



# New content on SmartScreen!

## Level 3 Environmental Technologies (2399)



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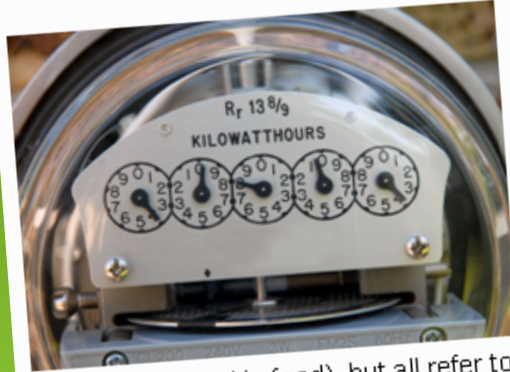
### **There are 9 units in total:**

- **201 (ET001):** Know the fundamental working principles, installation options and regulatory requirements for microrenewable energy and water conservation technologies
- **311 (ET002SPV):** Know the requirements to install, commission and handover small scale solar photovoltaic systems
- **312 (ET003SPV)** Install, commission and handover small scale solar photovoltaic systems
- **321 (ET002ST):** Know the requirements to install, commission and handover solar thermal hot water systems
- **322 (ET003ST)** Install, commission and handover 'active' solar thermal hot water systems
- **331 (ET002HP):** Know the requirements to install, commission and handover heat pump systems (non-refrigerant circuits)
- **332 (ET003HP):** Install, commission and handover heat pumps (non-refrigerant circuits)
- **341 (ET002WHR):** Know the requirements to install, commission and handover rainwater harvesting and greywater reuse systems
- **342 (ET003WHR)** Install, commission and handover rainwater harvesting and greywater re-use systems

## Unit 201 (ET001): Know the fundamental working principles, installation options and regulatory requirements for micro-renewable energy and water

### Handout 1: Energy and power

The terms 'energy' and 'power' are key to the description of building services and how they are to be designed and implemented. They are terms that are commonly misused or misunderstood, so as an introduction to this course, it is essential that these are clarified.



contained in food), but all refer to how much energy is used in a process.

### Energy

Energy is the total amount of work done over a period of time. Energy typically have the unit of energy is a Watt Hour (Wh) or the Kilowatt Hour (kWh).

However there are many different conversion table can be found in this handout. Some are based on kWh, used for power (like the Calorie – contained in food), but all refer to how much energy is used in a process.



Which one of the following is the main safety consideration during roof-mounted array installation?

- Back injury.
- Head injury.
- Toxic poisoning.
- Falling from height.

The content for this qualification has a particular focus on learner engagement, and is brimming with images, links to useful websites, sample questions and revision tools to keep learners inspired and involved.

# Support materials

Support for the units includes:

- Sample scheme(s) of work
- Sample lesson plans
- Handouts
- Worksheets
- PowerPoint presentations
- Sample questions
- Revision guidance
- Qualification information



## Example: Handout

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Unit 201 Handout 2

**Unit 201 (ET001): Know the fundamental working principles, installation options and regulatory requirements for micro-renewable energy and water**

### **Handout 3: Introduction to microgeneration technologies**

The following handout will provide an overview of the different microgeneration technologies that will be looked at over the course of this unit. These are grouped into sections, and each of these will be looked at more closely in the following sessions

#### **Heat generation systems**

##### **Solar thermal**

Typical solar domestic hot water system

- Provides up to 60% of domestic hot water supply in UK conditions
- Many different types to suit most applications and sites
- Target temperatures range from 25°C (swimming pool) to 60°C+ (domestic hot water and industry)





# Example: Worksheet

SmartScreen Level 3 Environmental Technologies (2399)	Unit 201 Worksheet 1
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**Unit 201 (ET001): Know the fundamental working principles, installation options and regulatory requirements for micro-renewable energy and water**

**Worksheet 1: Energy and power**

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Give a brief explanation of energy.

\_\_\_\_\_

Give a brief explanation of power.

\_\_\_\_\_

List three examples of units of energy

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_



# Example: PowerPoint presentation

## Energy and power

The terms 'energy' and 'power' are key to the description of building services and how they are to be designed and implemented. They are terms that are commonly misused or misunderstood, so as an introduction to this course, it is essential that these are clarified.



## Example: Sample questions

Which one of the following is the main safety consideration during roof-mounted array installation?

- Back injury.
- Head injury.
- Toxic poisoning.
- Falling from height.

## Additional support

### Websites

> Search

This list is not exhaustive and is intended to be an indication of the websites that exist which may be of use to learners of this qualification.

If you have any recommended websites you would like added to this list, please email us at [smartscreen@cityandguilds.com](mailto:smartscreen@cityandguilds.com) with your suggestions, or why not use the [tutor forum](#) to share your recommendations and experience with other tutors?

### Industry bodies

- City & Guilds: [www.cityandguilds.com/uk-home](http://www.cityandguilds.com/uk-home)
- Electrical Contractors Association: [www.eca.co.uk](http://www.eca.co.uk)
- NICEIC: [www.niceic.com](http://www.niceic.com)
- Electrical Safety Council: [www.esc.org.uk](http://www.esc.org.uk)
- Joint Industry Board for Electrical Contracting Industry: [www.jib.org.uk](http://www.jib.org.uk)
- IET: [www.theiet.org](http://www.theiet.org)
- SummitSkills: [www.summitskills.org.uk](http://www.summitskills.org.uk)

### Cables

- Fibre Optics: [www.fibrefox.co.uk](http://www.fibrefox.co.uk)
- Eland Cables: [www.eland.co.uk](http://www.eland.co.uk)
- Prysmain (FP)Cables: [www.fpcables.co.uk](http://www.fpcables.co.uk)

### Health and Safety

- Health and safety executive: [www.hse.gov.uk/electricity/faq](http://www.hse.gov.uk/electricity/faq)

### Test instruments

- Test meter: [www.test-meter.co.uk](http://www.test-meter.co.uk)

- Recommended book and website lists
- Revision wordsearches
- Glossary and FAQs
- Unit information



There are currently three units available on SmartScreen with the remainder of the units being added next month.

Please contact [smartscreen@cityandguilds.com](mailto:smartscreen@cityandguilds.com) for updates on this.

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