QQI
Quality and Qualifications Ireland
Dearbhú Cáilíochta agus Cáilíochtaí Éireann

Independent Evaluation Report on an Application for Validation of a Programme of Education and Training

Part 1. Provider details

Provider name	Limerick and Clare Education and Training Board
Date of site visit	14 November 2022 (desk review)
Date of report	18 November 2022

Section A. Overall recommendations

Principal programme	**Title**	F-gas Handling in Small RACHPT & T Systems Category 2
	Award	Special Purpose Award
	Credit	10
	Recommendation *Satisfactory OR Satisfactory subject to proposed conditions OR Not Satisfactory*	Satisfactory subject to proposed conditions.

Embedded programme 1	**Title**	N/A
	Award	
	Credit	
	Recommendation *Satisfactory OR Satisfactory subject to proposed conditions OR Not Satisfactory*	

Section B. Expert Panel

Name	Role	Affiliation
Mr Daniel Brennan	Chair	Consultant, DNB Education Consultants, former Registrar, Letterkenny IT
Mr David Roome	Subject Matter Expert	Managing Director, F Gas Registration Ltd
Mr Michael Kelly	Secretary	Consultant, Wildgeese Training and Quality Solutions

Section C. Principal Programme

Names of centre(s) where the programme(s) is to be provided	Maximum number of learners *(FT)*	Maximum number of learners *(PT)*
FET Centre, Shannon Campus, Bay 115 Shannon Industrial Estate, Shannon, Co Clare.	-	72 pa

Proposed Duration and Enrolment					
	First Intake Date	Duration	Intakes per Annum	Enrolment i.e. learners per Intake	
			Maximum	Minimum	Maximum
Full-Time	-	-	-	-	-
Part-Time	Jan 2023	10 weeks	12	4	6
Intake Schedule e.g. January September		January - December			

Panel Commentary on proposed enrolment:

The panel is satisfied that there is strong evidence of the market demand for the programme, driven by certification and skills needs for heat pump installers within the plumbing and wider construction sector. The programme will also be relevant to those working within the areas of refrigeration and Heating, Ventilation and Air Conditioning (HVAC).

Learner demand outstrips the availability of approved training courses in this area. This potential demand for the programme is driven by environmental standards and changes in technology, together with the compliance requirements of European Union (EU) and national regulations.

Technology changes include the demand for heat pump installations in both domestic and commercial contexts. Legislative and compliance drivers include the recent implementation of the European Union (Fluorinated Greenhouse Gases) Regulations, 2022 (S.I 404 of 2022) in Ireland. Furthermore, the impact of Brexit on cross-border recognition of qualifications means that the previous City & Guilds suite of programmes covering this area is no longer viable in Ireland and the wider EU.

Brief synopsis of the programme (e.g. who it is for, what is it for, what is involved for learners, what it leads to.)

The programme has been designed to equip the learner with the relevant knowledge, skills, and competence to carry out intrusive work on equipment containing up to 3 kg of fluorinated greenhouse gases (F-gases) including stationary refrigeration, air-conditioning and heat pump systems and the refrigeration units of refrigerated trucks and trailers that contain up to 3 kg of F-gases (or less than 6 kg for systems if hermetically sealed), in compliance with current European Union (EU) and national regulations without supervision:

- Recovery, installation, repair, maintenance, servicing and decommissioning of equipment containing F-gases up to 3 kg (or up to 6kg for systems if hermetically sealed).
- Leak checking can be carried out on systems over 3 kg charge (or up to 6kg in a sealed system) provided no intrusive work is carried out.

The programme will also serve trades-qualified individuals working in the plumbing and construction sectors who wish to upskill in relation to the installation and maintenance of air to water heat pump systems. This programme will equip the learner with the relevant knowledge, skill, and competence to carry out work on these systems in a safe and environmentally sound method without supervision. The programme does not include work placement or work-based learning.

The practical element of the proposed award will be primarily focused on air-to-water heat pump systems. This reflects the industry and regulatory demand for heat pump systems in place of conventional oil/gas heating. The Sustainable Energy Authority of Ireland (SEAI) provides grants to assist in upgrades to this new technology and also encourages installers to achieve certification through programmes such as this proposed Category 2 award. Learners will not be trained to work on refrigeration systems but the full theory content from the related F-gas Category 1 award will be incorporated within this programme. There is an additional practical element covering the fabrication and enclosure of a RAC compression-type joints.

The programme has been designed for qualified, experienced workers primarily working as plumbers and so is not an entry level qualification. However, the provider has also proposed that experienced candidates lacking formal qualifications but with prior knowledge and practice may also be considered for entry to the programme.

Target learner groups

This is F-gas compliance training specifically related to the handling of F-gas, so the programme is intended for people who are required to work with F-gas refrigerants. This is a potentially wide group of potential learners and the related EU 2015/2067 regulation does not specify entry requirements for any related training so the provider has proposed the following entry criteria for potential learners:

- Applicants must hold a Craft Level 6 Qualification.
- Alternatively, eligibility may include a wider group drawn from individuals actively involved in the commissioning and servicing of refrigeration, air-conditioning and heat pump systems who hold a Craft Level 6 qualification or equivalent qualification such as mechanical/ electrical degree and/or work experience in this area.

Target learners will be sourced through employers and the programme recruitment team will liaise directly with employers using the promotional flyer, the programme descriptor, suported by information on programme content.

It is expected that learners will have achieved the knowledge, skills and competences associated with NFQ Level 5 as a minimum, to correspond with the entry requirements above of Level 6.

Approved countries for provision	Ireland
Delivery mode: Full-time/Part-time	Part-time

The teaching and learning modalities

Classroom/face-to-face, comprising: instructional/directed learning, practical skills training, peer learning, and self-directed learning.

Summary of specifications for teaching staff		
Role	**Profile**	**WTE**
Instructor	City & Guilds Level 3 Certificate in Assessing Vocational Achievement-TAQA City & Guilds Level 4 Award in the Internal Quality Assurance of Assessment Processes and Practice-TQAQ City & Guilds Level 4 Certificate in Leading the Internal QA of Assessment Processes and Practices-TAQA Level 6 National Craft Qualification in Refrigeration & Air Conditioning City &Guilds 2079-11 Certificate in F-gas and ODS Category 1 or QQI 5N21698.	0.5
Training Standards Officer	Qualification at minimum L7 on NFQ or equivalent, or significant relevant work experience. Have completed an appropriate QA Development Programme.	0.5
Clerical Officer	Qualification at minimum L4 on NFQ or equivalent, or significant relevant work experience.	0.5
Evening Course Manager	Qualification at minimum L7 on NFQ or equivalent, or significant relevant work experience.	0.25
Internal Verification	Training Standards Officer (as above)	<0.5
External Authenticator	This will be carried out where possible, by an EA from the National ETBI EA Directory. There is a lack of SME EAs currently on the Directory. It is preferable that the EA has specific qualifications in the area of AC and Refrigeration as required by local EA Guidelines and Procedures. Currently where the above is not available, the EA must have at minimum either Mechanical Engineering or Electrical Engineering background.	<0.5
Monitoring, Evaluation and Review	Qualifications as per relevant Person Specification in Job Descriptions as laid out by relevant authority. This would include a minimum Level 6 NFQ qualification with relevant experience in the areas of monitoring, evaluation and review	<0.25

Learning Activity	**Ratio of learners to teaching staff**
Classroom lecture	6:1
Practical workshop	6:1

Panel Commentary on programme outline and staffing:

The validation application envisages that the programme would have 10 credits leading to the Level 5 Special Purpose Certificate in F-gas Handling in Small RACHPT&P Systems Category 2 award.

The panel considers that the overall programme concept is sound, being geared towards learners achieving the relevant knowledge, skills, and competence to carry out work on air-to-water heat pumps, stationary refrigeration, air conditioning systems use F-gases in their respective fields of work, in compliance with current EU and national regulations. Therefore, subject to the conditions set out within this report, the panel is satisfied that the proposed programme outline and staffing is fit for purpose.

Programmes being replaced (applicable to applications for revalidation)		
Code	**Title**	**Last enrolment date**
N/A	N/A	-

Section D. Other noteworthy features of the application

Training will take place within the customised Refrigeration and Air Conditioning classrooms and workshops within LCETB's Shannon Campus. The classroom is comprehensively equipped with the latest technology and tooling, together with heat pump units to support this Category 2 programme.

Part 1A Evaluation of the Case for an Extension of the Approved Scope of Provision (where applicable).

Having examined appropriate QA / Governance procedures, comment on the case for extending the applicant's Approved Scope of Provision to enable provision of this programme. (Especially relevant for move to online delivery / assessment)

This programme is within the existing scope of validated level 1-6 programmes for LCETB.

Part 2. Evaluation against the validation criteria

The panel should complete this section with commentary against each criterion to support the recommendation given in the 'Satisfactory?' column i.e. Yes, No, or Partially.

If 'Yes', there should be a comment citing the evidence for this finding. Likewise, there should be an explanation as to why the panel have concluded that the criterion has either not been met or only partially so.

Criterion 1. The provider is eligible to apply for validation of the programme

a) The provider meets the prerequisites (section 44(7) of the 2012 Act) to apply for validation of the programme.
b) The application for validation is signed by the provider's chief executive (or equivalent) who confirms that the information provided is truthful and that all the applicable criteria have been addressed.
c) The provider has declared that their programme complies with applicable statutory, regulatory and professional body requirements.[1]

Programme	Satisfactory? (yes, no, partially)	Comment
Level 5 Specific Purpose Certificate in F-gas Handling in Small RACHPT&T Systems Category 2	Yes	The panel is satisfied that Limerick and Clare Education and Training Board (LCETB) as the provider of the proposed programme has met the requirements of Section 44(7) of the 2012 Act to apply for validation of the programme. LCETB has established and developed procedures for access, transfer and progression as part of its overall quality assurance arrangements. These are reviewed further in relation to the programme documents submitted in support of validation under Criterion 4. As the proposed programme is less than 3 months' duration, the requirements of Section 65 of the 2012 Act in respect of Protection of Enrolled Learners (PEL) is not applicable to this validation process. A declaration dated 3 November 2022 accompanied the application for validation and was signed on behalf of LCETB. This declaration confirms that the information provided is correct and truthful and that LCETB has addressed the applicable criteria. The declaration also states that the programme complies with applicable statutory and regulatory requirements.

[1] This criterion is to ensure the programme can actually be provided and will not be halted on account of breach of the law. The declaration is sought to ensure this is not overlooked but QQI is not responsible for verifying this declaration of enforcing such requirements.

Criterion 2. The programme objectives and outcomes are clear and consistent with the QQI awards sought

a) The programme aims and objectives are expressed plainly.
b) A QQI award is specified for those who complete the programme.
   (i) Where applicable, a QQI award is specified for each embedded programme.
c) There is a satisfactory rationale for the choice of QQI award(s).
d) The award title(s) is consistent with unit 3.1 of QQI's *Policy and Criteria for Making Awards.*
e) The award title(s) is otherwise legitimate for example it must comply with applicable statutory, regulatory and professional body requirements.
f) The programme title and any embedded programme titles are
   (i) Consistent with the title of the QQI award sought.
   (ii) Clear, accurate, succinct and fit for the purpose of informing prospective learners and other stakeholders.
g) For each programme and embedded programme
   (i) The **minimum intended programme learning outcomes** and any other educational or training objectives of the programme are explicitly specified.[2]
   (ii) The minimum intended programme learning outcomes to qualify for the QQI award sought are **consistent with** the relevant QQI awards standards.
h) Where applicable, the **minimum intended module learning outcomes** are explicitly specified for each of the programme's modules.
i) Any QQI minor awards sought for those who complete the modules are specified, where applicable.

For each minor award specified, the minimum intended module learning outcomes to qualify for the award are consistent with relevant QQI minor awards standards.[3]

Programme	Satisfactory? (yes, no, partially)	Comment
Level 5 Specific Purpose Certificate in F-gas Handling in Small RACHPT&T Systems Category 2	Yes	The panel noted that the primary aims of the programme are aligned with the based on the reference documents and compliance obligations of the F-gas regulation EU 2015/2067, plus the relevant QQI Awards Standards for F-gas April 2020, thereby meeting the requirements of Criterion 2. The panel also observed that the F-gas regulations provides much of the context for the learning outcomes and overall programme curriculum. This Category 2 award is a one module programme and comprises 10 credits.

[2] Other programme objectives, for example, may be to meet the educational or training requirements of a statutory, regulatory or professional body.
[3] Not all modules will warrant minor awards. Minor awards feature strongly in the QQI common awards system however further education and training awards may be made outside this system.

Criterion 3. The programme concept, implementation strategy, and its interpretation of QQI awards standards are well informed and soundly based (considering social, cultural, educational, professional and employment objectives)

a) The development of the programme and the intended programme learning outcomes has sought out and taken into account the views of stakeholders such as learners, graduates, teachers, lecturers, education and training institutions, employers, statutory bodies, regulatory bodies, the international scientific and academic communities, professional bodies and equivalent associations, trades unions, and social and community representatives.[4]

b) The interpretation of awards standards has been adequately informed and researched; considering the programme aims and objectives and minimum intended programme (and, where applicable, modular) learning outcomes.
   (i) There is a satisfactory rationale for providing the programme.
   (ii) The proposed programme compares favourably with existing related (comparable) programmes in Ireland and beyond. Comparators should be as close as it is possible to find.
   (iii) There is support for the introduction of the programme (such as from employers, or professional, regulatory or statutory bodies).
   (iv) There is evidence[5] of learner demand for the programme.
   (v) There is evidence of employment opportunities for graduates where relevant[6].
   (vi) The programme meets genuine education and training needs.[7]

c) There are mechanisms to keep the programme updated in consultation with internal and external stakeholders.

d) Employers and practitioners in the cases of vocational and professional awards have been systematically involved in the programme design where the programme is vocationally or professionally oriented.

e) The programme satisfies any validation-related criteria attaching to the applicable awards standards and QQI awards specifications.

Programme	Satisfactory? (yes, no, partially)	Comment
Level 5 Specific Purpose Certificate in F-gas Handling in Small RACHPT&T Systems Category 2	Yes	The panel is satisfied that the requirements of Criterion 3 have been met, with a clear rationale, plus evidence of learner demand and employment opportunities in relation to this F-gas Category 2 programme. The rationale for the programme relates to the compliance requirements arising from the F-gas regulations (EU) 2015/2067 and will enable learners to work with small air-to-water heat pump units and small refrigeration/ HVAC units. Certification data and current regulations in the plumbing, construction and wider industry sectors have highlighted the urgent need for an appropriate suite of F-gas programmes to support these developments. The provider has evidenced research on market/ learner demand for this Category 2 programme, based on EU and national regulatory needs, contacts with employers and other

[4] Awards standards however detailed rely on various communities for their interpretation. This consultation is necessary if the programme is to enable learners to achieve the standard in its fullest sense.
[5] This might be predictive or indirect.
[6] It is essential to involve employers in the programme development and review process when the programme is vocationally or professionally oriented.
[7] There is clear evidence that the programme meets the **target learners'** education and training needs and that there is a clear demand for the programme.

		industry representatives, the Environmental Protection Agency (EPA), and trainer/ apprentice feedback. Three experienced instructors have been involved in the Programme Development team and LCETB's Training Centre Manager also has experience in this industry. Market demand also arises from political factors in that the established City & Guilds qualifications are no longer acceptable in Ireland post-Brexit.

Criterion 4. The programme's access, transfer and progression arrangements are satisfactory

a) The information about the programme as well as its procedures for access, transfer and progression are consistent with the procedures described in QQI's policy and criteria for access, transfer and progression in relation to learners for providers of further and higher education and training. Each of its programme-specific criteria is individually and explicitly satisfied[8].
b) Programme information for learners is provided in plain language. This details what the programme expects of learners and what learners can expect of the programme and that there are procedures to ensure its availability in a range of accessible formats.
c) If the programme leads to a higher education and training award and its duration is designed for native English speakers, then the level of proficiency in English language must be greater or equal to B2+ in the Common European Framework of Reference for Languages (CEFRL[9]) in order to enable learners to reach the required standard for the QQI award.
d) The programme specifies the learning (knowledge, skill and competence) that **target learners** are expected to have achieved before they are enrolled in the programme and any other assumptions about enrolled learners (programme participants).
e) The programme includes suitable procedures and criteria for the **recognition of prior learning** for the purposes of access and, where appropriate, for advanced entry to the programme and for exemptions.
f) The programme title (the title used to refer to the programme):-
   (i) Reflects the core *intended programme learning outcomes*, and is consistent with the standards and purposes of the QQI awards to which it leads, the award title(s) and their class(es).
   (ii) Is learner focused and meaningful to the learners;
   (iii) Has long-lasting significance.
g) The programme title is otherwise legitimate; for example, it must comply with applicable statutory, regulatory and professional body requirements.

Programme	Satisfactory? (yes, no, partially)	Comment
Level 5 Specific Purpose Certificate in F-gas Handling in Small RACHPT&T Systems Category 2	Partially	The panel concluded that the programme meets Criterion 4, apart from sub-criteria (d) and (e). Given the compliance requirements and lack of alternative qualification routes, the panel noted the strong learner demand and potential employer sponsorship for the programme. Programme recruitment and admission strategies will focus on employers, using a Category 2 programme flyer and direct contacts with employers. As this is compliance training, there is no definitive progression route although learners may further upskill in related F-gas and HVAC areas if desired. The provider noted that its own procedures in relation to Recognition of Prior Learning (RPL) were in early stages of development so the proposal to admit unqualified learners with prior industry experience may prove

[8] Each of the detailed criteria set out in the Policy and criteria for access, transfer and progression in relation to learners for providers of further and higher education and training must be addressed in the provider's evaluation report. The detailed criteria are (QQI, restated 2015) arranged under the headings
- Progression and transfer routes
- Entry arrangements
- Information provision

[9] http://www.coe.int/t/dg4/linguistic/Source/Framework_EN.pdf (accessed 26/09/2015)

		problematic in the context of compliance-based training. Therefore, the panel concluded that all potential learners must hold a recognised trade or relevant academic qualification to gain access to this F-gas Category 2 programme. Given the specialist technical nature of the programme the panel considered that opening eligibility to experienced but unqualified technicians would not be appropriate. The panel notes that the provider has not proposed a direct entry for Phase 2 plumbing apprentices to the programme. The panel believes that LCETB might consider this proposition in conjunction with the appropriate stakeholders.

Criterion 5. The programme's written curriculum is well structured and fit-for-purpose

a) The programme is suitably structured and coherently oriented towards the achievement by learners of its intended programme learning outcomes. The programme (including any stages and modules) is integrated in all its dimensions.
b) In so far as it is feasible the programme provides choice to enrolled learners so that they may align their learning opportunities towards their individual educational and training needs.
c) Each module and stage is suitably structured and coherently oriented towards the achievement by learners of the intended *programme* learning outcomes.
d) The objectives and purposes of each of the programme's elements are clear to learners and to the provider's staff.
e) The programme is structured and scheduled realistically based on sound educational and training principles[10].
f) The curriculum is comprehensively and systematically documented.
g) The credit allocated to the programme is consistent with the difference between the entry standard and minimum intended programme learning outcomes.
h) The credit allocated to each module is consistent with the difference between the module entry standard and minimum intended module learning outcomes.
i) Elements such as practice placement and work-based phases are provided with the same rigour and attentiveness as other elements.
j) The programme duration (expressed in terms of time from initial enrolment to completion) and its fulltime equivalent contact time (expressed in hours) are consistent with the difference between the minimum entry standard and award standard and with the credit allocation.[11]

Programme	Satisfactory? (yes, no, partially)	Comment
Level 5 Specific Purpose Certificate in F-gas Handling in Small RACHPT&T Systems Category 2	Yes	The panel's evaluation of the programme found that it meets the requirements of Criterion 5. The programme's curriculum is geared towards learners who seek Category 2 certification in line with Regulation EU 2015/2067. Course content is aligned with this regulatory framework, being based around the 11 units relevant to Category 2 in the Annex to the EU Regulation. This is a single module programme leading to the overall special purpose award. The minimum intended programme learning outcomes (MIPLOs) have been developed to reflect a 10-credit module, including the knowledge, skills and competences expected from a level 5 learner. The programme is delivered over 100 hours with assessment at the end of the programme. There is no work-based learning involved in the programme.

[10] This applies recursively to each and every element of the programme from enrolment through to completion.
In the case of a modular programme, the pool of modules and learning pathway constraints (such as any prerequisite and co-requisite modules) is explicit and appropriate to the intended programme learning outcomes.
[11] If the duration is variable, for example, when advanced entry is available, this should be explained and justified

Criterion 6. There are sufficient qualified and capable programme staff available to implement the programme as planned

a) The specification of the programme's staffing requirements (staff required as part of the programme and intrinsic to it) is precise, and rigorous and consistent with the programme and its defined purpose. The specifications include professional and educational qualifications, licences-to practise where applicable, experience and the staff/learner ratio requirements. See also criterion 12 c).
b) The programme has an identified complement of staff[12] (or potential staff) who are available, qualified and capable to provide the specified programme in the context of their existing commitments.
c) The programme's complement of staff (or potential staff) (those who support learning including any employer-based personnel) are demonstrated to be competent to enable learners to achieve the intended programme learning outcomes and to assess learners' achievements as required.
d) There are arrangements for the performance of the programme's staff to be managed to ensure continuing capability to fulfil their roles and there are staff development[13] opportunities[14].
e) There are arrangements for programme staff performance to be reviewed and there are mechanisms for encouraging development and for addressing underperformance.
f) Where the programme is to be provided by staff not already in post there are arrangements to ensure that the programme will not enrol learners unless a complement of staff meeting the specifications is in post.

Programme	Satisfactory? (yes, no, partially)	Comment
Level 5 Specific Purpose Certificate in F-gas Handling in Small RACHPT&T Systems Category 2	Yes	The panel's evaluation of the programme found that it meets the requirements of Criterion 6. There is a team of four instructors for the programme, with extensive individual experience in the delivery of F-gas and related technical training. The programme will be delivered and managed locally within the College of FET, Shannon Campus, and is subject to LCETB's overall Quality Assurance and Governance procedures. Staff performance and professional development is managed directly through internal/external evaluations and QQI certification processes, together with indirect input from employers and industry SMEs.

[12] Staff here means natural persons required as part of the programme and accountable (directly or indirectly) to the programme's provider, it may for example, include contracted trainers and workplace supervisors.
[13] Development here is for the purpose of ensuring staff remain up-to-date on the discipline itself, on teaching methods or on other relevant skills or knowledge, to the extent that this is necessary to ensure an adequate standard of teaching.
[14] Professional or vocational education and training requires that teaching staff's professional/vocation knowledge is up to date. Being qualified in a discipline does not necessarily mean that a person is currently competent in that discipline. Therefore, performance management and development of professional and vocational staff needs to focus on professional/vocational competence as well as pedagogical competence. Professional development may include placement in industry, for example. In regulated professions it would be expected that there are a suitable number of registered practitioners involved.

Criterion 7. There are sufficient physical resources to implement the programme as planned

a) The specification of the programme's physical resource requirements (physical resources required as part of the programme and intrinsic to it) is precise, and rigorous and consistent with the programme, its defined purpose and its resource/learner-ratio requirements. See also criterion 12 d).
b) The programme has an identified complement of supported physical resources (or potential supported physical resources) that are available in the context of existing commitments on these e.g. availability of:
   (i) suitable premises and accommodation for the learning and human needs (comfort, safety, health, wellbeing) of learners (this applies to all of the programme's learning environments including the workplace learning environment)
   (ii) suitable information technology and resources (including educational technology and any virtual learning environments provided)
   (iii) printed and electronic material (including software) for teaching, learning and assessment
   (iv) suitable specialist equipment (e.g. kitchen, laboratory, workshop, studio) – if applicable
   (v) technical support
   (vi) administrative support
   (vii) company placements/internships – if applicable
c) If versions of the programme are provided in parallel at more than one location each independently meets the location-sensitive validation criteria for each location (for example staffing, resources and the learning environment).
d) There is a five-year plan for the programme. It should address
   (i) Planned intake (first five years) and
   (ii) The total costs and income over the five years based on the planned intake.
e) The programme includes controls to ensure entitlement to use the property (including intellectual property, premises, materials and equipment) required.

Programme	**Satisfactory? (yes, no, partially)**	**Comment**
Level 5 Specific Purpose Certificate in F-gas Handling in Small RACHPT&T Systems Category 2	Yes	The panel's evaluation of the programme found that it meets the requirements of Criterion 7. Training delivery will take place within the customised Refrigeration and Air Conditioning classrooms and workshops within the College of FET, Shannon Campus. The training spaces are comprehensively equipped with the required materials, tooling and equipment, together with specific training rigs (e.g., air-to-water heat pump units). Training rigs have been designed to reproduce working refrigeration, HVAC and heat pump units as found in the sector. The training rigs also incorporate a variety of real-world scenarios to help familiarise learners with situations they are likely to encounter in their day-to-day work. The classroom has new technology to facilitate a virtual learning environment (VLE). This may be used to record demonstrations, which are then made available as resource material for learners through the VLE. LCETB has an extensive support structure to assist with efficient programme delivery, including course administration, access to learner supports, internal/external verification, QQI certification and Technology Enhanced Learning services.

Criterion 8. The learning environment is consistent with the needs of the programme's learners

a) The programme's physical, social, cultural and intellectual environment (recognising that the environment may, for example, be partly virtual or involve the workplace) including resources and support systems are consistent with the intended programme learning outcomes.
b) Learners can interact with, and are supported by, others in the programme's learning environments including peer learners, teachers, and where applicable supervisors, practitioners and mentors.
c) The programme includes arrangements to ensure that the parts of the programme that occur in the workplace are subject to the same rigours as any other part of the programme while having regard to the different nature of the workplace.

Programme	Satisfactory? (yes, no, partially)	Comment
Level 5 Specific Purpose Certificate in F-gas Handling in Small RACHPT&T Systems Category 2	Yes	The panel's evaluation of the programme found that it meets the requirements of Criterion 8. A dedicated classroom and workshop have been created at the Shannon Campus to deliver F-gas and similar technical training. Training rigs and related equipment have been specifically designed to support this Category 2 programme. This programme is of short duration so that each cohort of learners will be onsite in the Shannon Campus for a shorter period of time in comparison with learners on other LCETB programmes. However, LCETB is committed to providing a holistic learner-centred approach across the physical, social, cultural, technological and intellectual environments in all its centres, with access to wider LCETB supports as necessary. Typical supports for this type of training would include one-to-one learning supports related to additional literacy or maths needs. Learners on this Category 2 programme will also have the opportunity to engage in peer learning and one-to-one discussions as part of their overall learning.

Criterion 9. There are sound teaching and learning strategies

a) The teaching strategies support achievement of the intended programme/module learning outcomes. b) The programme provides authentic learning opportunities to enable learners to achieve the intended programme learning outcomes. c) The programme enables enrolled learners to attain (if reasonably diligent) the minimum intended programme learning outcomes reliably and efficiently (in terms of overall learner effort and a reasonably balanced workload). **d)** Learning is monitored/supervised. **e)** Individualised guidance, support15 and timely formative feedback is regularly provided to enrolled learners as they progress within the programme.		
Programme	**Satisfactory? (yes, no, partially)**	**Comment**
Level 5 Specific Purpose Certificate in F-gas Handling in Small RACHPT&T Systems Category 2	Yes	The panel's evaluation of the programme found that it meets the requirements of Criterion 9. Module content and delivery is designed to provide realistic learning opportunities and is modelled on the EU 2015/2067 Annex requirements The programme's teaching strategies are intended to train qualified tradespeople to work safely with small heat pump systems, refrigeration, and HVAC units and achieve Category 2 certification. The low teacher/ learner ratio is intended to help deliver a high quality and personalised learning environment, under the guidance of a small team of qualified and experienced instructors. Teaching strategies include theory and practical skills training, peer learning and self-directed study. The theory element includes: • Training sessions where material is presented to the learners, followed by group discussions. • Guidance on technical procedures and how these are applied with the different types of equipment likely to be encountered in the workplace. • Demonstrations using test rigs and discussions on results and values derived from the equipment used. • Formative assessment through probing questions and formal assessments using progression tests. The practical element includes: • Demonstrations including refrigeration copper pipe-work fabrication, component replacement and re-commissioning of F-gas systems/ small heat pumps. • Skills practice sessions where the instructor monitors the learner's technique and progress, providing feedback on strengths and areas for improvement.

[15] Support and feedback concerns anything material to learning in the context of the programme. For the avoidance of doubt it includes among other things any course-related language, literacy and numeracy support.

Criterion 10. There are sound assessment strategies

a) All assessment is undertaken consistently with ***Assessment Guidelines, Conventions and Protocols for Programmes Leading to QQI Awards***[16]
b) The programme's assessment procedures interface effectively with the provider's QQI approved quality assurance procedures.
c) The programme includes specific procedures that are fair and consistent for the assessment of enrolled learners to ensure the minimum intended programme/module learning outcomes are acquired by all who successfully complete the programme.[17]
d) The programme includes formative assessment to support learning.
e) There is a satisfactory written **programme assessment strategy** for the programme as a whole and there are satisfactory module assessment strategies for any of its constituent modules.[18]
f) Sample assessment instruments, tasks, marking schemes and related evidence have been provided for each award-stage assessment and indicate that the assessment is likely to be valid and reliable.
g) There are sound procedures for the moderation of summative assessment results.
h) The provider only puts forward an enrolled learner for certification for a particular award for which a programme has been validated if they have been specifically assessed against the standard for that award.[19]

Programme	Satisfactory? (yes, no, partially)	Comment
Level 5 Specific Purpose Certificate in F-gas Handling in Small RACHPT&T Systems Category 2	Yes	The panel's evaluation of the programme found that it meets the requirements of Criterion 10. The programme's assessment strategy is governed by LCETB's own quality assurance and governance structures which in turn conform with QQI's assessment guidelines. Assessment strategy is fully documented and supports the achievement of the programme learning outcomes, which are aligned with the Category 2 requirements of EU 2015/2067. Assessment comprises both a theory assessment (30%) and practical skills demonstration (70%), both of which must be passed to achieve certification. Sample assessments and marking schemes have been developed to support the programme. There are purpose-built assessment rigs in the workshop in relation to practical skills. Formative assessment is used during training sessions to check individual learner progress. There is a 90% overall pass mark using a Pass/Fail approach on the basis that the programme is a competency-based award derived from specific legislative requirements.

[16] See the section on transitional arrangements.
[17] This assumes the minimum intended programme/module learning outcomes are consistent with the applicable awards standards.
[18] The programme assessment strategy is addressed in the Assessment Guidelines, Conventions and Protocols for Programmes Leading to QQI Awards. See the section on transitional arrangements.
[19] If the award is a QQI CAS compound award it is not necessarily sufficient that the learner has achieved all the components specified in the certification requirements unless at least one of those components is a capstone component (i.e. designed to test the compound learning outcomes).

Criterion 11. Learners enrolled on the programme are well informed, guided and cared for

a) There are arrangements to ensure that each enrolled learner is fully informed in a timely manner about the programme including the schedule of activities and assessments.
b) Information is provided about learner supports that are available to learners enrolled on the programme.
c) Specific information is provided to learners enrolled on the programme about any programme-specific appeals and complaints procedures.
d) If the programme is modular, it includes arrangements for the provision of effective guidance services for learners on the selection of appropriate learning pathways.
e) The programme takes into account and accommodates to the differences between enrolled learners, for example, in terms of their prior learning, maturity, and capabilities.
f) There are arrangements to ensure that learners enrolled on the programme are supervised and individualised support and due care is targeted at those who need it.
g) The programme provides supports for enrolled learners who have special education and training needs.
h) The programme makes reasonable accommodations for learners with disabilities[20].
i) If the programme aims to enrol international students it complies with the *Code of Practice for Provision of Programmes to International Students*[21] and there are appropriate in-service supports in areas such as English language, learning skills, information technology skills and such like, to address the particular needs of international learners and enable such learners to successfully participate in the programme.
j) The programme's learners will be well cared for and safe while participating in the programme, (e.g. while at the provider's premises or those of any collaborators involved in provision, the programme's locations of provision including any workplace locations or practice-placement locations).

Programme	Satisfactory? (yes, no, partially)	Comment
Level 5 Specific Purpose Certificate in F-gas Handling in Small RACHPT&T Systems Category 2	Yes	The panel's evaluation of the programme found that it meets the requirements of Criterion 11. The programme is promoted directly to employers using a flyer to highlight its key features and the fact that it is compliance training specifically related to the handling of F-gas. Employers would refer individual learners to this LCETB F-gas Category 2 programme. The small (1:6) class ratio offers a personalised learning experience. There is a modern classroom and workshop training facility within the Shannon Campus, including training rigs and tooling to provide real-world training experiences. The latest tooling is used to ensure that all practical training is relevant, e.g., the use of A2L recovery machines and vacuum pumps, with the equipment list being reviewed annually by LCETB. The small class size offers the instructor the opportunity to intervene with weaker learners and support their skills

[20] For more information on making reasonable accommodations see www.AHEAD.ie and QQI's Policies, Actions and Procedures for Access, Transfer and Progression for Learners (QQI, restated 2015).
[21] See Code of Practice for Provision of Programmes to International Students (QQI, 2015)

		development. LCETB also provides specific learner supports including literacy, maths, science and practical skills classes. As a major training provider, LCETB incorporates learner welfare, risk management and Health & Safety protocols as part of its overall scope of training delivery and operations.

Criterion 12. The programme is well managed

a) The programme includes intrinsic governance, quality assurance, learner assessment, and access, transfer and progression procedures that functionally interface with the provider's general or institutional procedures.
b) The programme interfaces effectively with the provider's QQI approved quality assurance procedures. Any proposed incremental changes to the provider's QA procedures required by the programme or programme-specific QA procedures have been developed having regard to QQI's statutory QA guidelines. If the QA procedures allow the provider to approve the centres within the provider that may provide the programme, the procedures and criteria for this should be fit-for-the-purpose of identifying which centres are suited to provide the programme and which are not.
c) There are explicit and suitable programme-specific criteria for selecting persons who meet the programme's staffing requirements and can be added to the programme's complement of staff.
d) There are explicit and suitable programme-specific criteria for selecting physical resources that meet the programmes physical resource requirements, and can be added to the programme's complement of supported physical resources.
e) Quality assurance[22] is intrinsic to the programme's maintenance arrangements and addresses all aspects highlighted by the validation criteria.
f) The programme-specific quality assurance arrangements are consistent with QQI's statutory QA guidelines and use continually monitored completion rates and other sources of information that may provide insight into the quality and standards achieved.
g) The programme operation and management arrangements are coherently documented and suitable.
h) There are sound procedures for interface with QQI certification.

Programme	Satisfactory? (yes, no, partially)	Comment
Level 5 Specific Purpose Certificate in F-gas Handling in Small RACHPT&T Systems Category 2	Yes	The panel's evaluation of the programme found that it meets the requirements of Criterion 12, having been designed to teach to the intended learning outcomes for the QQI award standard and compliance requirements of F-gas Category 2 of Regulation EU 2015/2067. The programme falls within the remit of LCETB's quality assurance (QA) and governance procedures and a specific Programme Board has been proposed to support this type of training. The QA framework within LCETB accommodates a wide range of training provision and is closely aligned with QQI certification procedures. The Shannon Campus will be the only centre offering this programme as it offers a customised workshop venue, technical tooling and resources, together with a team of expert instructors.

[22] See also QQI's Policy on Monitoring (QQI, 2014)

Part 3. Overall recommendation to QQI

3.1 Principal programme:

Select one	
	Satisfactory (meaning that it recommends that QQI can be satisfied in the context of unit 2.3) of Core policies and criteria for the validation by QQI of programmes of education and training;
X	Satisfactory subject to proposed special conditions (specified with timescale for compliance for each condition; these may include proposed pre-validation conditions i.e. proposed (**minor**) things to be done to a programme that almost fully meets the validation criteria before QQI makes a determination);
	Not satisfactory.

Reasons for the overall recommendation

1. The panel's evaluation of the programme is documented within this report and the panel considers that the programme has met the criteria for validation of the award of Level 5 Special Purpose Certificate in F-gas Handling in Small RACHPT&T Systems Category II.
2. The panel considers that LCETB is in a position to address the special conditions of validation that are required to be met prior to programme commencement.

Commendations

1. The panel commends LCETB for the overall quality and thoroughness of its application for the validation of the programme, together with the supporting documentation provided to the panel to assist with its evaluation.

Special Conditions of Validation (directive and with timescale for compliance)

1. Access to the programme must be limited to learners who are actively working in the commissioning and servicing of refrigeration, air-conditioning and/or planning to work with heat pump systems (under 3 kg or up to 6kg within a hermetically sealed system). Such learners must hold an advanced trades certificate, or equivalent academic qualification, possibly in a related field. Such candidates must also complete an appropriate skill, knowledge and language course/assessment prior to commencing on the programme.
2. The provider must satisfy itself that all learners have passed a colour blindness test before commencing the programme.

Embedded programme:

N/A

Summary of recommendations to the provider

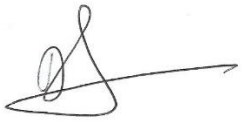
1. The panel recommends that LCETB discuss with the appropriate stakeholders the possibility of offering entry to the programme to Phase 2 plumbing apprentices.

2. The panel also encourages LCETB to work with other members of the Education and Training Board sector and other stakeholders, to cooperate in developing centres of excellence to offer a regional footprint in providing F-gas training across Ireland. Such training could offer progression routes for learners on apprenticeships and related training programmes, thereby equipping them with the skills and knowledge to meet changing technical and environmental needs.

Declarations of Evaluators' Interests

This report has been agreed by the evaluation panel and is signed on their behalf by the chairperson.

Panel chairperson: Daniel Brennan Date: 20 November 2022

Signed: 

3.2 Disclaimer

The Report of the External Review Panel contains no assurances, warranties or representations express or implied, regarding the aforesaid issues, or any other issues outside the Terms of Reference.

While QQI has endeavoured to ensure that the information contained in the Report is correct, complete and up-to-date, any reliance placed on such information is strictly at the reader's own risk, and in no event will QQI be liable for any loss or damage (including without limitation, indirect or consequential loss or damage) arising from, or in connection with, the use of the information contained in the Report of the External Evaluation Panel.

Part 4. Proposed programme schedules (

PG25154 Level 5 Special Purpose Certificate in F-gas Handling in Small RACHPT&T Systems Category 2

Name of Provider		Limerick & Clare Education and Training Board						
Programme Title		PG25154 Level 5 Specific Purpose Certificate in F-gas Handling in Small RACHPT&T Systems Category 2						
Award Title		Level 5 Special Purpose Certificate				Exit Award	N/A	
Teaching and learning modalities		Group discussion; Workshops; Self Directed Learning						
Delivery Modes	Award Class	Award NFQ Level	Award EQF Level	Stage	Stage NFQ Level	Stage Credits	First Intake	ISCED Code
Part time	Special Purpose	5	4	Award Stage	5	10	Jan 2023	07.1.9

Module				Total Student Effort Module (Hours)					Allocation of Marks				
Title	Semester	Status	Credit	Total Hours	Class Contact Hours	Direct e-learning	Hours of independing learning	Work-based learning efforts	C.A. %	Project %	Skills demonstration %	Exam %	Workbased %
F-gas Handling in Small RACHPT&T Systems Category 2	Not Applicable	M	10	100	40	0	60	0	0	0	50	50	0