PROFESSIONAL DIPLOMA

DOMESTIC RETROFIT COORDINATOR

Creating leaders for low energy retrofit projects
The Leading Retrofit Training Programme

Delivering domestic retrofit projects can be a risky and complicated business – no matter if you are tackling a one-off project or an entire neighbourhood. When things go wrong, the impact on the project can be catastrophic. CoRE believes that high-quality, specialist project leadership and management is required to ensure that these risks are appropriately managed.

In response, CoRE has worked with the leading experts in their respective fields to develop a unique training programme to help ensure these problems are avoided. The programme equips design and construction professionals with the skills and knowledge to provide the required leadership. Endorsed by the RIBA and quality assured by the IOEE, the CoRE Professional Diploma is generally recognised as the gold standard in retrofit training.

Retrofit Coordinators fulfil three roles:

1. Manage: They undertake the traditional role of a construction project manager in respect of planning, organising and managing projects towards delivery on time and on budget.

2. Coordinate: Providing informed advice and support to contractors and consultants to engender understanding and teamwork in order to achieve the energy performance that retrofit seeks.

3. Quality assure: Providing assurance to retrofit clients so that the project risk is managed.

Who should become a Retrofit Coordinator?

Retrofit Coordinators could come from any professional background but will include:

- Architects
- Asset Managers
- Building Services Engineers
- Building Surveyors
- Construction Managers and Site Foremen
- Construction Project Managers
- Energy Assessors and Consultants
- Energy Managers

What is a Retrofit Coordinator?

Retrofit Coordinators fulfil three roles:
Retrofit Coordinators will ensure that predicted energy savings are delivered in practice, addressing the common failure points such as:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Procurement</th>
<th>Design</th>
<th>Construction</th>
<th>Handover</th>
<th>Evaluation</th>
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</thead>
<tbody>
<tr>
<td>Poor client interest/ knowledge of energy and carbon performance.</td>
<td>Salami slicing of delivery under modern procurement into ever thinner trenches of work undermines responsibility and ‘ownership’ for successful completion of tasks - particularly at interfaces.</td>
<td>Lack of the robustness of detailed design, poor understanding of component interactions in both fabric and services systems; - lack of consideration to the needs of householders and resident-friendly controls.</td>
<td>Construction work and sequencing often ad hoc without testing to check performance. Poor commissioning services and checking to ensure that expected efficiencies are realised.</td>
<td>General lack of useful guidance documents or induction procedure.</td>
<td>Very few buildings are ever scrutinised after handover to check how they are performing thereby missing opportunity to rectify problems. Potential valuable lessons for all the delivery team lost.</td>
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**How Retrofit Coordinators Add Value for Clients**

<table>
<thead>
<tr>
<th>Assess</th>
<th>Design</th>
<th>Planning</th>
<th>Specification</th>
<th>Rendering</th>
<th>Contract</th>
<th>PoE</th>
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<tr>
<td>Disruption</td>
<td>Assess range of disruption that may be acceptable.</td>
<td>Analysis of benefit/disruption. Investigate scenarios find optimum.</td>
<td>Logistics plan including effect on occupiers - disruption/decant requirements.</td>
<td>Management of decant or other disruption. Arrange handover procedures. Ensure occupier information is ready and useful.</td>
<td>Collaborate with contractor to maintain schedule and key performance targets.</td>
<td>Data acquisition methods appropriate to project and privacy of occupiers.</td>
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<td>Programme</td>
<td>Identify critical time constraints.</td>
<td>Implications on programme length and sequence.</td>
<td>Contingency plans if unsuccessful.</td>
<td>Lead times. Critical path. Clear sequencing or work contingency.</td>
<td>Identify programme issues pertinent to contractor and works.</td>
<td>Collaborate with contractor to maintain schedule and key performance targets.</td>
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<tr>
<td>Communication</td>
<td>Ensure team have access to all existing data and adequate access to site is provided.</td>
<td>Lead team proactively. Identify critical issues and set the tone for collaborative working. Ask awkward questions. Avoid ambiguity.</td>
<td>Facilitate pre-app discussions if required.</td>
<td>Ensure specification from different team members is integrated and clear. Ensure the information is presented in a format that is usable on site.</td>
<td>Value contractor feedback. Adjust implementation plans as required. Check on knock on consequences DO’s &amp; DON’TS on site. Tool box talks. Everyone past the site entrance to have induction on critical issues.</td>
<td>Involve client and whole team in review of PoE.</td>
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<tr>
<td>General</td>
<td>Provide at all times during the process clarity on the following: Clear project aims / Scope of work / Responsibilities / Clear deliverables / Timetable / Clarity of relationships / Atmosphere of cooperation and open questioning.</td>
<td>Advise on consultants with appropriate experience and indemnity throughout process, conducting interviews etc as necessary.</td>
<td>Advise on particular specialists as required: planning consultant, air tester.</td>
<td>Facilitate cooperative atmosphere, team building, and ease of communication between team members.</td>
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Diploma Overview

The CoRE Professional Diploma in Domestic Retrofit Coordination is a ten-day training programme developed in partnership with the UK’s leading experts. The Diploma Award is accredited by the IoEE at the equivalent of a Level 5 Professional Diploma, and is awarded on completion of the course units and the successful completion of a multiple-choice examination.

Each of our one-day courses is led by a subject matter expert to ensure effective knowledge transfer and mentoring. Courses are classroom based, delivered to small groups who receive lectures, and work through case studies, individual and group tasks.

Introduction to Domestic Retrofit

This unit provides participants with a comprehensive introduction to the context, policy, principles and practice of domestic retrofit in the UK. The session starts with a brief explanation of the mechanisms of climate change and the twin challenges that it presents: mitigation and adaptation. The UK’s statutory commitment to reducing greenhouse gas emissions is explained in terms of its implications for the national housing stock and the retrofit challenge that it presents, alongside the need to reduce fuel poverty in an era of rising fuel costs. Domestic energy use is explained by reference to a typical dwelling. Retrofit standards are considered – both from a national point of view and from that of an individual homeowner or landlord, and the concept of ‘carbon cost effectiveness’ is introduced. The risks associated with retrofit are considered, and an approach to retrofit risk management is introduced.

Funding Domestic Retrofit

This unit introduces current schemes for funding domestic retrofit in the UK, and explains how they can be used to support individual retrofit projects or large-scale retrofit programmes. Current schemes include the Green Deal, the Green Deal Home Improvement Fund, the Energy Company Obligation, the Feed in Tariff and the domestic Renewable Heat Incentive. Each scheme has different eligibility criteria, rules and funding calculation procedures. Practical examples and exercises illustrate how the funding available from each scheme can be calculated, for a given dwelling or local scheme. Delivery programmes such as the Green Deal Communities Fund, local initiatives such as Green Deal Together and Birmingham Energy Savers, and support programmes such as GLA Re:New are also discussed. This unit is updated regularly, as the funding and support programmes change.

Assessing Dwellings for Retrofit

This focus of this unit is techniques for assessing the energy efficiency of existing dwellings, and for identifying and evaluating improvement options. The range of energy use in dwellings is reviewed, emphasising that every dwelling is unique. The theoretical basis and key features of the Standard Assessment Procedure (SAP) energy rating are explained. The training, certification, registration and quality assurance arrangements for Domestic Energy Assessors and Green Deal Assessors are briefly reviewed. Going beyond SAP, the unit considers the other information needed for an assessment: the site constraints and planning context; the construction type; the condition and need for repairs; the occupants’ or landlord’s objectives, constraints and budget; and the opportunities for other improvements alongside retrofit. Procedures for comparative evaluation of improvement options are reviewed, including simple-payback analyses, ECO scores (emissions savings) and ‘carbon cost effectiveness’.

“I have literally looked for this course for the last 10 years. My role is entirely focused on the retrofit agenda, but the majority of courses out there are either concerned with new build properties or offer training on the installation of single measures.”

Irene Fernow - Energy Efficiency Commissioning Officer Westminster City Council
Retrofit Coordination and Risk Management

This masterclass first explains the mission-critical role of the Retrofit Coordinator in providing end-to-end retrofit project management and customer care embracing assessment, procurement, design (including improvement option evaluation and statutory approvals), construction, handover and evaluation. A key aspect of the role is risk management, so this unit also reviews ‘retrofit forensic’ work which has identified how and why retrofit projects go wrong, what the consequences are and how risks may be mitigated by good project management.

Building Fabric Retrofit

The focus of this masterclass is on retrofitting domestic buildings to improve insulation and air tightness, minimise thermal bridging and eliminate or control the migration of moisture through the building fabric. The unit covers: strategies, principles and standards for improving insulation and air tightness; insulation materials and products (including both sealed and vapour permeable options); insulating walls, floors and roofs; detailing to maintain the continuity of insulation and the integrity of the air-tightness barrier at corners, junctions, edges and around openings; and post-construction testing of the building fabric.

Fundamentals of Solid Wall Insulation

This unit provides a comprehensive introduction to solid wall insulation (SWI - both internal and external) as a precursor to any product-specific training courses for installers offered by insulation system suppliers. Topics covered include: climate change, saving energy in the home and the market for SWI; solid walls and solid wall insulation; design considerations for EWI and IWI, including measures to reduce thermal bridging and improve airtightness; site assessment and appraisal of options; preliminary work assessment; secondary work assessment; method and material choice; and costing. Practical assessments of local dwellings for EWI are included.

Ventilation for Domestic Retrofit

Effective ventilation is critical to successful domestic retrofit, and poor ventilation can lead to problems such as poor indoor air quality, poor energy performance, condensation and mould growth. Yet ventilation is the least well understood aspect of domestic retrofit. This masterclass therefore focusses entirely on ventilation, and covers: the essential role of ventilation in retrofit; measurements for ventilation; establishing a retrofit ventilation strategy; ventilation system options and their performance; issues with MVHR in retrofit; and emerging ventilation techniques such as demand control.

Building Services Retrofit

The focus of this masterclass is on retrofitting domestic buildings with new services: ventilation, heating, hot water, lighting and appliances, and their controls. Low carbon technologies such as heat pumps, micro CHP, solar water heating and solar photovoltaics are also covered. Options are reviewed in terms of their characteristics, constraints, energy performance and compatibility with each other and with the building fabric. The importance of efficiency and responsiveness is emphasised, as well as the need to assess the performance of the dwelling as a whole, with both fabric and services improvements in place.

Retrofit Building Physics

This unit provides essential technical knowledge of building physics for retrofit, with particular emphasis on how energy is used in and flows through buildings, and on how moisture interacts with and migrates through the building fabric. The aim of the unit is to strengthen participant’s understanding of the physical processes involved, in order to improve their ability to specify robust retrofit that reduces heat losses, improves overall energy efficiency, minimises the risk of condensation and controls the migration of moisture through the building.

Responsible Retrofit of Traditional Buildings

Most buildings constructed before 1920 incorporate traditional types of construction that are no longer in use for new buildings, and with which the retrofit industry is not yet familiar. These buildings often rely on vapour permeable materials to allow moisture inside the building to migrate to the exterior without risk of condensation, so the use of modern vapour sealed materials is inappropriate and can threaten the integrity of the building fabric. This masterclass builds on the work of the Sustainable Traditional Buildings Alliance (STBA) and presents methods of identifying and assessing vulnerable traditional buildings, and reviews appropriate retrofit specifications.
The CoRE Training Philosophy

CoRE’s training is designed and delivered by our CoRE Fellows; the leading experts in their fields. Together they share many years of experience in professional practice and are passionate about raising standards and supporting the retrofit sector.

Learner Resource Pack
All learners receive a Resource Pack featuring copies of all the presentations and a comprehensive reading list.

Mentoring and Support from CoRE’s Fellows
CoRE’s Fellows design and deliver these courses, drawing upon years of combined experience in practice on both the client and supplier side. CoRE Fellows share a commitment to supporting CoRE to raise the standards of retrofit delivery. They are happy to discuss your own projects and to provide the benefit of their experience.

Group-Work and Tasks
CoRE’s Fellows have developed exercises to ensure that you are able to apply learning in practice. Your work is self-assessed, and can be discussed with your tutor on a one-to-one basis.

Examination
The Diploma is assessed via a multiple-choice examination taken at the end of the course.

Unit Exemption Policy
Any learner may self-exempt themselves from any unit based upon prior experience or learning. However, candidates must achieve the pass-mark in the examination in order to qualify for the award of the CoRE Professional Diploma.

Graduate Testimonials

“I think that a course like this, where the modules are delivered by retrofit specialists, based on their hands-on experience, is essential for anyone involved in the refurbishment of housing. The hand-outs and the learning materials are also first class.”
Hardial Bhogal – Director, Eclipse Enterprises

“I would recommend the Diploma Course to others and I have. In fact I would go as far as to say that anyone who is involved in the retrofit industry should attend all parts of this course.”
Irene Fernow - Westminster City Council

“A really valuable learning experience and great engaging instructors. Also fantastic opportunities to network!”

“I would certainly recommend the Diploma to others, it’s fantastic value, and is an excellent qualification for anyone working in the retrofit sector.”
Lisa Pasquale – Building Performance Evaluator and Low Energy Design Specialist, Six Cylinder Ltd.
Course Authors

All of the courses are designed and delivered by some of the UK’s leading experts in low energy retrofit. They have decades of experience in successfully delivering retrofit projects, and are widely respected in their specialist fields.

**Dr Peter Rickaby**
Director
Rickaby Thompson Associates

Peter Rickaby is a Director of CoRE. Peter studied architecture at Cambridge University and holds a doctorate from the Open University. He is a CIBSE Low Carbon Energy Assessor, a member of the BSI PAS 2050 Steering Group, and a member of the RIBA Sustainable Futures Group. He has over 30 years’ experience as a specialist energy consultant and trainer.

**Russell Smith**
Founder and Managing Director
Parity Projects

Russell Smith is Director of Parity Projects, a company dedicated to transforming the existing housing stock. Parity Projects advises and project-manages renovations for private homeowners, local authorities and housing associations. He is also founder and Director of RetrofitWorks; a multi-stakeholder cooperative, matching property owners and community groups up with local, certified retrofit professionals and trades under one administration.

**Bob Prewett**
Director
Prewett Bizley Architects

Robert Prewett is a Director at Prewett Bizley Architects, a practice that has strong focus on low energy design, in particular retrofit work to existing buildings. Robert has contributed to a set of low carbon retrofit guides published by the Institute for Sustainability, in which he set out the case for the role of ‘retrofit coordinator’.

**Dr Sarah Price**
Project Manager and Building Physicist, Encraft

Dr Sarah Price, a Certified Passivhaus, Consultant has worked for Encraft since 2010 after completing her PhD in Molecular Physics at the University of Birmingham. She is a senior consultant in the engineering team at Encraft and specialises in building physics and project management.

**Mark Elton**
Partner
Sustainable By Design LLP

Mark joined Sustainable By Design LLP in May 2013, bringing with him over 18 years of experience in low energy architecture, working on projects across the country. He has been responsible for a number of exemplar retrofit schemes, including Retrofit for the Future projects and developing particular expertise in large-scale and hi-rise social housing refurbishment.

**Helen Brown**
Head of Building Physics
Encraft

Helen Brown joined Encraft at 2007 and has a Masters in Physics with Theoretical Physics. A Certified Passivhaus Consultant, Helen heads the Building Physics practice at Encraft. A sought-after speaker, she has a strong record of delivering Building Physics projects for local authorities, social landlords, contractors, architects and other industry stakeholders nationally.

**Valentina Marincioni**
UCL, and Natural Building Technologies

Valentina is a researcher in building physics with a background in Thermo-Mechanical Engineering; her experience in moisture risk and durability of sustainable buildings led her to collaborate with heritage bodies on the impact of energy efficiency interventions on traditional buildings.

**John Willoughby**
Energy and Environmental Design Consultant

John Willoughby is an energy and environmental design consultant based in Gloucestershire. Over the past 35 years he has been involved with the design of many low energy new buildings and energy efficient refurbishment projects.

**Alan Clarke**
Energy Consultant and Building Services Engineer

Alan Clarke is an energy and building services engineer specialising in Passivhaus design, building on long experience of low energy and ecological construction. He works with architects on a range of housing, school and office projects, newbuild and retrofit. He is also a developer and teacher of the Warm Passivhaus Designer Course.

**Alain Orme**
Associate Director of Sustainability
Mace

Ian is an accredited Low carbon Consultant through CIBSE and a BREEAM accredited professional. He specialises in all aspects of building performance evaluation and is a TSB-appointed evaluator on a number of projects.

**Clive Rowland**
Ricky Thompson’s Retrofit Team

Clive works as part of Rickaby Thompson’s Retrofit team, liaising with housing associations and local government housing departments, looking at stock profiling, energy efficiency and carbon dioxide reduction. Clive has over 15 years’ experience working on some of the UK’s most exciting retrofit projects.

**Matt Cotton**
Director
Twin & Earth

Matt Cotton is a Director of Twin & Earth, an independent engineering and sustainability consultancy based in London. Matt is a chartered engineer with an in-depth knowledge of building physics, sustainability retrofit, low energy design and energy systems. He is an experienced non-domestic energy assessor, and accredited CICESE low carbon consultant and a BREEAM-Accredited Professional.
Course Fees
Full CoRE Diploma - £2000 plus VAT
Individual Units - £200 plus VAT

Early booking and multiple-session delegate discounts are available, if the eligibility criteria is met. Please contact our team to find out more and discuss how we can support your training requirements.

Training Locations

Next Steps
The CoRE Training Team is here to help so please contact us on 01782 792900.

For all the latest course dates, locations and event details please visit: www.core-skills.com

For further information or to book a course, please get in touch:
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