

GREEN EFFICIENT FRIENDLY PETROC™

**SUSTAINABLE ENERGY:
CERTIFICATED TRAINING**



PETROC IS PUTTING ITS ENERGY INTO RENEWABLES AND SUSTAINABLE TECHNOLOGIES. ARE YOU?

Petroc has developed Environmental Technologies CoVE (Centre of Vocational Excellence) workshops and the Eco House Centre over the last three years, with the latest innovative technologies and equipment in solar, photovoltaic and air source heat pumps.

Our courses have been developed to meet the increased demand for training in low carbon and renewable technologies. With the introduction of the UK Renewable Energy Strategy in July 2009, a path was set towards achieving the UK's target of sourcing 15% of overall energy consumption from renewable sources by 2020.

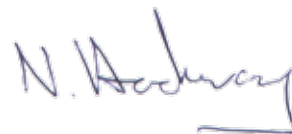
'ENERGY BILLS COULD RISE BY MORE THAN 60% WITHIN THE NEXT FEW YEARS.'

Report for the UK's biggest domestic energy supplier, Centrica.

The 'energy problem' is not one that is going to go away and there is a great advantage in fully understanding the environment and energy issues that are going to affect the way we live.

In addition, Petroc has developed courses aimed at Specifiers and Energy Assessors, to calculate the energy performance of buildings, strategies for reducing energy usage and to produce advisory reports for government and commercial buildings.

This booklet details the courses available at Petroc within this sector and gives a brief overview of course content, entry requirements and costs.



Neil Hookway,

Head of Petroc's School of Architecture, Construction and the Built Environment

For further information please contact:

**Short Course Administration Team, Petroc,
Old Sticklepath Hill, Barnstaple, Devon EX31 2BQ**

Telephone **01271 338189**

E-mail **shortcourses@petroc.ac.uk**



ACCORDING TO GOVERNMENT REPORTS, THE UK NEEDS 7 MILLION NEW SOLAR HOT WATER INSTALLATIONS TO MEET THE RENEWABLE ENERGY TARGETS BY 2020. CURRENTLY THERE ARE ONLY APPROXIMATELY 120,000 INSTALLATIONS.

Petroc's renewable energy and environmental training courses are delivered in the recently erected 'Eco House' and Centre of Vocational Excellence (CoVE) workshops at our Barnstaple Campus. The facilities are equipped with the latest in innovative technologies to provide an excellent experience for everyone who attends the courses.

We currently offer courses in Solar Thermal Hot Water, Domestic Photovoltaic systems and Air and Ground Source Heat Recovery Pumps for both installers and specifiers.

Since the introduction of Feed-In Tariffs in April 2010, and ahead of the proposed introduction of the Renewable Heat Initiative in April 2011, Petroc has seen an increase in the demand for training to enable installers to remain competitive.

It is a requirement for installers to be MCS (Microgeneration Certification Scheme) accredited, in order for householders to access the funding available under these schemes.

Feed-in Tariffs

Feed-In Tariffs (also known as FITs) are the electricity part of what some people call Clean Energy Cashback, a scheme that pays people for creating their own "green electricity".

The tariffs were introduced by the Government in April 2010 to help increase the level of renewable energy in the UK towards our legally binding target of 15% of total energy from renewables by 2020.

The Tariffs give three financial benefits:

- 1 A payment for all the electricity produced, even if it is used by the registered household
- 2 Additional bonus payments for electricity exported into the grid
- 3 A reduction on standard electricity bills, from using energy produced by the systems installed

Renewable Heat Incentive

The Renewable Heat Incentive (RHI) is a fixed payment for the renewable heat householders generate themselves. The Renewable Heat Incentive is very similar to the Feed-In Tariffs and will come into force in April 2011.

While the Renewable Heat Incentive is very similar to the Feed-In Tariffs, there are some important differences due to the fact that practically every single property in the UK generates its own heat from a gas or oil boiler. In other words, there is no 'National Grid for Heat' and so importing and exporting heat is not relevant.

There are three steps to the RHI:

- 1 Renewable heat systems are installed in properties ie solar thermal panels, heat pumps or a biomass (wood burning) boiler
- 2 An estimate is made about how much heat the renewable energy systems will produce
- 3 A fixed amount is paid based on that estimate

SUSTAINABLE ENERGY

Solar Thermal Hot Water

Solar Thermal Hot Water training and assessment has been developed for individuals who wish to demonstrate competence to work on the installation of Solar Thermal Systems. Successful candidates will be able to use the award to enable them to join a competent person's scheme under the Microgeneration Certification Scheme (MCS).

The Microgeneration Certification Scheme (MCS) is an independent scheme that certifies microgeneration products and installers in accordance with consistent standards. It is designed to evaluate microgeneration products and installers against robust criteria providing greater protection for consumers.

What is the Solar Thermal Hot Water Course?

The Solar Thermal training is designed to provide experienced heating and plumbing engineers with the necessary skills for basic design, installation, commission and service of Solar Thermal Hot Water systems.

Areas covered include:

- Health and safety
- Basic design
- Relevant regulations and legislation
- Collector types
- Design layouts
- Pre-survey techniques and installation practices
- Commissioning and service
- Fault finding and controls

Entry Requirements

Candidates will need to possess a recognised competence in a conventional fuel ie gas, oil, or solid fuel or a relevant plumbing qualification such as an NVQ Level 2 or equivalent experience.

- A certificate of competence under G3 for unvented hot water
- A WRAS approved water regulations qualification
- An energy efficiency qualification
- Working at Heights, CoSHH and Manual Handling qualifications

Course Duration

The course will be delivered over two days.

Course Costs

Course fees £200 plus £49 award body certification and exam fee.

C & G 2372 Certificate in Installing and Testing Domestic Photovoltaic systems

This qualification will allow candidates to be recognised as competent in this new field and play a vital role in the use of renewable energy.

What is the Certificate in Installing and Testing Domestic Photovoltaic systems?

The qualification covers the range of competences in fitting, installing and testing the system components. The content covers health and safety, knowledge of regulations, PV systems and components, roofing, commissioning and testing and customer care.

For the award of a certificate candidates must successfully complete both units.

Unit 1: Knowledge of photovoltaic systems 2372-001
Written-short answer.

Unit 2: Practical applications 2372-002 Practical assessment.

Entry Requirements

This award is intended for qualified electricians who will be required to install grid connected domestic photovoltaic systems that are either integrated into, or retro onto, a domestic dwelling. It is concerned with domestic systems installation within prescribed specifications and therefore does not cover design or glazed or curtain wall systems.

It is expected that candidates will be practising electricians and have appropriate qualifications related to electrical installation such as an NVQ at Level 3, knowledge of the IEE Wiring Regulations and inspection and testing. They will need to be employed within the electrical contracting industry. The award is designed to offer specific skills and knowledge to electricians to ensure they are conversant with Regulations and Code of Practice related to PV systems. The Department of Trade and Industry (DTI) supports the recognition of qualified personnel within this initiative and sees PV systems as an essential part of Government energy policy.

Course Duration

This course will be delivered over four days.

Course Costs

Course fees £650, plus £24 award body certification and exam fee.

SUSTAINABLE ENERGY

Air & Ground Source Heat Pumps (including F-Gas Certification)

A heat pump is a machine or device that moves heat from one location to another location.

Air Source Heat Pumps

Air source heat pumps take a large quantity of low grade heat energy from the air and produce enough high grade energy to heat water to high temperatures. The heat pump works in the same way as a domestic refrigerator. Air source heat pumps work by converting the energy of the outside air into heat, to create a comfortable temperature inside the house and high temperature domestic hot water.

Ground Source Heat Pumps

The ground source heat pump operates in a similar way to the air source heat pump in that low grade energy is used to provide high water temperatures for heating and domestic hot water. In the case of the ground source heat pump the low grade energy is taken from the ground either from collector tubes laid beneath the surface or from water contained in a borehole.

What is the Air & Ground Source Heat Pump Installation course?

This course will give candidates detailed explanations and practical examples of selecting, installing and commissioning systems and F-Gas regulations.

Entry requirements

Candidates must hold current Unvented Hot Water and Energy Efficiency for Domestic Heating qualifications.

Course Duration

This course will be delivered over five days.

Course Costs

£750.

Unvented Domestic Hot Water

This is a one day training and assessment course covering installation, servicing and commissioning of unvented domestic hot water storage systems.

Entry requirements

This course is designed for gas/oil engineers, plumbers and solar heating engineers and will cover the installation, servicing and commissioning of unvented domestic hot water storage systems.

Course Duration

This course will be delivered over one day.

Course Costs

Course fees £110; Certification fee £25.

Water Regulations Advisory Scheme

This is a one day training and assessment course. Each candidate will receive a training pack which must be completed.

Entry requirements

This course is designed for gas/oil engineers, plumbers and solar heating engineers and on successful completion of this course; candidates will be eligible to apply to the Water Industry Approved Plumbers Scheme and will then be added to the list of Approved Plumbers.

Course Duration

This course will be delivered over one day.

Course Costs

Course fees £125; Certification fee £30.

Combustion Performance Analysis (CPA1)

The CPA1 combustion performance assessment is designed for gas engineers who use combustion analysis as part of the installation, commissioning, servicing and maintenance of a gas appliance, in accordance with manufacturer's instruction and as detailed in standard BS7967.

What is the CPA1?

Combustion Performance Testing (CPA1) is recognised as a core gas safety activity and one which the HSE and the industry needs to embrace. BS7967 sets out the technical standard for this activity and it is believed that everyone involved in the commissioning of gas burning equipment, be deemed competent to carry out this work.

Entry requirements

Candidates will require CCN1, plus at least one of appliances CEN1, WAT1, HTR1 or CKR1.

Course Duration

Half day training and half day assessment.

Course Costs

Training £50; Assessment £90; Certification fee £40.

SUSTAINABLE ENERGY

Energy Efficiency for Domestic Heating

This award is for plumbers, gas/oil fitters and anyone involved in the plumbing and heating sector and the installation of condensing boilers.

This qualification and content is connected with the introduction of Part L within the Building Regulations.

The award is made up of a short training programme centred around underpinning knowledge and is assessed by a multiple choice question paper.

What is the Energy Efficiency for Domestic Heating?

The Energy Efficiency for Domestic Heating qualification has been developed to prepare heating installers for the change in building regulations and to encourage them to have a positive attitude to high efficiency products based on sound knowledge and product confidence. The Building Regulations 2001 Part L1 are broad based regulations covering the building and 'controlled services' equipment in new and existing domestic properties.

Entry requirements

The qualification is intended for qualified installers who undertake individual customer-facing roles and who are responsible for advice, design and installation of energy efficiency heating and hot water systems. It may also be of interest to those people who specify the installation and maintenance of the heating and hot water systems.

Candidates should hold an appropriate NVQ Level 3/BTEC or equivalent qualification or accreditation and recognition of skills through an appropriate industry registration scheme eg GAS SAFE – ACS, OFTEC – 105E, UKAS.

Course Duration

The course will be delivered over one day.

Course Costs

Course fees £110; Certification fee £37.

Level 3 Diploma for Domestic Energy Assessors (6020-01)

A Domestic Energy Assessor (DEA) tests the energy efficiency of buildings and suggests how improvements can be made.

What is the Level 3 Diploma for Domestic Energy Assessors?

The Diploma for Domestic Energy Assessor is a vocationally related qualification (VRQ), which is competence based and achieved through a process of assessment and examination.

The award is aimed at candidates who wish for career progression within the Property Industry and related disciplines.

The course consists of two units:

Unit 1: The principles of Domestic Energy Assessment (This will provide you with a useful CPD credit and introduction to energy assessing)

Unit 2: Prepare, undertake and produce Domestic Energy Assessments (this will give you a full diploma, Level 3, in Domestic Energy Assessment).

Entry requirements

You do not necessarily require any formal building/construction related qualification or experience. With no prior related experience you would need to start at module 1.

For entry onto any of the modules you would need to demonstrate competency in basic numeracy and language skills suitable for a level 3 award and would be required to undertake initial assessments prior to enrolment.

How will I be assessed?

- **Unit 1:** This unit is assessed by a multiple choice test. This is an online test assessed by the awarding body (City and Guilds).
- **Unit 2:** This unit consists of five assignments. The assignments are set by the awarding body and provide the opportunity for the candidate to show competency in carrying out five energy assessments on a range of properties.

Course Duration

- **Unit 1:** one day a week for 16 weeks.
- **Unit 2:** one day a week for 10 weeks.

Course Costs

For individual units the cost will be £1,250 plus examination fee per unit. For two units the cost will be £1,800 plus examination fees.

THANKS FOR TAKING THE TIME TO LOOK THROUGH THIS GUIDE; WE HOPE YOU FOUND THE INFORMATION USEFUL. PETROC IS CONTINUALLY DEVELOPING PROGRAMMES IN RESPONSE TO LEGISLATION AND INDUSTRY DEMANDS. IF YOU WOULD LIKE TO DISCUSS YOUR COMPANY REQUIREMENTS OR MAKE FURTHER SUGGESTIONS FOR IMPROVEMENT PLEASE DON'T HESITATE TO CONTACT US.

Created by the Learner Recruitment Team and the School of Architecture, Construction and the Built Environment
Design & Print by Inventive Print Solutions Ltd. www.inventiveprint.co.uk



Printed on FSC certification paper manufactured to the international environment standard
ISO 14001 using natural and renewable energies with soya based inks.

All details correct at time of going to press. E&OE. Petroc reserves the right to make changes,
including the addition, withdrawal or restriction of qualifications as may be deemed necessary.

Old Sticklepath Hill,
Barnstaple, Devon EX31 2BQ
01271 338189
www.petroc.ac.uk/employers