The default and preferred approach is that each school reports separately. If it is not possible or practical to disaggregate the consumption for the two schools, then the approach described for schools that share premises on a temporary basis {FAQ 14.8} may be used.

If you choose to report separately, remember that the two schools *may* share one or more energy supplies (e.g. electricity, gas, oil) with the other school. If this is the case, then you should estimate the percentage of the consumption that is attributable to your school. Guidance on this available {FAQ 14.7}.

14.10 Our school is based in a hospital – do we need to report separately? {4}

If your school would prefer to report separately, then it may do so by reporting in the normal manner. However, if it is not possible or practical to disaggregate the school's consumption from that of the hospital, then the hospital may report on behalf of the school. The following procedure should be followed:

- The HSE or voluntary hospital should email the school and mandr@seai.ie confirming that it will report on behalf of the school. The email should reference the school's roll number and the hospital's PB ID (voluntary hospitals have their own PB IDs; HSE hospitals use the HSE's PB ID) – PB IDs are available here.
- The M&R Helpdesk will acknowledge this by email.
- The hospital/HSE should include the energy consumption of the school in its energy report. Note that it suffices to provide aggregate data, i.e. there is no need to split/allocate the consumption between the school and the hospital/HSE.

The hospital may wish to list the school as a sub organisation in tile (1) of its report.

14.11 Our school is based at the premises of another public body – do we need to report separately?

If your school would prefer to report separately, then it may do so by reporting in the normal manner. However, if it is not possible or practical to disaggregate the school's consumption from that of the host public body, then the host public body may report on behalf of the school. The following procedure should be followed:

- The host public body should email the school and mandr@seai.ie confirming that it will report on behalf of the school. The email should reference the school's roll number and the host public body's PB ID.
- The M&R Helpdesk will acknowledge this by email.
- The host public body should include the energy consumption of the school in its energy report. Note that it suffices to provide aggregate data, i.e. there is no need to split/allocate the consumption between the school and the host public body.
- The host public body may wish to list the school as a sub organisation in tile (1) of its report.

14.12 Our school shares premises with a private sector organisation on a temporary basis – do we need to report?

Yes. Your school should report in the normal manner.

The school may share one or more energy supplies (e.g. electricity, gas, oil) with the other organisation. If this is the case, then you should estimate the percentage of the consumption that is attributable to your school. Guidance on this available here {FAQ 14.6} and here {FAQ 14.7}.

14.13 Our school shares premises with a private sector organisation on a permanent basis – do we need to report?

Yes. Your school should report in the normal manner.

The school may share one or more energy supplies (e.g. electricity, gas, oil) with the other organisation. If this is the case, then you should estimate the percentage of the consumption that is attributable to your school. Guidance on this available here {FAQ 14.6} and here {FAQ 14.7}.

14.14 Our school is based in temporary standalone (i.e. not shared) premises – do we need to report?

Yes. Your school should report in the normal manner.

You should report the energy consumption at the temporary premises for the years in which this facility was/is occupied by the school. If/when the school moves to permanent premises, then the energy consumption at this facility should be reported for the years in which the new premises are occupied by the school.

14.15 Our school has recently moved premises or undertaken a significant extension / renovation / upgrade – should we report consumption for the period prior to this change?

Yes. You should report data for all years back to the start of your baseline period, even if this was prior to the move or significant extension, renovation or upgrade. The default baseline period for schools is 2013.

The following exceptions apply:

- If your school previously shared accommodation with another school up to 2013 or later, then this FAQ applies {FAQ 14.8}.
- If your *school* (as opposed to your school's *premises*) only came into existence during 2013 (or later), then you should contact mandr@seai.ie. Your school will be treated as a 'new entrant' on the M&R system {FAQ 8.22}.

14.16 Our school is about to move premises or undertake a significant extension / renovation / upgrade –should we report consumption for the period prior to this change?

Yes. You should report data for all years back to the start of your baseline period, even if this relates to premises that your school is about to vacate or extend, renovate or upgrade.

The only exception is if your school is currently sharing accommodation with another school on a temporary basis, then this FAQ applies {FAQ 14.8}.

15 ANNUAL STATEMENT

15.1 Is our school obliged to publish an annual statement on energy efficiency?

Public bodies, including schools, are required to publish an annual statement describing the actions it is taking, or has taken, to improve its energy efficiency and an assessment of the energy savings arising from those actions – this is part of the exemplary role expected from public bodies under SI 426 of 2014.

Where a public body is obliged to publish an annual report the statement referred to above may form part of that publication.

15.2 What do we need to include in our annual statement?

Only high level, energy consumption data is required, i.e. you only need to report the total amounts of electricity, fossil fuel and renewable fuels your school used in the reporting year. While it would be useful to report some further breakdown of consumption by end user and fuel type, this is not required.

To facilitate the reporting process, SEAI and the Department have developed a simple Energy Consumption Calculator Tool (Uirlis Ríomhaire um Ídiú Fuinnimh.xls (size 36.4 KB)) for preparing a statements for an annual report. The reporting template can be amended to fit individual circumstances. The template (including a completed sample) is available here: http://www.seai.ie/Your_Business/Public_Sector/Reporting/AnnualReport/

15.3 Does it matter where in our annual report we locate the statement on energy consumption?

No.

15.4 Do we have to use the reporting format shown in the SEAI template?

No. The template just shows one way of reporting the information. Different organisations may present the information differently. No matter what the format, organisations should report the following information:

- Total energy consumed in the reporting year ;
- Actions taken to date to improve energy performance;
- Planned actions.

SEAI encourages organisations that are taking initiatives and making savings to let others know about it – this is part of the exemplar role expected from public bodies under SI 542 of 2009.

15.5 What units should we report the data in?

You must report your consumption in kilowatt hours (kWh) or megawatt hours (MWh) (1 MWh = 1,000 kWh). If you wish, you may also report consumption in other units – in addition to kWh or MWh.

15.6 Do we have to report how much money we spend on energy?

No.

The option to report your energy spend is no longer available (2015 reporting cycle onwards).

15.7 How do we convert our energy consumption from litres / tonnes (etc.) to kWh?

The Energy Consumption Calculator Tool (Uirlis Ríomhaire um Ídiú Fuinnimh.xls (size 36.4 KB)) includes conversion factors for all fuel types. Simply enter your consumption in the normally billed units (e.g. litres of diesel) and the tool will convert it to kWh.

15.8 Our school uses lots of different fuels. Do we have to report the energy consumption for each of them separately?

No. As a minimum, you only need to report four consumption figures:

- The total overall energy consumption for the reporting year in kWh or MWh
- The total overall Electricity consumption for the reporting year in kWh or MWh
- The total overall Fossil Fuels consumption for the reporting year in kWh or MWh.
- The total overall Renewable Energy consumption for the reporting year in kWh or MWh.

The Energy Consumption Calculator Tool (Uirlis Ríomhaire um Ídiú Fuinnimh.xls (size 36.4 KB)) gives a breakdown of different fuel types and conversion factors. It also aggregates the consumption of the different fuels into the above high level breakdown required for reporting.

15.9 What is considered renewable energy?

For the purposes of this reporting process, Renewable Energy includes solar thermal, wood chips and wood pellets. All commonly used sources of Renewable Energy can be inputted into the Energy Consumption Calculator Tool (Uirlis Ríomhaire um Ídiú Fuinnimh.xls (size 36.4 KB)).

15.10 What is considered a fossil fuel?

Fossil Fuels include natural gas, gasoil, fuel oils, LPG, diesel, petrol, kerosene, coal and peat. The Energy Consumption Calculator Tool (Uirlis Ríomhaire um Ídiú Fuinnimh.xls) can accommodate all commonly used Fossil Fuels.

15.11 Our organisation published an annual report since 1st January 2011 without including a section on energy efficiency. What should we do?

If your organisation published an Annual Report since 1st January 2011 without including a section on energy efficiency, then you should include a separate document on your website that addresses your obligations to report on energy efficiency for the period covered by the Annual Report. The document should be based on the SEAI Annual Reporting Template.

A hyperlink to this separate document should be included on the same web page as your organisation's main Annual Report(s) - adjacent to the hyperlink to your organisation's Annual Report for the corresponding period.

15.12 Can we report data based on estimates or professional judgement alone?

An element of professional judgement is required in collating all energy data for submission, including that extracted from robust, well-documented sources. However, you should be able provide documented evidence in support of submitted data. This could range from suppliers' bills to internal records etc.

16 DATA ACCURACY, VALIDITY & COMPLETENESS

16.1 How will SEAI check that submissions are acceptable/valid?

Data validation comprises two main elements:

- Validation rules built into the reporting software to check for order of magnitude errors when entering inputs, e.g. by warning users if the reported energy consumption for a particular fuel is significantly higher / lower than that reported for the previous year.

- Data verification assessments (DVA) {FAQ 16.2} of submissions, which consist of a number of levels of rigour. At the 'lowest' level, this can involve a request to a school to provide substantiation for a specific piece of data submitted (different forms of substantiation may be accepted, depending on the data). More comprehensive assessments can include an 'on-site' review by a suitably qualified SEAI assessor of the submission with the person(s) responsible for its compilation.

16.2 What is a data verification assessment (DVA)?

The purpose of the data verification assessment (DVA) system is threefold:

- Ensure, insofar as practical, that the data which is submitted is robust and verifiable;

- Motivate schools to submit accurate data;

- Provide a means for supporting schools in improving how they gather and submit M&R data and for providing feedback on the M&R system.

A DVA can be undertaken at a number of levels of rigour. At the 'lowest' level, this can involve a request to a school to provide substantiation for a specific piece of data submitted (different forms of substantiation may be accepted, depending on the data). More comprehensive assessments can include an 'on-site' review by a suitably qualified SEAI assessor of the submission with the person(s) responsible for its compilation.

While a DVA can focus on any aspect of your submission and all data requested through the M&R system is important, some data items are significantly more likely to be the focus of a DVA. These include:

- Energy consumption for any specific fuel/energy type accepted by the system in the system-specified reporting units (as total final consumption) – for either the baseline period {FAQ 8.10} or the most recent year for which data has been reported (referred to as the *reporting year*);

- Total energy consumption for the school in kWh of total final consumption – for either the baseline period or the reporting year;

- Values reported for pupil numbers – for either the baseline period or the reporting year;

- Calculated value for the EnPI {FAQ 7.4} – for either the baseline period or the reporting year.

Depending on the scope of the DVA, up to four sets of assessment criteria may be applied in each DVA, viz.:

- Assessment of the sufficiency of the data submitted – was sufficient data provided to generate a scorecard?

- Quantified assessment that the values submitted for the key data outlined above satisfy the Data Acceptability Thresholds{FAQ 16.4};

- Application of professional judgement by DVA Assessor to determine if the data reported is likely to satisfy the Data Acceptability Thresholds {FAQ 16.4}.

16.3 How will organisations be selected for data verification assessment (DVA)?

Selection for data verification assessment (DVA) {FAQ 16.2} will be dependent on several factors including *inter alia* the apparent validity of the data submitted (as interpreted from the validation rules built into the tool), consistency & completeness of submissions over time, and the findings of previous data verification assessments. Schools that adjust baseline {FAQ 8.10} and historical data will be more likely to be selected for data verification assessment. There will also be a random element to selection.

16.4 What are the acceptability thresholds for the data that we submit?

The mechanism for validating submissions is the data verification assessment (DVA) process {FAQ 16.2}, which involves an SEAI assessor evaluating a submission (or part thereof).

It is recognised that some schools may struggle to gather good quality data for all of their consumption in earlier years. Schools also have the facility to build their baselines {FAQ 8.10} over time, i.e. to improve the quality of their historical data over subsequent annual submissions. To accommodate this, the thresholds for acceptable data accuracy are broader (laxer) in the first few years of the system. As schools develop experience with the reporting concept and build their energy management competence and systems, it is reasonable to expect that the quality of their data will improve; therefore, more stringent acceptability thresholds apply from the 2015 reporting cycle onwards. Note, however, that the DVA thresholds shown below for the 2015 reporting cycle and beyond are somewhat less stringent than those that SEAI had previously indicated would apply.

The following are the thresholds beyond which submissions will be deemed to have failed data verification assessments.

Parameter	Threshold of Acceptable Data		
	2011 - 2013 Reporting Cycle	**2014 Reporting Cycle**	**2015 Reporting Cycle Onwards**
1. Total energy consumption reported by the school for the reporting year or for baseline period {FAQ 8.10} (as Total Final Consumption)	<±10% error	<±7.5% error	<±5% error
2. Pupil numbers for the reporting year or for the baseline period	<±10% error	<±7.5% error	<±5% error
3. EnPI {FAQ 7.4} (reporting year or baseline period)	<±10% error	<±7.5% error	<±5% error
4. Reported energy consumption for any one energy type that is ≥5% of TFC for the reporting year or for the baseline period	<±6% error	<±5% error	<±5% error
5. Subtotal of reported energy consumption that is based on professional judgement alone (i.e. there is insufficient documented evidence in substantiation of the data) for the reporting year or for the baseline period	<±5% of reported TFC[2]	<±5% of reported TFC	<±5% of reported TFC

Note that these thresholds will be applied retrospectively to the baseline period, e.g. from the 2015 reporting cycle onwards the acceptable error threshold for the values reported for pupil numbers in the baseline period (i.e. for parameter 2) will be ±5% error *even if those values were reported prior to 2015*. Put simply, the pupil numbers in the monitoring & reporting system for the baseline period can be ±10% in 2013 but it must be ±5% by 2015.

At the end of a DVA, the submission under assessment will be classified as either:

- 'Passed' – the submission passed the assessment and the reported data is deemed to be complete.
- 'Fail (Major)' – the submission failed the assessment by breaching one or more of the error thresholds for parameters 1-3 above. The organisation's report will be listed by SEAI as "Report not complete".
- 'Fail (Minor)' – the submission failed the assessment by breaching one or more of the error thresholds for parameters 4-5 above. The organisation has an opportunity to resubmit some data to rectify the error;
- 'Incomplete DVA' – the data verification assessment could not be completed because there was insufficient engagement between the school and the SEAI assessor.

SEAI recognises that certain aspects of historical consumption can be difficult to quantify. Therefore, the above criteria will not be applied in the following specific instances, provided that schools fully comply with the criteria and guidance referenced below:

- Historical energy consumption of petrol, diesel, gas oil, kerosene or LPG consumption up to and including 2014 – this consumption may be derived from financial records in accordance

[2] Total final consumption

with this methodology provided that the school lacks sufficient records of historical energy consumption.

16.5 Can we report data based on estimates or professional judgement alone?

An element of professional judgement is required in collating all energy data for submission, including that extracted from robust, well-documented sources. However, you should be able provide documented evidence in support of submitted data. This could range from suppliers' bills to internal records etc.

Notwithstanding this requirement for evidence, data derived from estimates based on professional judgement alone (i.e. where there is insufficient documented evidence in substantiation of the data) is acceptable, subject to the following thresholds: the subtotal of reported energy consumption that is based on professional judgement alone for the reporting year or for the baseline period {FAQ 8.10} is <±5% of reported total final energy consumption.

These thresholds are discussed in more detail in FAQ 16.2.

16.6 Is there a de minimus level below which we can ignore smaller elements of our energy consumption?

No. All consumption is reportable, including relatively minor consumption of non-core energy streams. However, smaller elements of your school's overall consumption can be estimated based on professional judgement – see FAQ 16.5.

16.7 Can we derive our energy consumption data from financial records?

Only for the exceptional circumstances set out below in this FAQ and in accordance with the guidance documented below.

Schools should only choose one of the earlier baseline periods {FAQ 8.10} if they have robust data to populate that baseline. In general, consumption data derived from financial records (i.e. back-calculated from Euro spend) is not considered robust in this regard. They are typically a poor proxy for consumption. The main reason for this is the difficulty in reliably deriving kilowatt hour (or equivalent values) from Euros. For example, in the last 6 months of 2008 alone there was a 30% swing in diesel prices. 5% price swings month-to-month are not unheard of and there is considerable variation in diesel prices regionally.

Therefore, in general, energy consumption data derived from financial records are unlikely to be acceptable.

However, where a school lacks sufficient records of historical energy consumption *for petrol, diesel, gas oil, kerosene or LPG consumption up to and including 2014*, then the following are acceptable methodologies to estimate the relevant energy consumption. The methodologies will only be deemed acceptable if a public body can demonstrate that more robust data was not readily available, e.g. fuel card data.

The following methodologies for deriving energy consumption data from financial records are only acceptable:

- For petrol, diesel, gas oil, kerosene and LPG consumption for the years up to and including 2014, and;
- Where the school lacks sufficient records of historical energy consumption.

The school should:

1. Determine the monthly energy spend in Euro (incl. VAT) for each fuel type from financial records.
2. Source historical monthly unit price data for the relevant fuel type from the fuel supplier or, where actual historical fuel price data is not available, from the monthly fuel price data collated by SEAI, which is available here.
3. Calculate the energy consumption (in litres) for each month by dividing the monthly energy spend by the fuel price for the relevant month.
4. Calculate the annual energy consumption (in litres) by summing the monthly energy consumption values.
5. Where this methodology is used to estimate energy consumption for an organisation's baseline year(s), the annual value(s) calculated in accordance with step 4 for the baseline years (only) must be reduced by 3% e.g. if a school selected 2009 as its baseline year and the calculated diesel consumption was 100,000 litres for 2009, then the value that should be carried forward to step 6 (i.e. entered into the M&R system) should be 97,000 litres. This discount factor is applied to ensure that no energy efficiency gains arise by deriving energy consumption from financial records. This discount factor should only be applied for baseline year(s), i.e. no discount should be applied if the methodology is used to calculate consumption for non-baseline years.
6. Self report the annual energy consumption for each year in the normal manner.

If, and only if, monthly energy spend data is not available, schools should:

1. Determine their annual spend for each energy type in Euro (incl. VAT) for each fuel type from financial records.
2. Break down the annual spend between each month in accordance with best professional judgement, which should reflect actual, logical or likely usage patterns over the year. If the school cannot allocate the annual spend on a monthly basis in this manner, then it should do so by dividing it equally across the twelve months.
3. Source historical monthly unit price data for the relevant fuel type from the fuel supplier or, where actual historical fuel price data is not available, from the monthly fuel price data collated by SEAI, which is available here.
4. Calculate the monthly energy consumption (in litres) by dividing the monthly euro spend for each energy type by the fuel price for the relevant month.
5. Calculate the annual energy consumption (in litres) by summing the monthly energy consumption values.
6. Where yearly invoiced amounts are used to estimate energy consumption for an organisation's baseline year(s), the self-reported consumption should be reduced by 4%. This discount factor is applied to ensure that no energy efficiency gains arise from deriving energy consumption from annual financial records. This discount factor should only be

applied for baseline year(s), i.e. no discount should be applied if the methodology is used to calculate consumption for non-baseline years.

7. Self report the estimated annual energy consumption total for each energy type in the normal way.

Schools are required to keep documented records of the calculations used to determine the quantities reported through the M&R system and are likely to be asked to provide the relevant calculations as evidence during a data verification assessment (DVA).

16.8 We want to calculate (or estimate) our historical consumption in a certain way – how do we know if this is acceptable?

The onus is on schools themselves to ensure that the data submitted meets the data validity criteria, including the acceptability thresholds set out in FAQ 16.2.

SEAI cannot advise schools on the acceptability of specific approaches proposed to calculate or estimate historical consumption, or on the acceptability of the assumptions that underpin them.

16.9 What happens if we submit a complete report?

If you submit a complete report that is either (a) not selected for data verification assessment or (b) is selected for assessment and subsequently passes the assessment, then your organisation is listed (published) by SEAI along with its performance score (EnPI savings) {FAQ 7.4}.

16.10 What happens if we do not submit a report?

If your organisation does not submit a report then it will be listed (published) by SEAI accordingly. No scorecard will be produced.

16.11 What happens if we do not enter sufficient data to submit a report?

If your organisation submits insufficient data for a report then it will be listed (published) by SEAI as not having submitted a complete report. No scorecard will be produced.

16.12 What happens if our submission is selected for data verification assessment and fails the assessment?

If the error or omission in your data is relatively minor, then you will be given an opportunity to submit additional data (by a tight deadline). Your school's scorecard will be calculated in the normal way {FAQ 10.26}. Your school will be listed (published) by SEAI in the normal way.

If the error or omission in your data is more significant (major), then your organisation will be given an opportunity to submit additional data (by a tight deadline). Your school's scorecard will be

calculated in the normal way {FAQ 10.26}. However, your school's listing in SEAI's publication will be annotated with a note highlighting that SEAI identified a data quality issue with your submission.

The thresholds for minor and major errors are discussed in more detail in FAQ 16.2.

17 SUPPORT & NEXT STEPS

17.1 Where can we get more help on using the M&R system?

There is a comprehensive suite of guidance, help, training and support materials described on the help web page.

17.2 We have a query that's not explained in this FAQ. What should we do?

The procedure for accessing additional support is set out on the help web page..

Note that this FAQ will be updated continuously as new queries emerge.

17.3 We want to improve our energy performance. What help is available?

SEAI has developed a range of integrated supports to help schools achieve valuable energy savings and work towards what will be ambitious targets. No matter where your school operates, SEAI can help you reduce energy usage, cut costs and benefit the environment.

SEAI does not charge for these services. All we ask is for a genuine commitment to energy saving, which is vital to the success of your energy management efforts. The more committed an organisation is, the more SEAI can help, and the more meaningful the savings will be. If your organisation does not already have a relationship with SEAI, you should make contact now – at an organisational level.

Our services range from simple advice and online support to site energy assessments and energy management training. For organisations with larger energy spends that are willing to formally commit – at senior management level – to the 2020 targets, SEAI offers enhanced supports:

- Tailored Energy Management advice and support;
- Advanced energy assessments;
- Energy efficient design for larger projects;
- Expert advisors to guide and mentor your organisation;
- Assistance in establishing energy strategies and setting annual plans with short and long term goals to achieve the 33% target.

Information on the Public Sector Programme is available from the programme web page.

17.4 What should our school do next?

Your school should develop and implement a structured Energy Management Programme. This will enable you to deliver sustainable energy savings in the short term and, importantly, to identify strategic initiatives to work towards more significant longer term savings, i.e. to 2020. SEAI can work with you to achieve these. If your school does not already have a relationship with SEAI, you should make contact now.

You should also start to put a system in place to record your overall energy consumption on an annual basis. Such a 'system' could be as simple as a spreadsheet with consumption data copied from your bills.

17.5 How can our school interact with the monitoring & reporting project?

SEAI has been consulting with schools throughout this project. The best way to get involved is to establish a relationship with SEAI through our range of integrated supports for the Public Sector.

17.6 Where can I find out more about Public Sector energy targets & energy efficiency obligations on Public Bodies?

- Additional information on the public sector energy efficiency targets, monitoring and reporting is available from SEAI's website at www.seai.ie/Your_Business/Public_Sector/Reporting/
- The *European Union (Energy Efficiency) Regulations 2014* (SI 426 of 2014) can be viewed at http://www.irishstatutebook.ie/2014/en/si/0426.html
- Ireland's *National Energy Efficiency Action Plan* (NEEAP) is available from the Department of Communications, Energy & Natural Resources website {www.dcenr.gov.ie }

17.7 How will the Energy Monitoring & Reporting system link to Display Energy Certificates?

The existing Display Energy Certificates system and the Energy Monitoring & Reporting system are the result of the transposition of two different European Directives into Irish legislation. They have different initiation dates and different scopes in terms of energy usage.

Since 1 January 2009, all public buildings with a gross internal floor area greater than 1,000 m2 were required to display a Display Energy Certificate in a prominent place clearly visible to the public. The floor area threshold dropped to 500 m^2 in January 2013 and will drop again to 250 m^2 in January 2015. SI 243 of 2012 expands the scope of DECs to include any non-residential buildings over certain area thresholds that are frequently visited by the public, i.e. schools.

Since 1 January 2011, public organisations are obliged to report under the new Energy Monitoring & Reporting system to satisfy SI 426 of 2014 (and formerly SI 542 of 2009). Organisations are required to report on all of their energy consumption to comply with SI 426 of 2014, whereas the focus of the Display Energy Certificates is on energy usage in buildings only.

The project team is working to integrate the two systems over time.