

# City & Guilds level 2/3 Awards in Environmental Technologies - 2399 (Draft Suite Title)

## Frequently asked questions

## Contents

<b>1</b>	<b>Development Summary</b>	<b>3</b>
	What qualifications are being developed?	3
	What will these qualifications replace?	4
	Who is designing the qualifications?	4
	When will the qualifications go live?	4
	Will this qualification be on the Qualifications and Credit Framework (QCF)?	4
	What is the aim of these qualifications?	4
	Who are these qualifications aimed at?	4
	Are there entry requirements for these qualifications?	5
	What skills and knowledge do trainers / assessors need for the City & Guilds Level 2 Award in Environmental Technology Systems Awareness (2399-01)?	7
	What skills and knowledge do trainers / assessors need for the technology specific qualifications?	7
	The occupational competence of assessors must be updated on a regular basis.	7
	What skills and knowledge do internal verifiers need for these qualifications?	7
	Will these qualifications be recognised by the Microgeneration Certification Scheme and Competent Person Scheme providers?	8
	Are these units the same as those contained within the Plumbing / Domestic Heating level 3 environmental technologies pathway?	8
	Will these qualifications make up part of an apprenticeship?	8
	There are no current plans for an Environmental Technology-specific apprenticeship.	8
	Will these qualifications provide the skills and knowledge to install environmental technology systems in every circumstance?	8
	What level is the qualification at?	8
	Can the units be done in any order?	9
	What will the credit rating be for this qualification?	9
	What are the Guided Learning Hours (GLH) for this qualification?	9
	How will the qualification be assessed?	9
	Can this qualification be delivered entirely in a training environment?	9
	What facilities will I need to deliver this qualification?	9
	Will the Photovoltaic qualifications replace the 2372 Certificate in Installing and Testing Domestic Photovoltaic Systems?	10

Will these qualifications be suitable for delivery throughout the UK?	10
Will these qualifications be suitable for delivery outside of the UK?	10
<b>2 Progression opportunities</b>	<b>10</b>
Which qualifications are related to this one?	10
Will there be support materials for this qualification?	10
<b>3 Administration</b>	<b>11</b>
When will this qualification be available for centre approval?	11
What is the qualification accreditation number?	11
When will this qualification be available for candidate registrations?	11
How much will this qualification cost?	11
What funding will be available?	11
Will learners be able register on individual units?	11
Where can I obtain further information?	11

# 1 Development Summary

## What qualifications are being developed?

Several qualifications are being developed in the environmental technologies suite. As well as a core unit with the aim of providing broad knowledge and understanding of environmental technologies, they will also be qualifications in the following technology-specific areas:

- Solar Photovoltaic
- Solar Thermal Hot Water systems
- Heat Pumps
- Water Recycling.

The following qualifications are being developed (please note all levels, titles and numbers are draft):

- 2399-01 City & Guilds level 2 Award in Environmental Technology Systems Awareness
- 2399-11 City & Guilds level 3 Award in the installation of Small Scale Solar Photovoltaic Systems
- 2399-12 City & Guilds level 3 Award in the installation and maintenance of Small Scale Solar Photovoltaic Systems
- 2399-21 City & Guilds level 3 Award in the installation of Solar Thermal Hot Water Systems
- 2399-22 City & Guilds level 3 Award in the installation and maintenance of Solar Thermal Hot Water Systems
- 2399-31 City & Guilds level 3 Award in the installation of Heat Pumps Systems (Non-refrigerant circuits)
- 2399-32 City & Guilds level 3 Award in the installation and maintenance of Heat Pumps Systems (Non-refrigerant circuits)
- 2399-41 City & Guilds level 3 Award in the installation of Water Harvesting and Recycling Systems
- 2399-42 City & Guilds level 3 Award in the installation and maintenance of Water Harvesting and Recycling Systems
- 2399-51 City & Guilds level 3 Award in the installation of Biomass Systems
- 2399-52 City & Guilds level 3 Award in the installation and maintenance of Biomass Systems

### **What will these qualifications replace?**

The Photovoltaic qualifications will replace the 2372 Certificate in Installing and Testing Domestic Photovoltaic Systems, which has been assigned a registration end date of 31 December 2010.

As this qualification is not on the NQF, City & Guilds will extend the registration end date if there are delays to the release of the new environmental technology qualifications or if practicing centres require more time to migrate to the new qualification.

All other qualifications are new to City & Guilds.

### **Who is designing the qualifications?**

The Sector Skills Council (SSC), SummitSkills, are designing the structure of the qualification and the core assessment strategy. City & Guilds are working with the SSC and other partners to develop the units. City & Guilds will then work with partners to develop suitable assessments and materials for the finalised qualification. More information is available on the SummitSkills **QCF webpages**.

### **When will the qualifications go live?**

It is currently intended that the qualifications will go live in November 2010 subject to accreditation by the regulatory authorities. The biomass qualifications are unlikely to be available until 1 January 2011 at the earliest.

### **Will this qualification be on the Qualifications and Credit Framework (QCF)?**

Yes.

### **What is the aim of these qualifications?**

The 2399-01 City & Guilds level 2 Award in environmental technology systems awareness aims to give learners a broad knowledge and understanding of the environmental technology industry. They will develop the skills required to be able to communicate with others in relation to the variety of options for installation, the fundamental working principles of the technologies, and regulatory requirements for micro-renewable and water harvesting and water recycling technologies.

The technology specific qualifications aim to provide successful candidates with the skills and knowledge to install environmental technology systems. If you just plan to install environmental technologies then you should undertake the -11 qualification of the relevant technology (eg 2399-11). Candidates who successfully undertake the installation and maintenance qualifications will also have the skills and knowledge to maintain these systems. If you plan to install and maintain environmental technologies then you should undertake the -12 qualification of the relevant technology (eg 2399-12.)

### **Who are these qualifications aimed at?**

The 2399-01 City & Guilds level 2 Award in environmental technology systems in building services engineering will appeal to those undertaking qualifications in Building Services Engineering and to experienced workers. They may also appeal to home inspectors, energy advisors, local authority staff, those with a general interest in Environmental Technologies, fuel utility staff and householders.

The technology specific qualifications are continuous professional development (CPD) qualifications designed for upskilling existing skilled workers who have the required existing occupational competence.

## **Are there entry requirements for these qualifications?**

There are **no** formal entry requirements for 2399-01.

There are entry requirements for the technology-specific qualifications. The proposed entry requirements, set by the SSC SummitSkills, are as follows:

### **Solar photovoltaic**

The prerequisite threshold of competence requirements to access the SummitSkills qualification units for solar photovoltaic systems are:

1. N/SVQ 3 in Electrical Installation (Buildings and Structures) or equivalent earlier certification (eg 2356 or 2357)

In addition, if not included in the above current certification:

- BS 7671: 2008 Requirements for Electrical Installations (17th Edition) Certification (eg 2382)

Notes:

Stand alone Vocationally Related Qualifications (technical certificates eg 2330) are not acceptable as an alternative to the NVQ awards listed above.

### **Rainwater harvesting and greywater re-use**

The prerequisite threshold of competence requirements to access the SummitSkills qualification units for rainwater harvesting and greywater re-use systems are:

1. N/SVQ Level 2/3 in Plumbing (eg 6089 or 6189) or equivalent earlier certification; or
2. N/SVQ Level 2/3 in Heating and Ventilating (Domestic Installation) (eg 6088-01/6088-05 or 6189) or equivalent earlier certification; or
3. N/SVQ Level 2/3 in Heating and Ventilating (Industrial and Commercial Installation) (eg 6088-02/6088-06 or appropriate 6188 pathway) or equivalent earlier certification; or
4. N/SVQ Level 2/3 in Oil-Fired Technical Services (eg 0785/0786) or equivalent earlier certification; or
5. N/SVQ Level 2/3 in Gas Installation and Maintenance (eg 6012) or equivalent earlier certification.

In addition, if not included in the above current certification in relation to:

- Water Regulations/Water Byelaws (WRAS or equivalent)

Notes:

Stand alone Vocationally Related Qualifications (technical certificates eg 6129, 6128, 6132) are not acceptable as an alternative to the NVQ awards listed above.

## Heat pump systems

The prerequisite threshold of competence requirements to access the SummitSkills qualification units for heat pump systems are:

1. N/SVQ Level 2/3 in Plumbing (eg 6089 or 6189) or equivalent earlier certification; or
2. N/SVQ Level 2/3 in Heating and Ventilating (Domestic Installation) (eg 6088-01/6088-05 or 6189) or equivalent earlier certification; or
3. N/SVQ Level 2/3 in Heating and Ventilating (Industrial and Commercial Installation) (eg 6088-02/6088-06 or appropriate 6188 pathway) or equivalent earlier certification; or
4. N/SVQ Level 2/3 in Oil-Fired Technical Services (eg 0785/0786) or equivalent earlier certification; or
5. N/SVQ Level 2/3 in Gas Installation and Maintenance (eg 6012) or equivalent earlier certification.

In addition, if not included in the above current certification in relation to:

- Water Regulations/Water Byelaws (WRAS or equivalent)
- Energy Efficiency for Domestic Heating (City & Guilds 6084 or equivalent)

Notes:

Stand alone Vocationally Related Qualifications (technical certificates eg 6129, 6128, 6132) are not acceptable as an alternative to the NVQ awards listed above.

## Solar thermal hot water systems

The prerequisite threshold of competence requirements to access the SummitSkills qualification units for solar thermal hot water systems are:

1. N/SVQ Level 2/3 in Plumbing (eg 6089 or 6189) or equivalent earlier certification; or
2. N/SVQ Level 2/3 in Heating and Ventilating (Domestic Installation) (eg 6088-01/6088-05 or 6189) or equivalent earlier certification; or
3. N/SVQ Level 2/3 in Heating and Ventilating (Industrial and Commercial Installation) (eg 6088-02/6088-06 or appropriate 6188 pathway) or equivalent earlier certification; or
4. N/SVQ Level 2/3 in Oil-Fired Technical Services (eg 0785/0786) or equivalent earlier certification; or
5. N/SVQ Level 2/3 in Gas Installation and Maintenance (eg 6012) or equivalent earlier certification.

In addition, if not included in the above current certification in relation to:

- Water Regulations/Water Byelaws (WRAS or equivalent)
- Unvented Domestic Hot Water Storage Systems
- Energy Efficiency for Domestic Heating (City & Guilds 6084 or equivalent)

Notes:

Stand alone Vocationally Related Qualifications (technical certificates eg 6129, 6128, 6132) are not acceptable as an alternative to the NVQ awards listed above.

## **What skills and knowledge do trainers / assessors need for the City & Guilds Level 2 Award in Environmental Technology Systems Awareness (2399-01)?**

The assessment strategy for these qualifications is set by the SSC SummitSkills, supported by City & Guilds and monitored by City & Guilds EVs. The strategy detailed below is subject to accreditation.

1. A relevant assessor qualification (A1 and A2 or TDLB D32 and D33 + evidence of CPD to A1/A2 standards) or alternative recorded evidence, endorsed by SummitSkills to confirm assessor competence to A1 standards.
2. Evidence of knowledge of the fundamental working principles, installation options and regulatory requirements for micro-renewable energy and water conservation technologies. Evidence may be in the form of a qualification or certificate issued by a recognised awarding/certification organisation or other recorded evidence to confirm sufficient knowledge for all learning outcomes contained within the unit.

The occupational competence of assessors must be updated on a regular basis.

## **What skills and knowledge do trainers / assessors need for the technology specific qualifications?**

The assessment strategy for these qualifications is set by the SSC SummitSkills, supported by City & Guilds and monitored by City & Guilds EVs. The strategy detailed below is subject to accreditation.

1. A relevant assessor qualification (A1 and A2 or TDLB D32 and D33 + evidence of CPD to A1/A2 standards) or alternative recorded evidence, endorsed by SummitSkills to confirm assessor competence to A1 standards.
2. Evidence of competence in **the technology the assessor is assessing**. Evidence may be in the form of a qualification or certificate issued by a recognised awarding/certification organisation or other recorded evidence to confirm technical competence that covers the knowledge and practical skill outcomes contained within the SummitSkills qualification units for small scale solar photovoltaic systems.

The occupational competence of assessors must be updated on a regular basis.

## **What skills and knowledge do internal verifiers need for these qualifications?**

The assessment strategy for these qualifications is set by the SSC SummitSkills, supported by City & Guilds and monitored by City & Guilds EVs. The strategy detailed below is subject to accreditation.

1. A relevant internal verifier qualification (V1 or TDLB D34+ evidence of CPD to V1 standards) or alternative recorded evidence, endorsed by SummitSkills to confirm internal verifier competence to A1 standards
2. Building services engineering occupational experience evidenced by having a building services engineering sector related qualification at N/SVQ Level 3 or proven sector competence/experience plus access to relevant “occupational expertise” to enable them to conduct their role as internal verifier appropriately.

The occupational competence of internal verifiers must be updated on a regular basis. Where internal verifiers have proven sector competence/experience plus access to relevant “occupational expertise” this arrangement must be quality assured by the awarding organisation.

### **Will these qualifications be recognised by the Microgeneration Certification Scheme and Competent Person Scheme providers?**

SummitSkills is currently liaising with the MCS scheme and Building Regulations Competent Person Schemes to ensure widespread recognition of these qualifications. City & Guilds will circulate more information about this qualification as it becomes available via centre updates.

### **Are these units the same as those contained within the Plumbing / Domestic Heating level 3 environmental technologies pathway?**

Yes, with the exception of the photovoltaic units, which are not included within the plumbing pathway. However, it is anticipated that the majority of Plumbing candidates will undertake the traditional fuel pathways eg Gas (or Oil in Northern Ireland and the Channel Islands.) As such, many candidates may wish to undertake these qualifications in addition to their Plumbing / Domestic Heating qualification.

### **Will these qualifications make up part of an apprenticeship?**

There are no current plans for an Environmental Technology-specific apprenticeship.

### **Will these qualifications provide the skills and knowledge to install environmental technology systems in every circumstance?**

The environmental technology specific units are designed to cover the skills and knowledge for a typical domestic installation. They may also be relevant to small industrial and commercial installations depending on their nature.

However, the qualifications will be unlikely to provide the full skills and knowledge required for medium or large-scale industrial installation. They do not cover some niche installation and maintenance aspects, such as solar heating for swimming pools.

The photovoltaic qualification units are designed for small scale grid connected systems that are within the scope of Engineering Recommendation G83/1 with an electrical output of up to 5 kilowatt peak (kWp) connected to both single and three-phase installations.

The solar thermal hot water system qualification units are designed to cover systems with up to 20m<sup>2</sup> of solar collector area for domestic hot water production only.

The heat pumps qualification covers ground, air and water heat pumps. The units are to focus upon systems up to 45kW. For the practical assessments on both the installation and maintenance units the circuit is sealed, meaning achievement of qualifications that enable individuals to meet F-Gas and ODS legislation (eg 2079) is not a requirement.

Water recycling covers both rainwater harvesting and grey-water re-use.

### **What level is the qualification at?**

2399-01 is at level 2. All of the environmental technology-specific qualifications are at level 3. Please note that the proposed level is draft and subject to accreditation.

### **Will the qualifications have optional units?**

No. All units will be mandatory. The 2399-01 unit is included in the technology specific Rule of Combination (RoC) and if candidates have already achieved this unit they will not need to redo it.

There will be one knowledge and one practical unit regarding the installation of each technology and one knowledge and one practical unit regarding the maintenance of each technology. The two installation units will be mandatory for the installation qualification. All units will be mandatory for the maintenance qualification.



### **Can the units be done in any order?**

Centres should look for candidates to successfully undertake the level 2 unit (environmental technology systems awareness) first. Installation units should be undertaken before maintenance units and knowledge units should be undertaken before their related performance units so that learners fully understand the activities they will be undertaking before they apply their knowledge and skills.

### **What will the credit rating be for this qualification?**

It is expected that subject to agreement by the regulatory authorities, the credit will be as detailed below:

- 2399-01 will be approximately 2 credits.
- installation qualifications will be approximately 8 credits.
- installation and maintenance qualifications will be approximately 12 credits.

This is being determined as part of the QCF unit development and will be communicated to centres as soon as it has been agreed. It is expected that the qualification will be Award size (1-12 credits means a qualification is Award sized, 1 credit = 10 hours of learning time).

Please note this is not yet finalised and are subject to change. There may also be slight differences in credit value between the different technologies.

### **What are the Guided Learning Hours (GLH) for this qualification?**

It is expected that, subject to agreement by the regulatory authorities, the GLH will be as detailed below:

- 2399-01 will be approximately 15 GLH.
- installation qualifications will be approximately 50 GLH.
- installation and maintenance qualifications will be approximately 80 GLH.

### **How will the qualification be assessed?**

2399-01 is likely to be assessed via a GOLA knowledge test.

For the technology-specific qualifications, there will be knowledge and practical units. The knowledge units are likely to be assessed via a GOLA knowledge test. The practical units are likely to be assessed via a City & Guilds-set practical test, marked by the centre.

### **Can this qualification be delivered entirely in a training environment?**

Yes.

### **What facilities will I need to deliver this qualification?**

This is to be determined, but it is likely that you will need to be able to deliver GOLA tests to the City & Guilds requirements and have the space, equipment and facilities to deliver practical tests.

### **Will the Photovoltaic qualifications replace the 2372 Certificate in Installing and Testing Domestic Photovoltaic Systems?**

Yes. This qualification has been assigned an end date of 31/12/2010. As this qualification is 'off-framework' it will be extended if there are any delays to centres becoming approved for the 2399-11 and / or -12.

### **Will these qualifications be suitable for delivery throughout the UK?**

The qualifications are being designed to meet the regulations and standards for England, Wales and Northern Ireland. The qualifications will be submitted to the QCF, which is the recognised qualification framework for England, Wales and Northern Ireland. City & Guilds has no plans to submit these qualifications onto the SQCF in Scotland. However they may be of interest for delivery by centres in Scotland 'off-framework'.

### **Will these qualifications be suitable for delivery outside of the UK?**

The qualifications are being designed to meet relevant regulations and standards for England, Wales and Northern Ireland. It may be that these criteria meet the needs of learners in other nations. Centres considering delivering these qualifications to those working outside of the UK should ensure that the qualification will be relevant to the learners needs. Centres interested in offering this qualification outside of the UK should contact their local City & Guilds office.

## **2 Progression opportunities**

### **Which qualifications are related to this one?**

It is anticipated that many candidates may undertake more than one environmental technology qualification to ensure they have the skills and knowledge required to meet the needs of these emerging markets.

For the technology-specific qualifications the expectation is that the candidate will be qualified in the general job role. Full details as to the related qualifications are to be determined.

Centres and candidates who are interested in environmental issues may also be interested in the City & Guilds Carbon Management qualification (0674), which focuses on the worldwide agenda of Carbon Emissions and Greenhouse Gas management.

For the practical assessments on both the installation and maintenance units the circuit is sealed, meaning achievement of qualifications that enable individuals to meet F-Gas and ODS legislation (eg 2079) is not a requirement. Not all heat pump work will require working on refrigerants. As such individuals should check legislation to determine whether they need qualifications in this area to install and / or maintain heat pumps. Those that work with heat pumps may wish to ensure they can work with all aspects including refrigerants and thus to ensure they are fully compliant with F-Gas and ODS legislation may wish to look to undertake City & Guilds 2079-01 City & Guilds level 2 award in F-Gas and ODS regulations (category I.)

### **Will there be support materials for this qualification?**

We are investigating the possibility of SmartScreen materials for these qualifications.

## 3 Administration

### **When will this qualification be available for centre approval?**

There are a number of decisions still to be made regarding qualification structures, assessment structure and methodology. These decisions will have an impact on the approval mechanism City & Guilds uses, so until structural issues are finalised City & Guilds cannot start to approve centres.

### **What is the qualification accreditation number?**

We will not receive this until we are able to apply for approval, which cannot take place until SummitSkills have completed submission of the units to Ofqual. We anticipate this will occur in the late Summer of 2010.

### **When will this qualification be available for candidate registrations?**

The development plan devised by the SSC, SummitSkills, anticipates that the qualifications will be available from 1 November 2010.

### **How much will this qualification cost?**

While the qualification structure and assessment are still being determined it is not possible to confirm a price. This will be communicated as soon as possible.

### **What funding will be available?**

While the qualification structure and assessment are still being determined it is not possible to give an indication as to the amount of funding that might be available. We hope that funding agencies will provide support to achievement of both the full rule of combination as well as individual units in the spirit of the QCF, but at the moment it would appear that achievement of individual units will probably not be funded in most instances.

### **Will learners be able register on individual units?**

Yes. With the exception of the level 2 unit, which is contained within a one unit qualification, individual units are **not** recognised by industry as an indication of competence. For example a candidate that only achieves the installation of solar photovoltaic unit is **not** considered competent.

### **Where can I obtain further information?**

We will communicate information to customers predominantly through our monthly updates across Building Services Engineering. It is vitally important that all centres are signed up so you receive the information you need to allow your centre to become approved to deliver this qualification. If you are not already signed up for our updates, please [\*\*click here\*\*](#) to do so.

These FAQs will be updated throughout the 2399 development as more information becomes available. Information on this qualification will be uploaded on the 2399 webpage as and when it is available.

If you have a specific query that is not answered in these FAQs and / or other materials, or wish to register for information to be sent out as and when we obtain it, please e-mail [\*\*environmental@cityandguilds.com\*\*](mailto:environmental@cityandguilds.com)