



# **Extended Sustainable Energy and Renewable Technologies**

Short Course Specification



## Introduction

NOCN is a market-leading awarding organisation that has been providing qualifications, assured short courses, various courses for a wide range of centres, including FE colleges and training providers, for 30 years both in the UK and internationally.

We work with centres to deliver a high quality and flexible service for learners to underpin our passionate belief in the power of education and its impact on communities and individuals.

We offer all the advantages of being with a national awarding organisation with a diverse portfolio of qualifications, alongside providing a personalised, bespoke, service to our centres and learners.

As an accredited Leader in Diversity, we are proud of our reputation as a provider of fully accessible, trusted, and flexible qualifications.

## About NOCN Group

NOCN is part of NOCN Group, a progressive educational charity whose core aims are to help learners reach their potential and organisations thrive. The group includes business units specialising in regulated UK and international qualifications, end point assessment, endorsed programmes and assured short courses, Smart job cards, assessment services, consultancy, and research.

NOCN Group shares a joint purpose to offer learners, training providers, employers, and FE Colleges a fully integrated range of learning and skills development products and services.

Information about all our courses and qualifications is available from our website:

[www.nocn.org.uk/](http://www.nocn.org.uk/)

## Course Specification

NOCN Group have launched this course that was developed by Quantum Group who created it in response to the growing need for trained renewable energy engineers and fitters. It is aimed at full time students on Level 2 pathways in the MES sector and is also appropriate for current engineers wishing to broaden their knowledge. The course is designed to complement any MES program or experience including but not limited to: Plumbing, Electrical, Heat and Ventilation, Gas, Renewable or Air Conditioning.

The course will provide a broad understanding of the need for renewable energy, the renewable options available and the underlying principles. It provides the student with underpinning knowledge that can be built on with further study into full level 3 renewable qualifications.

It will work in conjunction with the installations of the renewable training facilities that have been designed by Quantum Group but can also be taken by any centres who already have the necessary facilities in place.

### Course Content / Objectives (examples)

The course is designed to develop the skills and competencies of the students in the following areas:

1. Understanding the issues around the use of fossil fuels and the implications for system design and specification. Exploring the history of our energy generation. Displaying an understanding of carbon release and the greenhouse gas effect on global warming.
2. Developing a broad understanding of the range of appliances available and the advantages and disadvantages of each system. Understanding the process of energy surveys and EPC's. Being able to advise customers on the renewable energy choices available to them.
3. Demonstrating the ability to follow manufacturers' instructions and applying them to installation, commissioning and maintenance tasks. Completing the task sheets in the practical portfolio.
4. Demonstrating an understanding of the physics and processes underpinning heat generation. Completing activities on competent person schemes.

#### Modules include:

Module 1 Introduction to Fossil Fuels

Module 2 Introduction to Global Warming

Module 3 Introduction to Climate Action

Module 4 Air Source Heat Pumps Fundamental Concepts

Module 5 Solar Thermal Fundamental Concepts

Module 6 Solar PV System Fundamental Concepts

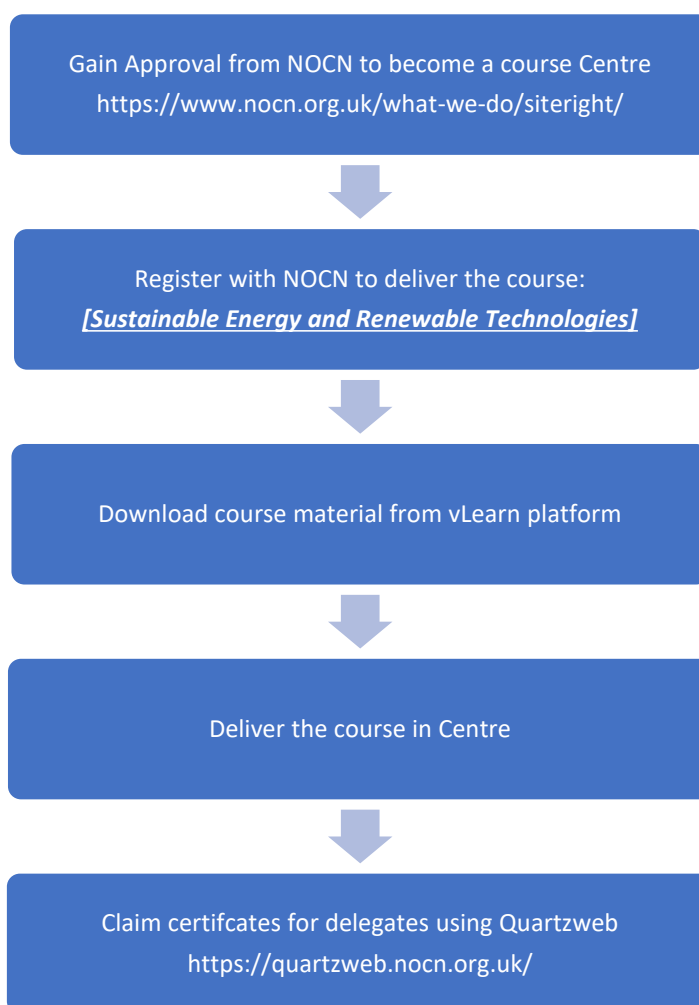
Module 7 Introduction to Design of Domestic Air Source Heat Pump System Installations

### Course Approval

Prior to advertising or delivering this Assured Course, organisations must first gain Centre Approval from NOCN as well as gaining approval for each individual Assured Course. For further information regarding gaining approval, please contact the NOCN Onboarding Team at [onboarding@nocn.org.uk](mailto:onboarding@nocn.org.uk).

Centres can also work with Quantum Group to purchase dedicated workshop facilities for this course that their dedicated experts will install. Please contact us if you want an introduction to Quantum Group.

### Approval, Readiness, Deliver and Certification Process



### Trainer Requirements

A trainer is required to deliver this course as it is 100% guided. A trainer includes anyone within your Centre who is facilitating the training to learners in any environment e.g. tutor, trainer, teacher, coach, facilitator. That individual can also perform the role of Assessor for this course.

All trainers and assessors must:

- Hold verifiable knowledge of the occupational standards at or above the level being taught, including being a coded welder in the process being taught.
- Hold or be working towards a recognised teaching/training or assessor qualification (dependent on their role), examples of what NOCN will accept are detailed within the Quality Assurance Manual.
- Keep up to date with industry best practice for the duration of their role.
- Maintain a record of Continuous Personal Development (CPD).
- Hold an up-to-date CV.

Please refer to the Assured Course Quality Manual, available on the NOCN website for further tutor requirements.

### Resource and Equipment Requirements

In order to deliver the course, the Centre must have access to and make use of the following resources and equipment:

Requirement	Detail
<b>Training Environment</b>	<ul style="list-style-type: none"> <li>• <b>Classroom and workshop based</b></li> </ul>
<b>Tools/Equipment</b>	<ul style="list-style-type: none"> <li>• <b>Course Presentations with tutor guides</b></li> <li>• <b>Projector / Laptop</b></li> <li>• <b>Flipchart and pens</b></li> <li>• <b>Learner Workbook</b></li> <li>• <b>Bay Layouts with all necessary tools and equipment as identified in Quantum Groups practical guidance</b></li> </ul>
<b>Personal Protective Equipment</b>	<ul style="list-style-type: none"> <li>• <b>Full PPE has required to complete practical tasks</b></li> <li>• <b>No Assessment should begin without a full PPE sign off</b></li> </ul>
<b>Delivery</b>	<ul style="list-style-type: none"> <li>• <b>PowerPoint presentation</b></li> <li>• <b>Workbook</b></li> <li>• <b>Practical Guides</b></li> </ul>
<b>Testing</b>	<ul style="list-style-type: none"> <li>• <b>Workbook</b></li> <li>• <b>Practical Assessment</b></li> <li>• <b>Project</b></li> </ul>

### Course Delivery

The course must consist of a maximum of 30 delegates unless pre-agreement is gained from NOCN. Only 4 delegates can undertake the practical at one time, which is a mandatory requirement to ensure safety. The course will be delivered over a suggested **8 week period** but this isn't mandatory and centres are responsible for ensuring sufficient delivery time to confirm candidates are working to the required standards. It is expected that around 150 hours is needed to deliver this course.

The Quantum Group assured training materials and resources must be used to deliver the training. To ensure that the most up-to-date material is being used **centres must download the material from the vLearn platform each time, prior to delivery of a course**. All surplus training material must be destroyed after each occasion that a course has been run.

The structure of the training is provided by the course PowerPoint. Trainers are expected to use these resources to guarantee that delegates are witness to the total information required to successfully complete this course. The trainers are responsible for ensuring the candidates understanding of the material before the assessments are completed.

### Assessment

Modules 1 – 3 are assessed using the **Student Activity Booklet** that can be found on vLearn. The course is delivered in a way that the booklet is a working document to be completed throughout but it can also be completed at the end of the module three teaching.

Modules 4 – 6 are assessed using the **Practical Pathway Manual** that covers five tasks and can be found on vLearn, the 5 pathways are:

- Pathway 1: Install, commission, and maintain Heat Pump
- Pathway 2: Install, commission, and maintain Solar Thermal
- Pathway 3: Install, commission, and maintain Solar Photovoltaic System
- Pathway 4: Install, commission, and maintain Battery Storage
- Pathway 5: Install, commission, and maintain Electric Vehicle Charging Point

As a centre you can choose to do as many of these pathways as needed depending on the role of the candidates and the technologies available in centre but **at least one** of the pathways must be completed.

Module 7 – is an added practical unit around the planning and design of Air Source Heat Pump installations and is assessed through a practical unit.

### Quality Assurance

The Quality Assurance requirements of Assured Course delivery can be found within the Assured Course Quality Manual, available on the NOCN website. A dedicated EQA will be assigned to your centre for this course.



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