



Evaluation of the Green Homes Grant Skills Training Competition

Prepared for Midlands Net Zero Hub and BEIS



Nottingham
City Council

**Carbon Reduction,
Energy and
Sustainability**



Date 19th May 2022
Version number FINAL
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Executive summary

In September 2020, to strengthen and build the energy efficiency and low carbon heating sector, and support the roll out of the Green Homes Grant (GHG) scheme, the Department for Business Energy and Industrial Strategy (BEIS) launched a Green Homes Grant Skills Training competition (GHGSTC), administered by the Midlands Energy Hub (MEH), now known as the Midlands Net Zero Hub (MNZH)¹. Eighteen UK training organisations were awarded funding to deliver subsidised courses to installers and installer organisations across a range of subjects including fabric measures, renewable energy and retrofit coordination.

Against some significant headwinds (COVID restrictions, the closure of GHG Voucher Scheme), some providers struggled to recruit learners. Yet most agreed that the offer of subsidised – and in some cases free – training had greatly boosted interest in, and take up of, their courses. This was especially important in the context of COVID restrictions (which included lockdowns, limited number restrictions, isolation requirements, infection rates and ongoing health issues) and the economic effect of these impacts on the providers target audiences in the installation sector.

Due to the third wave of COVID restrictions falling within the GHGSTC funding period, many courses were delivered largely, or entirely online. Whilst some providers and learners felt this format was not optimal for their courses, **most courses achieved – and indeed some surpassed - their target number of learners, and many achieved 100% pass rates**. A total of 8,959 learners started a funded course, with 6,938 (77%) completing. From an original funding pot of £6.9m, a total of £5,928,530 was paid to providers.

Overall **learner satisfaction was very high**, with 92% satisfied or very satisfied with the GHGSTC training and support they received, 98% reporting that they would use the training provider again, and 98% saying that they would recommend the course to others. Most learners praised course content and provision; post-training many have explored further courses, and / or signed up colleagues to the course they attended.

Drawing upon interviews with training providers and learners, along with review of programme and provider documentation, **the evaluation has found strong evidence of a range of beneficial outcomes to learners:**

- > **Improved skills, knowledge and confidence, leading to increased willingness and ability to take on new types of work**
- > **Improved skills and knowledge enabling more efficient and economic delivery of works**
- > **Access to new customers and frameworks through new qualifications and certifications**
- > **Enhanced reputation, leading to more contracts, and being able to charge higher prices for a premium service**
- > **More resilient, 'future-proofed' businesses, moving with customer demands and priorities**

Training providers themselves have also seen multiple benefits from participation in the GHGSTC, including enhanced reputation, building of customer and partner networks, and the generation of course content and infrastructure that can be utilised for future course delivery.

All providers would strongly welcome a further Competition, though most had recommendations as to how this could be refined, covering: Competition timescales, eligibility criteria, the application process, communications, funding payments, and monitoring. These are presented in the final chapter of this report.

¹ Nottingham City Council is the MNZH's accountable body.

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1 Introduction

1.1 The Green Homes Grant Skills Training Competition (GHGSTC)

From September 2020, the Green Homes Grant Voucher Scheme (GHGVS) funded up to two thirds of the cost of home improvements (up to £5,000) for homes in England. As well as accelerating the installation of energy performance upgrades to the housing stock, this was expected to support jobs in the construction sector and formed a key part of government’s green economic recovery through and beyond COVID.

To strengthen and build the low carbon sector further, and support GHGVS by helping the sector to meet the additional consumer demand generated, in September 2020 BEIS launched a Green Homes Grant Skills Training competition (GHGSTC). Administered by the Midlands Energy Hub (MNZH). Training organisations in the UK (e.g. colleges, training academies, manufacturers) were invited to submit proposals for delivering skills training and support to installers and installer organisations that might be intending to access GHGVS. However, participation in the GHGVS was not essential for organisations to access the training.

Although the GHGVS closed to new applications on 31st March 2021 (vouchers claimed before this deadline could be redeemed at any point before April 2022) the training aimed to build sector skills and capacity regardless of GHGVS participation.

Training and support was expected to be free, or at least heavily subsidised, for trainees (hereafter referred to as ‘learners’). Training in physical classrooms was preferred, but in the context of COVID restrictions, it was recognised that online provision may be necessary, and many providers had to make appropriate adaptations. Training courses had to align with one or more of five work packages (WPs) linked to the GHG:

WP1 - Retrofit assessor and coordinator

- Provision and delivery of training to PAS 2035 standards, with expected high uptake amongst learners with Domestic Energy Assessor (DEA) or other similar qualifications already.

WP2 - Insulation

- Provision and delivery of training to National Occupational Standards or higher in the installation of domestic insulation measures - Underfloor, Internal & External wall and Loft. It was expected that training packages would assist learners / their companies in gaining PAS 2030 certification / Trust Mark and knowledge of whole house retrofit.

WP3 – Non Insulation Fabric Measures

- Provision and delivery of training to National Occupational Standards or higher in the installation of domestic windows, doors and draught proofing. It was expected that training packages would assist learners / their companies in gaining PAS 2030 certification / Trustmark and knowledge of whole house retrofit.

WP4 – Heat Pumps & Solar Thermal

- Provision and delivery of accredited training to National Occupational and MCS standards in the installation of domestic heat pump (air & Ground source) and solar thermal. It was expected that training packages would assist learners / their companies in gaining PAS 2030 certification / MCS accreditation / Trustmark and knowledge of whole house retrofit.

WP5 – Heating and Hot Water Controls

- Provision and delivery of training to National Occupational Standards or equivalent in the installation of domestic heating & hot water controls including smart controls. It was expected that training packages would assist learners / their companies in gaining PAS 2030 certification / Trustmark and knowledge of whole house retrofit.

1.2 Overview of delivery

Following assessment of applications, eighteen organisations (hereafter referred to as the 'training providers') were awarded funding to deliver a suite of training solutions.

To enable the MNZH to track progress and delivery, all training providers completed weekly and monthly progress reports, as well as one interim and one final report. Funding claims were made against the number of learners trained, and payments were made following verification of reported numbers.

The outcomes delivered by the training providers are explored in this report. However, the table below provides a summary of the training providers and courses funded, and, for each, the target and achieved number of learners. Four key points should be noted:

1. Some courses included a number of unemployed learners; the objective was to build their skills and better enable them access jobs in the green retrofit / construction sector.
2. Through ongoing MNZH monitoring of training delivery, it became clear that certain training providers would struggle to reach their original targets on learner numbers². For these, the decision was taken to re-allocate unspent funding to training providers able to deliver more than their original target numbers.
3. Dudley College officially withdrew from the scheme in September 2021 as they were unable to recruit sufficient learners.
4. One training provider ceased reporting after July 2021, and did not respond to emails and calls from the MNZH. As per their T&Cs, they were informed that MNZH were unable to provide any further funding for final delivery.

The figures below have been verified in virtual audits, completion checks and project cost checks (all conducted by MNZH) with sixteen training providers³.

Table 1: Summary of funded courses, learner targets and achieved numbers

Training provider	Work package	Course / qualification	Original target	Revised target	Numbers achieved	Unemployed learners ⁴
BESA Academy	4	Heat Pump Installer (up-skilling course for currently qualified Plumbing and Heating Engineers)	700	979	979	13
Building Our Skills	3	Introduction to Window and Door Installation	60	60	60	5
Dudley College	4 & 5	Heat Pumps and Solar Thermal.	None delivered.			
Elmhurst	1	Domestic Energy Assessor (DEA) course, and Retrofit Assessor (RA) & Retrofit Coordinator (RC) Course and Accreditation	1960	1805	1254	202
Expedient Training	1, 2, & 3	Retrofit Assessor (RA) Course and Accreditation Retrofit Coordinator (RC) Course and Accreditation	631	588	193	10
Farnborough College of Technology	4 & 5	Award in the installation of heat pump system / Awareness of Environmental technologies & Electricity for plumbers	146	100	96	0
Greendale Ltd	4	Solar Thermal Hot Water (STHW) and Ground Source Air Heat Pumps (GSAHP)	121	163	143	0
GTEC Training Ltd	4	MCS Made Easy (+ various EE and renewable measures)	1000	1021	1021	0

² Further explored in Chapter 3 of this report.

³ Dudley College and Hampshire Training and Assessments have not been audited.

⁴ Unemployed learners are included in the total 'numbers achieved' column.

Training provider	Work package	Course / qualification	Original target	Revised target	Numbers achieved	Unemployed learners ⁴
Hampshire Training and Assessments	5	Hot Water Systems and Safety (HWSS) / Level 3 Award in Energy Efficiency for Domestic Heating and Hot Water Systems / Essential Electrics and Safe Isolation of Electrical Equipment.	240	240	46	?
Heat Geek	4 & 5	Heating Mastery (Awakening and Mastery)	300	300	264	3
North West Skills Academy (NWSA)	2	Training on various insulation measures	550	555	545	0
Optimum Energy Solutions	4	Green Homes Grant Heat Pump training course	280	702	702	0
Provincial Seals Ltd	2	ABBE Level 2 and 3 NVQ Diplomas in Insulation Building Treatments	308	308	255	5
Retrofit Academy	1 & 2	Level 2 Award in Understanding Domestic Retrofit (AUDR) & Level 5 Diploma in Retrofit Coordination & Risk Management (DRCRM)	1138	655	521	65
The Green Register (TGR)	1 & 5	Futureproof Essentials and PAS certification	350	34	23	?
Think Construction Skills Ltd (TCS)	2	Level 2 NVQ Certificate in Insulation & Building Treatments	500	463	463	0
Trade Engine	2, 3, 4 & 5	Quality Management System (QMS) and consultancy for attaining compliance with PAS 2030:2019	250	102	78	0
Windhager	4	Hoo5DE - Biomass Appliance Installer	32	31	31	0

Summary of training courses awarded funding through GHGSTC

There was a wide variety across the funded courses, with a range of delivery considerations:



Format; both in terms of overall format (entirely online, mostly in-person, or blended) and, within online provision, a range in terms of the balance of live lessons and pre-recorded / revision content. Albeit most courses contained additional (usually online) content for learners to digest outside of lessons. Some course subjects meant in-person learning was deemed important / essential; this usually meant more restricted class sizes.

Assessment and award; some courses / qualifications required learners to pass formal examinations (some desk-based, some on-site), whilst for others the assessment was more informal. Linked to this, some courses were for formal qualifications / accreditations, others were more introductory courses providing certification of completion.



Timing; some courses comprised fixed lessons, with learning around these. Others were more ad hoc / progressed at the pace the learner wished. Sometimes linked to this, some courses could be completed in weeks, others lasted for months.

Those training providers who were successful with their application were informed of this on 9th December 2020, a month later than originally planned. The funded training was originally intended to be completed by the 31st March 2021. However, the delayed award and issues arising from the COVID restrictions over winter, meant that the launch

and completion of some training was delayed. Whilst most funded training began in January 2021⁵, none could complete before the end of March, with most completing around October 2021.

A total of 8,959 learners started a funded course, with 6,938 (77%) completing. From an original funding pot of £6.9m, a total of £5,928,530 was paid to providers.

1.3 Evaluation purpose, method overview and limitations

The MNZH, on behalf of BEIS, appointed Winning Moves Ltd to conduct an evaluation of the GHGSTC. The objectives – largely focused on understanding training outcomes - were to explore:

- > Learner incentives and motivations for participating
- > Evidence on / understanding of barriers to training delivery (e.g. issues arising from COVID), and solutions to those, including evidence of the GHGSTC facilitating effective delivery of training
- > Satisfaction levels amongst both learners and providers
- > Evidence of the GHGSTC increasing the capacity of the workforce by upskilling, educating and certifying more installers, and addressing / identifying future skills gaps
- > Overall learnings for future similar schemes.

The evaluation was commissioned in February 2022 and the approach (summarised below) was designed with the consideration that any fieldwork needed to be complete by the end of March. The three main elements of the evaluation were as follows:

Review of programme documentation and data.

Through the ongoing monitoring, and interim and final reporting from training providers, MNZH had already developed summaries of key learnings from the competition. This was reviewed.

In addition, key quantitative data was analysed. This included overall learner numbers and pass rates per provider, and the c.1000 learner responses to a short satisfaction survey circulated post-training (designed by MNZH and circulated by training providers)⁶.



In depth (45-60 minute) interviews⁷ with the funded training providers, exploring their experiences of delivering the training, experiences of the GHGSTC application and monitoring, and any known beneficial outcomes from participation (for both trainers and their own organisation). Ultimately, 17 of the 18 providers were interviewed; echoing MNZH's experience, one provider never responded to repeated requests for feedback.

Semi-structured (20-30 minute) interviews⁸ with a sample of learners, focusing on their experiences of the training, and subsequent beneficial outcomes. A £20 incentive was made available to all learners that completed

an interview. We interviewed 25 learners, recruited to ensure representation of a variety of training providers and Work Packages.

⁵ Though one that required training to be in-person started as late as July 2021.

⁶ Post-training surveys that were distributed to learners provided quantitative data on learner satisfaction. Whilst most training providers circulated a standard set of questions developed by MNZH, several used their own surveys. Across the various provider datasets shared by MNZH, there were 1,450 responses (16% of the learner population supported by the GHGSTC) for key questions.

⁷ All interviews were conducted via Microsoft Teams.

⁸ Interviews were conducted by telephone or via Microsoft Teams.

In line with the aforementioned evaluation objectives, the remaining chapters of this report address various aspects of the GHGSTC and the outcomes from it:

- > **Chapter 2** reports **training provider experiences of engaging with the GHGSTC**, including their decision to apply, their choice of course(s), and their views on the application process.
- > **Chapter 3** explores **training delivery** - (a) provider experiences of delivering the training (including challenges encountered and how they were mitigated, and key learnings taken from their GHGSTC experience); and (b) learner experiences of participating i.e. satisfaction with different elements.
- > **Chapter 4** explores the **benefits derived by learners** from the GHGSTC funded training. This covers overall competition metrics (e.g. numbers trained / qualifications gained), reported improvements in skills and understanding, and the consequent organisational benefits (i.e. business growth and employment).
- > **Chapter 5** then looks at the **benefits derived by the training providers** themselves from participating in GHGSTC, including direct business benefits from the GHGSTC funding, whether and how the competition built organisational capacity (e.g. through funding assets), and any reputational and ongoing customer relationship benefits from the training provision.
- > **Chapter 6** concludes the report by reflecting on the findings and implications for **future delivery**, including learnings for a future competition (design and training areas) and stakeholder views on wider support on building green skills in the UK construction sector.

In reading and interpreting the findings, a **key limitation around learner benefits** should be noted. A large scale quantitative survey of learners was not feasible within the evaluation timescales and budget, therefore learner benefits have been derived from a mix of:

- > Anecdotal evidence from the training provider interviews; in addition, some training providers had conducted subsequent follow up of learners, and several shared case studies.
- > Evidence from interviews with learners. 25 were conducted (as planned) through the evaluation which means that findings should be seen as indicative, rather than representative. Furthermore, as BEIS and MNZH did not have access to learner contact details, these were sought from training providers following our interview with them. Whilst some training providers had permission to share contact lists, most had not, and to comply with GDPR they had to circulate an invitation to learners to 'opt in' to being contacted. Whilst the £20 incentive sought to help ensure a mix of learners regardless of their views of / enthusiasm for the training, our learner sample overall may be atypically engaged and positive about the training (and linked to this, more likely to have seen beneficial outcomes).
- > Analysis of the aforementioned post-training satisfaction survey. This survey did not include exploration of some longer-term business benefits arising from the training. In addition, as some training providers had designed and circulated their own surveys (rather than the standard set of questions developed by MNZH that many used), it was not possible to amalgamate certain questions and responses with the main dataset.

2 Engaging with the competition

2.1 How and why training providers engaged

Where providers could recall how they first heard about the GHGSTC (about one third couldn't recall), this was either through:

- > Direct contact from BEIS or MNZH i.e. an invitation to the Competition briefing
- > Word of mouth – usually a colleague / associate, and in two cases a customer
- > Social media – LinkedIn was cited twice.

Almost all the providers had pre-existing, and often longstanding, involvement in the delivery of training around renewable energy and energy efficiency measures. Though that they were planning to move into the “low carbon industry” and saw the GHGSTC as the catalyst for that.

"Email from one of our customers actually - they saw something and thought there's this opportunity here for a training company."

one provider noted

"We're passionate about energy efficiency and we've been very much involved in PAS 2035 standards, growing demand in this area. We'd already got the training courses and the processes all set up so it was a no-brainer for us to be involved in something like this."

As discussed in section 2.4, the courses funded by the competition were often ones the providers were offering anyway. However, some providers developed a specific course for the GHGSTC, or had an idea for a course that they were unsure about market appetite for, but which the GHGSTC enabled them to set up and deliver at a subsidised rate. Therefore, the competition was both a natural fit for most providers, and an opportunity to expand their offer.

"As soon as we saw it, we thought we know the market, we know the people who are going to go for this, we've got the training courses, there's great opportunities round the corner so there were no reservation from our side."

Furthermore, there was a concern amongst some providers around missed opportunities if they didn't apply for funding. They recognised the Work Packages reflecting the trends and directions that they too were seeing – or at least envisaging – in the sector. In addition, several admitted a concern that if they didn't apply, other providers with similar offers would, and these free / subsidised offers would take customers and revenue.

"The obvious thing for us was that if you have competitors who can offer the subsidised rate, and you are still training at full price...we needed to make sure that we could stay competitive..."

"It took some of our staff out of normal day-to-day operations to apply for a competition that we didn't know we were going to be successful in or not."

Most providers said they had no reservations at all about applying to the GHGSTC. Even for most that reported reservations, these were fairly minor, and the decision to apply was not a difficult one. The most common reservation was the fairly standard risk of applying for funding i.e. committing resource to an application that may not be successful. One provider also had concerns about the original timescales for delivery of training.

"Working with government bodies, local authority bodies, is always a challenge, which is exactly what it proved to be. Thankfully I was able to delegate."

Several providers also voiced slight trepidation about participating in this type of scheme. For one, this was due to a lack of experience of funding contracts like GHGSTC. For others, this was due to previous negative experiences of the administration associated with public sector funded programmes.

Only one provider reported any concerns about COVID in their decision to apply, but on the basis that they were uncertain about future restrictions, decided they had better apply anyway. The only other, possibly linked, concern expressed by one provider was whether there would be sufficient appetite for their course, as they had not seen great demand for this when previously offered.

2.2 How providers selected course(s)

As outlined in section 2.1, many of the providers were either already offering courses that aligned with the GHGSTC Work Packages, or had previously developed an idea for a course that the funding enabled them to launch.

Some providers specialise in a particular field, and therefore the decision on what course to apply to the Competition with was straightforward. Or, as stated, they saw the GHGSTC as an opportunity to launch a particular course that had just been developed, or had perhaps not been deemed commercially viable (in terms of cost or anticipated customer demand).

"We are a systems designer and manufacturer, so we have the expertise and understanding of insulation products; all of our training has been heavily focused around this."

"Because [the Competition] was for the GHG voucher scheme, we focused very much on a blend of theory and practice...based on the whole-house approach to retrofit."

Providers were also nominating courses that aligned with what they perceived as sector priorities or skills gaps, either generally (the growing heat pump market), or specific to the GHG (PAS certification or 'whole house' retrofit). Some specifically mentioned that they selected training for which (they envisaged) there would be strong customer appetite.

Several providers also highlighted practical considerations in their

choice of course(s); these included having the industry partners and contacts to support recruitment and take up, being able to call upon certain trainers / expertise, or having the available equipment and infrastructure to enable delivery.

No providers discussed COVID (or concern about future restrictions) influencing their selection i.e. choosing an online course as this would be less affected by the reimposition of social distancing or avoiding meeting in groups.

"We don't want to be competing against other organisations. We create content if we see a gap in training not being filled. For this we felt heat pumps had had bad press and there didn't seem to be anything out there in the market that sort of filled that educational gap. We felt that it was worthwhile and valid to develop something ourselves."

2.3 Experiences of the application process

"Found it very straightforward. The paperwork listed everything quite plainly. There seemed to be quite a lot of freedom in what courses you could deliver...you almost expected it to be more regulated than it was!"

There was consensus amongst the training providers that whilst the timescales for applying to the GHGSTC were tight, the amount and type of information required in the application form was reasonable for the nature of the scheme and the amount of funding being offered.

One provider praised the provision of workshops / presentations by MNZH to explain the Competition, and application requirements, in detail. Several also complimented MNZH on their responsiveness

to queries, and the clarity provided in clarifications.

Specific challenges (each mentioned by only one or two training providers) included:

- > Requests for projections of outcomes that some found hard-to-quantify / articulate e.g. 'societal benefits' of the training: *"I'm from an engineering background and I'm really just interested in the mechanics, the nuts and the bolts, how many of and how much it costs, so those sorts of questions are always a bit difficult to answer."*
- > Lack of clarity on rules around de minimis / state aid: *"It can be a little bit difficult to decipher when producing a bid, but generally you just give it your best shot."*

"Wasn't something that I found daunting in any way; the process was very clear, the criteria very clear, and they [MNZH] were very good at answering questions on things that required further clarity."

2.4 Importance of GHGSTC to the course

Whilst section 3.1 of this report discusses the importance of the Competition funding (subsidy) to customer engagement, this section focuses on the importance of the Competition to provider decisions to provide the courses at all. All providers were asked about the likely counterfactual scenario in the absence of the GHGSTC i.e. whether they would have delivered the same training anyway, within the same timeframe and to the same scale in the

absence of the GHGSTC. It should therefore be noted that evidence described here reflects self-reported attribution. Unsuccessful applicants and non-applicants – and courses they may have developed and delivered outside of the GHGSTC – were not explored in this evaluation.

"We designed it for this project. It was something that we had been planning to do and it was a catalyst to make it happen."

Many said they would *not* have provided the funded course(s) in the absence of the GHGSTC. This was either because they would have had no strong motivation to develop a course at all (as per section 2.1, for some the GHGSTC provided the catalyst for working up and implementing a course concept), or because, especially in the

context of COVID, they did not envisage that there would have been sufficient customer appetite to justify provision⁹. Linked to perceptions of likely uptake, most agreed that they would definitely not have offered the courses in the Competition time period (2021).

And whilst some training providers were already offering the course(s) funded by the Competition, uptake for some was limited; this was perceived to be partly – though not exclusively – due to COVID. These training providers acknowledged the importance of the Competition in attracting an additional level of interest to make provision of the courses viable. In addition, for several training providers, the funding enabled them to enhance / adapt their existing offers, either in terms of number of courses or format.

Only two training providers said they would have been providing the same course in the regardless.

"There wasn't a lot of uptake on the course because we didn't really push it. The funding was key. Through COVID we took a hit, so the competition was a saver for us."

"We used the funding to try a new method of delivery, moving away from two days back-to-back training to more lectures spaced out over a few months."

same timescales

⁹ Several explained that the Competition had served as a test of market interest / appetite for the course, and they could now be more confident in it moving forward. However – as discussed in Chapter 3 and 4 - the level of subsidy provided by the Competition clearly produced an inflated / atypical level of uptake.

3 Training provision

3.1 Recruiting learners – challenges and successes

3.1.1 Context: profile of trainees

The business activities and existing skills of learners usually reflected the course content i.e. plumbers and engineers on heat pump courses, more general builders for insulation courses. Though training providers did give examples of firms looking to diversify e.g. locksmiths attending courses on energy efficient windows and doors. The level and focus of the course also influenced the seniority of attendees e.g. introductory courses were predominantly attended by those fairly new to the sector. Certain courses also included a smaller number of unemployed learners; these varied as to whether they had any previous involvement in the construction sector.

The GHGSTC emphasis was upon upskilling SMEs, and training providers reported that the vast majority of learners were from SMEs, generally a mix of companies and self-employed tradespeople. Of respondents to the GHGSTC post-training learner survey, 50% described themselves as self-employed, 45% an employee¹⁰. Training providers reported that it was common for an owner / director within a company to be attending training, accompanied by a small number of their employees. Some providers put a cap on the number of individuals that could sign up from any one company. For most employee learners, the providers' impression was that their employer had instructed them to attend, as opposed to the training being booked proactively. This view was supported in the evaluation interviews with learners.

WP1 (Retrofit Assessor and Coordinator) courses disproportionately seemed to attract a particular profile of learner; individuals, often self-employed and experienced in the industry, looking to build skills in a new area that they could provide flexible / freelance services in.

As might be expected, where there were in-person / on-site elements to a course, it was more common for most attendees to be from that broad region. Otherwise, unless the provider had focused recruitment on certain areas, attendees joined from across the country.

Evaluation interviews with learners indicates the range of learner profiles (individual and organisational):

The image displays six learner profile quotes arranged in two rows of three. Each quote is enclosed in an orange rounded rectangle with a white border. The quotes describe various learner backgrounds, including roles like 'Renewable energy delivery manager', 'company director', and 'student', and their current employment status or business involvement.

"Renewable energy delivery manager for large social housing services provider." [WP4 learner]

"Own mechanical and electrical installations company, with 30 employees. 40% domestic and 60% commercial work." [WP4 learner]

"When I had the training I was a student at uni, I guess unemployed." [WP1 learner]

"Had a company; I was in the process of shutting it down and looking for something new." [WP1 learner]

"I'm the company director and installer in a 6 employee business - we do air con, ventilation, renewable heating. Been doing this for 12 years - installing heat pumps, done some solar PV and thermal." [WP4 learner]

"Ten employee business installing and maintaining biomass boilers, I do the day to day running of the business, quotes, HR and occasional onsite." [WP4 learner]

3.1.2 Recruitment methods

Training providers used a number of methods to recruit learners. These included:

- > Information on the training provider's website, circulars to members / previous customers i.e. focusing on a 'warm' pool of potential sign-ups.
- > Free webinars; sometimes presenting the wider context for the course (e.g. PAS requirements) as well as promoting the course itself.
- > Occasional face-to-face interaction – stalls / exhibitions at trade shows or public venues.
- > Social media campaigns; these included posts on Twitter and to WhatsApp groups, LinkedIn, and adverts on Facebook and Google. Some providers have their own YouTube channel, so used this as well.
- > Articles / promotions / adverts in industry publications.

¹⁰ The remainder were owner / directors, apprentices and unemployed learners.

- > Direct telephone sales / recruitment.
- > Promotion through partner / intermediary organisations; these included certification companies, trade associations¹¹, manufacturers, and informal professional networks.
- > One provider also reported that as training progressed, learners would recommend the course to others.

Most providers deployed a number of these methods and channels. Some were uncertain as to the most effective, some had a feeling, but hadn't conducted any detailed analysis to confirm this. Certain approaches were felt to have worked with certain audiences; for example, one provider felt professional routes like LinkedIn, and direct mailshots – from themselves and a chosen partner organisation – had been effective in engaging potential retrofit coordinators. Another provider claimed that Facebook adverts had been the most effective way of engaging unemployed learners.

In the post-training learner survey, the most common way in which respondents recalled hearing about the training were the provider website (23%), word of mouth (22%), or email (16%). However, this may also reflect the ubiquity of certain approaches rather than the relative effectiveness of different approaches. A significant minority of respondents couldn't recall at all how they heard about the training.

3.1.3 Recruitment challenges

Whilst a minority of training providers claimed that filling the target number of places had been very straightforward, most cited at least some challenges. Macro-level and Competition-specific challenges to recruitment were as follows:

GHGSTC	Macro
<p>Compressed timescales; several providers highlighted the delays in notification that they had been successful in their application, which had knock-on effects on the time they had to mobilise recruitment efforts.</p> <p><i>"There were some delays in announcing [awards]; that was quite frustrating because of the tight deadlines involved, there was a lot of people we had on standby."</i></p> <p>The timing of training - at least prior to extensions being granted - was felt to be awkward for some courses, as winter months were their target audience's peak work season (e.g. gas engineers).</p> <p><i>"Trying to persuade a gas engineer to take a week out training when their customers' heating is breaking down is very difficult."</i></p>	<p>COVID; often lack of business interest in training due to need to recover from COVID impacts on revenue, especially where firms may already be short of resource due to COVID sickness / absences.</p> <p><i>"COVID has led to high demand for builders. Since SME builders are already very busy with full order books, why would they need additional training and accreditation? Many were also reporting reduced staff numbers due to isolation, furlough etc. and were experiencing difficulties in recruiting. Taking time out for training and administration was just too challenging."</i></p>
<p>Pricing; where certain providers were offering a subsidy, but others were offering the same course for free / a better subsidy, the former reported customers expressing interest but ultimately going to the latter.</p>	<p>Industry uncertainty on the direction of government policy (with regards to focus on fuels and technologies), meaning uncertainty as to the value of certain training, and reticence in signing up for courses.</p> <p><i>"It didn't help that a few companies weren't quite sure what the government is going to be backing as the next big green thing."</i></p>
<p>A number of providers drew attention to the Competition rules and requirements around marketing. They felt the rationale for these had not been clearly</p>	<p>Linked to the above, the discontinuation of the GHGVS was felt by some providers to have removed a key motivation for learners to engage with the</p>

¹¹ Organisations mentioned by respondents included the Home Builders Federation, CITB and Federation of Master Builders.

<p>explained, and some rules were detrimental to effective promotion.</p> <p><i>"Rules around marketing seemed quite strict, but weren't explained. Social media had to be very specific size and wording. But then it was quite tough to get the right amount of information in the post - adhering to their rules but then making it engaging enough for people to actually want to sign up."</i></p>	<p>training (as well as confirming some in their reluctance to engage).</p> <p><i>"The withdrawal of the GHGVS struck a huge blow to this programme. It removed the lever for SMEs to become certified in order to access voucher scheme works."</i></p>
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Similar to recruitment challenges caused by providers in the same Work Package competing on price, one provider also highlighted their challenge in getting learners to recognise the value of the qualification they were offering. They reported some issues engaging learners in their (more expensive) course providing Ofqual-regulated qualifications, when competitors were offering much cheaper courses, but awarding less formal qualifications: *"We had candidates say to us sometimes that they could do this elsewhere for half the price."*

The only other issue cited by one training provider was in supporting learners to become accredited to PAS. They felt that the GHGSTC emphasis on supporting SMEs was particularly challenging for them, due to the greater pressures on SMEs in terms of time and costs for what is an intensive course.

Whilst all training providers welcomed the extension of deadlines (and there were several compliments for MNZH's flexibility and responsiveness in general), several noted that notification of these extensions could have been more timely. In some cases, these training providers had delayed efforts to recruit more learners, as they were unsure whether they would have sufficient time (through an extended deadline) for those new learners to complete.

3.1.4 Factors supporting learner engagement

As intended, the fact that the GHGSTC enabled courses to be offered at a heavily subsidised rate (or even for free), was cited by all providers as the most important and effective encouragement for learners to engage. Even were they to have offered the courses at all in the absence of the funding, many training providers gave estimates as to the likely effect of the subsidy on take up:

- > *"Might only have expected 25% [of the GHGSTC sign ups] normally for the course."*
- > *"In Jan 2020, we had around 200 RCs on board. This funding allowed us to double that number."*
- > *"Plucking a number out of my head [the funding meant] a five-fold increase in take up."*
- > *"If they're spending somewhere between £600-1000 just to become accredited, and having to take up to 5 days of their working week to become accredited, a lot of them just won't do it; they'll just subcontract it out."*
- > *"I have no doubt that if we were to spend another April to October marketing this commercially, we would get about a third of the numbers."*
- > *"95% would not have enrolled if there was no funding."*

The importance of the funded places has been demonstrated by the limited take up of the same courses when charged at full price; this is discussed in Chapter 5 of the report.

"You can't get attainment with free courses because nobody values it. You put on a free course; of 100 people signing up, you'll be lucky if you get 60-70 people turning up, because they've got nothing to lose if they don't, and if someone's rung them up with a broken boiler and they've got an opportunity to earn £500, that's what they're going to do."

Due to subsidy control regs at the time, most providers could only apply for 70% of the funding of the course and either had to part subsidy it themselves or request learner contribution. Most chose the latter. All such training providers had the same rationale, which was that whilst offering the course for free might attract even greater interest / take up, for the same reason some learners wouldn't attach sufficient value to it (especially against competing pressures). The provider felt they would encounter substantial drop-out / disengagement and failure to complete the course from those participating at no cost. They therefore felt the substantial subsidy was ideal in attracting take up, but also securing some level of commitment, from learners.

Further evidencing this view, one training provider who offered the course completely free acknowledged that they had encountered precisely the issues that had led others to elect to subsidise only: *"We had one particular employer who signed up 34 employees but only four qualifications were completed in the end."*

Even where they ultimately provided places for free, several providers sought to secure commitment by asking for a deposit from learners, which they then refunded on completion of the course. One training provider reported staggering the costs to the learner based upon the size of their organisation, whilst making it completely free for apprentices. Another training provider opted to charge a very small deposit, but then suggested to learners that if they didn't complete by the end of the funding period, they (the provider) reserved the right to charge those learners the full price of the course.¹²

Learners interviewed in the evaluation were asked for their views on the cost of / level of subsidy attached to the course, and its influence on their decision to sign up to the course. Many said the subsidy offer was the catalyst for them to take up training. However, around a third said that they would have taken up the training regardless. Several argued, reasonably, that they had to complete the training for strategic reasons (e.g. essential accreditation / access to certain schemes and contracts), therefore a higher cost would not have changed their decisions.

It should be noted that training providers rarely claimed the course would have had *no* take up outside the GHGSTC; and in fact, the proportion of learners saying they would have done it anyway roughly aligns with provider predictions of take up levels in the absence of the funding. In addition, there are a number of caveats to learner claims that they would have taken up the course regardless of cost:

- > It was unclear that respondents (especially the several who admitted that they weren't aware the course was subsidised) knew the *actual* cost of the training. Therefore, their predicted likelihood of taking it up in the absence of the subsidy should be treated with caution.
- > Equally, respondents were making this judgement retrospectively, after having received the training and appreciating its value to them. This cannot be taken as a completely reliable assessment of whether they would have paid full price up front, without full knowledge of the benefits.
- > Several business owners acknowledged that whilst they would still have sent at least one person to be trained, they may have reduced the numbers they sent.

There are two possible downsides to the funding, one cited by a training provider and one hypothetical:

1. Regarding the former, one training provider felt that the very attractive price had led to a rush of individuals signing up without properly understanding the course content and requirements. Subsequent failure to complete the course was, they felt, less to do with poor commitment, and more that the individual simply found the course too hard / time-consuming.
2. Regarding the latter, the fact that a number of learners hadn't realised the course was heavily subsidised may highlight a challenge in persuading customers to pay the 'normal' price outside of the Competition. Certainly,

¹² Albeit payment method rather than pricing, it is worth noting that one provider encountered issues with their offer of vouchers, which could then be redeemed against a specific course. This led to an issue of firms signing up to vouchers so as not to miss out; the voucher offer was then closed once all had been allocated, but many of those applying for them did not redeem them. This led the firm to require vouchers to be redeemed within a certain time period, or they became invalid, and new batches were made available.

training provider reporting of post-Competition take up (explored in Chapter 5) would seem to evidence lower take up.

Aside from the subsidy, a key supportive factor in engaging learners, cited by most training providers, was wider policy – both noises from government as to the general direction of the industry (e.g. net zero), and more specific changes to required / favoured qualifications e.g. imminent new requirements for NVQs, or the benefits / opportunities opened up by PAS accreditation.

Focusing more upon course design than landscape factors, several training providers emphasised the importance of their courses not being overly structured. They felt this had helped to overcome barriers that time-pressed (particularly micro SMEs) firms may have faced in deciding to engage.

"We work with SMEs quite a lot, and we understand how busy they are and the commitment to being on site, taking time out to train means losing money effectively. So we decided to develop a course they could access to suit their own schedule."

"...A strong positive; people thought that if the government is backing it, it must be something worthwhile."

Training providers were asked directly for their perceptions of the importance of the GHGSTC being a Government-backed scheme to sector engagement. Two training providers responded that their learners were unlikely to have cared where the funding came from. However, the most common

"While I don't think it was the reason they signed up, I do think 'BEIS' gave it meaning and credibility."

view was that whilst this was unlikely to have been the most important factor in learners' decisions to engage, it provided useful endorsement and credibility for the courses being offered. Most providers stated that they had referred to the involvement of the government in marketing and promotional content.

MNZH were interested in understanding how unemployed learners had come to the GHGSTC training. The training provider response was split between (a) those that assumed unemployed learners must have found out about the training through the same channels as others i.e. scheme or training provider websites, word of mouth; (b) those who reported that unemployed learners were directed to the training by, or sourced from, local job centres.

3.2 Insights on learner selection of courses and providers

"No one else offers this type of in-depth course (that I know of)." [WP4/5 learner]

Learners interviewed for the evaluation were asked why they had selected particular providers and courses. Regarding the former, many respondents were unable to give a view; having been approached directly by a particular provider (as opposed to proactively searching for a particular type of training), they were sometimes unaware that there were alternative providers offering similar courses. The specific course being offered was sometimes unique, so respondents couldn't make a like-for-like comparison anyway.

"The regulations that we work under changed, so if we wanted to work in this environment, we had to get qualified." [WP2 learner]

Where respondents were able to articulate their motivations behind choosing a provider, this was usually because they had a pre-existing relationship with them; they, or certain colleagues, had attended previous courses provided by that organisation. In one case, a respondent had received a recommendation of a certain provider from another business in their sector. In another, a respondent had chosen the provider based upon geographical proximity.

In terms of reasons for choosing a type of course, for many this was based upon the course offering a particular / important qualification or accreditation e.g. MCS, or certain levels of NVQ. Even outside of the specific qualification gained, most respondents talked about the importance of the training to the business, in terms of adapting to changing customer requirements, scheme requirements, or the general direction they see the sector heading in. Several learners also talked about the course appearing to offer a 'one stop shop' / comprehensive coverage of the topic of interest.

"It was an intro to retrofit - different types of insulation, condensation risks, hydroscopic materials. Looked like a useful one stop shop." [WP2 learner]

Training providers were asked for their impressions of specific course content / modules learners had seemed to find most valuable. Most could not say except, where they were offering multiple courses covering multiple Work Packages, the overarching subject of the course – in these cases 'heat pumps' were generally the subject felt to be attracting most interest.

More specific topic areas suggested as attractive to learners by training providers were ventilation, metering, Passivhaus standards, and pre-installation steps for retrofit projects e.g. heat loss calculations, building surveys etc.).

3.3 Ensuring pass rates, keeping learners engaged and minimising drop out

3.3.1 Challenges

Whilst most training providers reported a 100% pass rate, many reported challenges in keeping learners engaged and ensuring completion of the course¹³. The two lowest pass rates were for WP2 courses, though a number of other WP2 courses achieved 100%, so this suggests the course content wasn't necessarily the decisive factor.

"People found the content harder than they thought they would. The course is designed to really go deep into the science and maths behind heating design. A lot of courses you can take in the industry you can do in one or two days, so they may not have anticipated how much work it would take."

Several felt that learners became disengaged because they had underestimated the time requirements and / or level of difficulty of the course. One provider linked this to some learners signing up for free courses, then dropping out when encountering competing priorities, as they had nothing to lose. Though another provider

"We had some people that registered for the course, started doing it and then they said 'actually we don't want to do this anymore - we've realised that we don't actually want to install heat pumps, we didn't know there was so much to it.'"

acknowledged that they may not have been able to give sign ups a very clear idea of the level of commitment the course would require as it was a new course for them. Having now delivered it, and with data on average completion times etc., they feel much better placed to manage learner expectations at the outset, and ensure the course is really suitable for them. This is backed up by evidence from learners. Several learners commented that the course was more challenging and time consuming than they had envisaged.

One training provider acknowledged that initially their course (comprising a number of fixed, lengthy lectures) was hard for learners to fit into their working day, and they revised this during the Competition (to a smaller number of longer lectures, recorded so learners could access them in their own time). One training provider reported that whilst allowing learners the flexibility to access content when convenient for them could be helpful, their experience was of many learners struggling to organise themselves and complete work within the optimal timeframe.

Several training providers emphasised the importance of any time-fixed elements of the course being regular (so learners could plan around it) and confirmed as early in the process as possible. Another training provider ensured that all fixed classes were conducted within a particular week; they felt this minimised the ongoing disruption to learners, and meant they could plan in advance to allocate that week to the course. Most providers ensured that, as far as possible, course content was accessible to learners at any time (e.g. recording lectures).

"You can't learn how to install windows or doors out of a textbook or online. It's something you need to do physically."

The most significant challenge for many providers was COVID, in particular the restrictions to tackle the third wave of infections at the start of 2021. Some courses were already entirely online; these had either always been online, or training providers had adapted them to be online well in advance of the Competition. However, there were a number of courses where in-deemed important / essential e.g. for proper demonstrations. Equally, even

person learning was if course content could be delivered online, some examination elements would ideally be conducted in-person, with assessors able to observe the learners conducting tasks¹⁴. Several courses had been adapted to remote examination and observation, albeit it was acknowledged that this was not ideal.

"We know the industry - they're not the kind of guys who are willing to sit in front of the computer for 5-7 hours. They want to get into the workshop, they want to look at something in bits."

Whilst for some training providers COVID simply introduced a delay in delivering certain in-person elements, others felt that the necessity to move courses online had led to some learners disengaging. It was felt that some learners were unused to digesting lengthy online content, and several providers reported learners who were encountering IT issues.

¹³ A point made by one training provider was that some funded learners did ultimately complete the course, but not within the Competition deadlines.

¹⁴ In most cases this was simply because in-person assessment allowed more detailed and clear observation. However, one training provider also reported that online testing had seen a number of cases of copying, and a learner completing questions for colleagues. The provider had to introduce further quality controls to address this.

Different types of training provider organisations adopted different responses. Colleges in particular struggled as they reported being subject to additional rules and restrictions relating to COVID, whilst other training providers had more flexibility. In addition, where providers had large buildings¹⁵, they were able to continue in-person learning (albeit socially distanced, with mask wearing, and limited class sizes); this was not possible for others without such facilities. In such cases providers were very appreciative of the extensions granted by MNZH / BEIS.

Several training providers did acknowledge advantages to delivering courses online that were traditionally in-person. As well as online being much less costly to provide for them, several training providers felt their learners actually preferred the format – it removed the inconvenience of travel and was generally less disruptive to the working day.

The other significant detriment to learner engagement, cited by a number of providers, was the closure of the GHGVS. Where participation in the scheme had been a key motivation for learners, its closure meant they saw no reason for continuing to commit time and effort to the course.

3.3.2 Mitigations / solutions

A number of approaches were recommended and deployed by training providers to ensure high completion and pass rates:

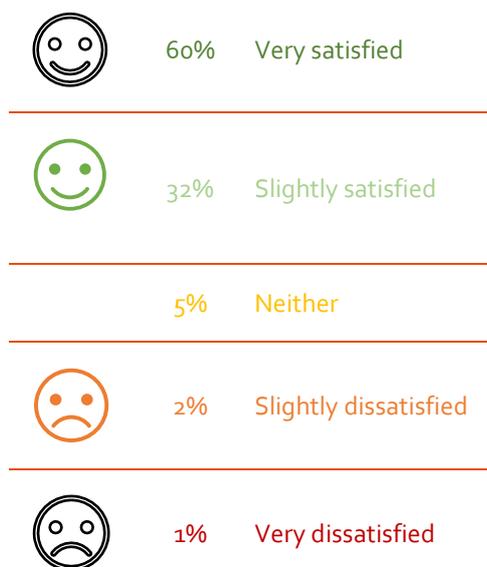
- > **Recruitment;** several training providers explained that they made sure to target promotion appropriately / screen individuals accessing the course before taking them on. This was to ensure both that learners had the appropriate existing skills and the necessary understanding to complete the course.
- > **Monitoring and communication;** this took different forms across different courses, but generally comprised identifying learners who were not completing work / falling behind, and contacting them to check for any issues, and encourage them to progress with the work. One training provider emphasised the value of providing learners with dedicated mentors within the training provider organisation (for assistance, encouragement, resolution of queries etc.). Another had worked with an 'e-learning expert' who suggested prompts and congratulatory messages at key points of the online course, to keep learners motivated.
- > **Incentives;** one training provider introduced a prize draw for those completing the course. Several also reminded learners that they reserved the right to charge for the course in full if it was not completed.
- > **Preparation;** having observed that exam pass rates were lower than expected, one provider introduced a mock exam to the course learning materials. They reported that this raised pass rates by 12 percentage points.

¹⁵ One provider built two classrooms specifically to enable in-person learning within COVID restrictions; they accepted that many providers would not necessarily have the spare resource / land to do this.

3.4 Learner satisfaction

Insight on learner satisfaction was derived from the post-training surveys administered by training providers, supplemented by the qualitative interviews with learners conducted as part of the evaluation. Albeit we would emphasise some caution because of non-response bias¹⁶ on the survey, overall satisfaction with the GHGSTC courses seemed very strong.

Figure 1: Learner survey response: satisfaction
 'Overall how satisfied or dissatisfied are you with the training or support you received from the provider?'¹⁷ [n=1,450]



Key learner survey satisfaction statistics:

- > 98% of respondents said that they would use the provider again, and 98% said they would recommend the course to others.
- > 94% of respondents were very satisfied with the customer service they received throughout their participation (73% very satisfied, only 2% dissatisfied).
- > 93% were satisfied with the value for money of the training, with only 1% dissatisfied.
- > 94% agreed that the customer journey had been easy from start to finish; only 1% disagreed.

And from the evaluation interviews...20/25 learner interviewees said the training 'completely' met their needs.

When asked what aspects of the course they were particularly satisfied with, many interviewed learners complimented the trainers and assessors; they were described variously as knowledgeable, informative, helpful, patient and responsive.

"Course content and delivery was great. It really helped to deepen my existing knowledge base and expand it further. The course instructors provided useful and insightful feedback." [WP4 learner]

"I tend to learn better in-person than online, but the way they set it up (videos, workbooks, a Facebook group) worked really well." [WP4/5 learner]

Several interviewees praised the delivery of course content, either in terms of the pace of sessions ("they tried their best not to overload us"), use of a more discursive approach to learning ("it got everyone involved which was good"), and the provision of workbooks alongside lessons ("really helpful to refer back to, lots of worked examples").

One learner interviewee was particularly satisfied with the practical aspects of the course: "They've got parking, it's fairly close to a supermarket for lunch, it's clean, it's tidy...classroom sizes were fine, the COVID stuff was well respected."

¹⁶ Dissatisfied / disengaged learners being less likely to pay attention to an invitation from the training provider to respond to an evaluation survey.

¹⁷ Overall satisfaction seemed noticeably lower amongst Retrofit Academy WP1 learners. Though the question was not asked in precisely the same way, exploration of respondent satisfaction with more specific elements in that survey indicate around a fifth of respondents being consistently dissatisfied with the clarity of course materials, support with these, and the length and pace of the course.

"Running a business and trying to study evenings and weekends did put a lot of pressure on me." [WP4/5 learner]

A common suggestion from learners on areas for improvement was course content. There were two main criticisms:

> For some, the course was very intensive and challenging, requiring much more of their time and effort than they had anticipated. Linked to this, one learner cited the added pressure of completion deadlines. Another said they would have found useful to have a guidebook to accompany course content.

"Even being in the heating industry, my head was spinning after watching their videos. There was so much information and I wish that they had...doubled the number of videos and put half of the amount of information in each. The course would've been longer, but maybe it would've been easier to take in." [WP4/5 learner]

to

"The course was very theory based and the practical application of the PAS requirements has been an awful lot harder." [WP1 learner]

> Conversely, a larger number of learner interviewees felt that whilst the course content had been interesting, it had not been sufficiently detailed / practical to enable them to deliver post-training work as they had hoped. Several said that they had encountered challenges in implementing learnings that had not been raised or addressed in the course. For some, this issue arose from the lack of in-person, practical training that was possible during the course. A number of learners felt the course would be improved by being in-person, albeit they understood why it wasn't; two specifically pointed out the benefits of improved peer-to-peer learning in a face-to-face environment.

"I wouldn't do this course and then think 'I can install heat pumps now'. It didn't have enough depth." [WP4 learner]

Linked to the perception that the course content had not provided the information, several learners also felt the course and its outcomes had been somewhat misrepresented.

required

This included one case where the course was more of an overview than the learner felt they had been led to believe; and another where the learner felt the provider / course had raised expectations of strong demand for retrofit coordinators, yet they had not found this post-training.

One respondent raised an issue with the support provided to assist them with course content: "You can get follow-up support on Facebook...but answers are a bit generic, or refer you back to your workbook. You wouldn't ask if you could answer it with the workbook!"

3.5 GHGSTC monitoring and reporting requirements

"It's a brand new thing and nobody was going to get it right the first time round; we thought it was very understandable and reasonable considering this was public money."

Most training providers said they had been able to meet the GHGSTC monitoring requirements and understood, in the context of public funding, the need for them. In addition, these requirements were specifically mentioned by several respondents as a useful prompt for them to be internally checking on delivery and assessing performance.

"The templates are really good. I used some of them to communicate to our stakeholders."

However, whilst training providers said that they understood, and agreed with, most of the *types* of data being requested, some were dissatisfied with the frequency. These respondents were unclear on the need for weekly and monthly updates, as well as an interim report.

"Quite onerous; it took a large amount of my time, and if we did it again, I'd have to put in much higher management fees to cover the time involved."

This concern may in part point to a communications gap, as: (a) the interim report was to MNZH / BEIS decisions to re-allocate funding and course places, a move which many training providers welcomed; and (b) whilst certain training providers felt there was no value to frequent reporting, as little had changed for them, for others metrics were changing substantially one week to the next. It may be that more flexibility on the frequency of reporting could be introduced depending on the scale and timing of training providers' funded activities.

actually integral

On a more practical level, one respondent noted that it would have been useful to have more advance notice from MNZH as to the data that would be required, as they encountered a number of information gaps when completing their first submission. Many training providers found the reporting templates / spreadsheets awkward to use and complete, especially some fields being locked, the inability to edit them once submitted, and different ordering of columns / data requirements between different spreadsheets (making automation of processes more difficult).

"It was fine. We report on all our learners anyway because we have a tracking system in place."

Overall, there did seem to be a split in views on monitoring and reporting between those training providers that had well-established procedures for collecting data on learner progression, and those for whom this required some adaptation. However, several training providers from both groups suggested that a live dashboard or database may have been a more efficient (and accurate) way of monitoring outcomes.

"Spot on. I honestly couldn't give enough credit to MEH in the way they managed it...we've worked on lots of government projects, direct and indirect, and it was just really good to have that interim facilitator; that worked really well."

Regarding MNZH support throughout the Competition, providers were unanimous in their praise of MNZH support and responsiveness, including flexibility shown when providers encountered delivery / reporting challenges, efforts to advise on and resolve those, and the processing of payments (albeit challenges with the new payment system were noted by a few providers).

"I need to apologise to, and thank, Nottingham Council [sic] for their patience, because at times trying to balance the delivery with deadlines that may or may not be extended, with learners who were struggling with online work, with COVID restrictions...reports weren't always submitted on the deadline, but Nottingham Council [sic] were very supportive letting us understand how much flexibility they had with BEIS and making sure that we worked together to provide the reports in a timely fashion."

4 Benefits to trainees

Chapter 1 provided the total numbers trained through specific courses (and the qualifications attached to those). This section focuses on the benefits arising from course learnings and completion, in particular enhanced individual and organisational capabilities, and the consequent business benefits. The timing, and satisfaction focus, of the post-training surveys delivered by training providers meant that very little data was captured on post-training outcomes. Therefore on this objective, the evaluation was reliant upon the 25 learner interviews, impressions (often anecdotal) from training providers, and data from follow-up surveys conducted by two training providers.

4.1 Enhanced capabilities

Overall, 23 out of the 25 learners interviewed for the evaluation agreed that the training had either enabled them to expand their capabilities and / or increased their confidence in performing tasks¹⁸. Retrofit Academy were the only provider to survey their learners on this question specifically: 56% of respondents to that survey felt they were confident on the subject matter before the training; this increased to 85% after the training. Several learners interviewed for the evaluation highlighted the benefits from the course providing them with materials to refer back to, which they reported referring to when working on projects. **20 out of 25 feel that they provide / are capable of providing a better service to customers.**

The enhanced capabilities were obviously specific to the course; but we have sought to group these under broad categories [table below]. Common themes were learners having an improved understanding of how a measure works, the appropriateness of different measures for different buildings / systems, and being better able to troubleshoot issues raised by customers.

Energy efficiency / insulation		Renewable energy / heat pumps	
<ul style="list-style-type: none"> > "It's given me a good understanding of the nature of the products that need to be installed, how we can install them, and the pitfalls." [WP2 learner] > "I've now got more knowledge of what insulation types may work with what types of building. I've applied this to multiple projects since the training." [WP1-5 learner] > "Before I didn't know how to tell if a wall was cavity or solid wall. I just thought it was brick." [WP1 learner] > "I can better understand how heat is lost, and what we need to look at when calculating such things. I'm more confident in finding faults on systems that I otherwise wouldn't have spotted." [WP5 learner] 		<ul style="list-style-type: none"> > "There are a lot of processes specific to renewables and heat pumps that aren't there for standard plumbing and heating. For our guys to know why that piece of paperwork is in place is a big help, rather than looking like we're putting more work on them for no reason." [WP4 learner] > "I used to get called out to look at some things and would know it was wrong, but wouldn't really know why, or how to fix it, or how to talk to the manufacturers about it. I can do some of those jobs now, and work out the measurements to fix it, like what size pipes are needed." [WP4/5 learner] > "I had an understanding of heat pumps, but I've increased my knowledge and can talk more comfortably about the product, and how a heat pump has to be fitted." [WP4 learner] > "I've been able to find faults within customer heating systems that I wouldn't have known anything about. I've been able to advise customers on their boiler or radiators." [WP4 learner] 	

In terms of more general skills, one business had sent reception and sales staff on a course and felt these staff were now better placed to talk to customers with their improved knowledge: "It gave them a real insight into what everyone else [in the business] does, and what they're selling and booking jobs for."

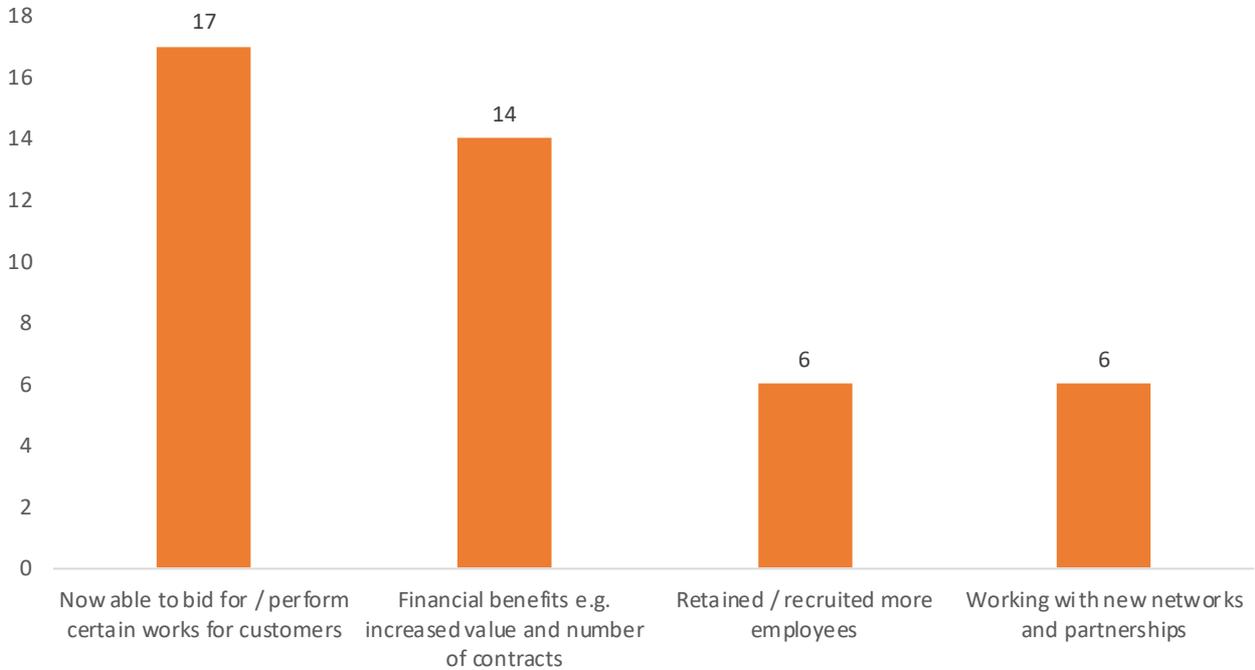
¹⁸ As described in section 3.4, a small proportion of learners did not feel the course had imbued them with the level of skills / understanding they had been hoping for.



4.2 Learner business benefits

Learners interviewed for the evaluation were asked whether their improved capabilities had delivered more tangible benefits to their business:

Figure 2: Learner interviews: recognition of beneficial outcomes from the GHGSTC training [n=25]



The learner statements below provide quantified illustrations of the business benefits arising from participation in the GHGSTC training, and the enhanced knowledge and skills this provided. These cover:

- > A more resilient, 'future-proofed' business, moving with customer demands and priorities
- > Access to new customers and frameworks through new qualifications and certifications
- > Improved skills and knowledge, meaning increased willingness and ability to take on new types of work
- > Improved skills and knowledge, enabling more efficient and economic delivery of works
- > Enhanced reputation leading to more contracts, and being able to charge higher prices for a premium service

"With MCS we're now able to bid for certain types of work. Minimum three more wins so far, with a lot more in the pipeline for this year. One contract is nearly £200,000. When specifying you know what's required on the job – e.g. how much labour - and you've got better insight on the costings of that. You're avoiding unnecessary stuff being ordered. I didn't think in a million years I'd be involved with some of the stuff I'm involved with now, and that's as a result of having that certificate. People are starting to approach me and send me down pathways for different opportunities. It's opened a lot of doors." [WP4 learner]

"I've probably made £15,000 from that course already; just being able to take on jobs we wouldn't be able to do otherwise, jobs I would have previously turned down. I'm also more efficient – I can work out how to do something, rather than just trial and error. I'm also offering a better service to customers – I can work out what heating system size is going to be most efficient based on house, pipework etc. I need to be able to stay at the top of my game and this helped me to do it." [WP4 learner]

"Over the next few years, we won't be quoting for gas boilers at all, it will all be heat pumps. Just the way the sector is going; we're anticipating the work we're doing now to be replaced with this technology. If you don't adapt you won't be in the heating and ventilation industry much longer." [WP4 learner]

"I know I'm not the cheapest heating engineer, but I can explain why, and what customers get for that premium price. I can charge between 10 and 20% more now for the heating jobs, but I see every job as an opportunity, whether I'm changing a tap or painting the wall. You have a discussion with the client, and 9 times out of 10 I get other work from it. Boiler installations and heating work has increased probably by about 30 or 40% in the last 12 months. I'm just doing end-of-year books now, so I don't know the percentages, but it's improved my standing with my clients. The feedback I get off clients is that service-wise I'm head and shoulders above 90% of my competition." [WP5 learner]

"I finished the course; it took me about a month to finish my portfolio, and by January I was up and running as a DEA. I've done over ten jobs already. It's a brand new income stream - another £500 a week." [WP1 learner]

"I've got increased confidence in, and I'm now able to bid for, sustainable retrofit works. Around 10 new domestic clients; contracts through GHG, LADS and ECO3. I also delivered 14 GHG projects worth about £120,000 in total for all 14. I've also recruited an additional employee and got them trained on [the GHGSTC-funded] course." [WP1-5 learner]

"We've had at least 30 jobs (e.g. through the ECO scheme) that we wouldn't have been able to do without the certification. We didn't do room and roof insulation before, and have had about six of these jobs since the training. We're more efficient on ordering materials, use of materials, time management, resource management. Our revenue has increased by 15-20% and profit has increased as well. We've recruited three new employees." [WP2 learner]

"Renewables is something that I would've been cautious of; now I'm confident. From doing no heat pump installations, I've done three now because of the training. I can provide an improved offer through a higher standard of work. That's a profit of about £15,000. Across those three new clients." [WP5 learner]

"Being registered with MCS puts us on the register for domestic installation of biomass. We've installed maybe 5 or 6 new domestic systems that we wouldn't have otherwise been able to bid for. We've also participated in domestic RHI. I'd estimate about £100,000 revenue from the new works." [WP4 learner]

In terms of obtaining the benefits they had anticipated when signing up to the training, 18 / 25 learners said their expectations had been met or exceeded; the remainder said their expectations were partly met. Several learners said they could not yet attribute any business benefits to the training. Few reported any GHGVS work, though this is likely to reflect the relative timing of most of the funded training being after applications for new vouchers closed.

To provide a potentially more overarching perspective on benefits obtained by learners post-course delivery, all training providers were asked for any data on this objective. Most had not attempted to monitor this in any formal or robust way. Many had no insights to share at all, some had case-specific / anecdotal insights, whilst two had conducted (or at least were able to share) a further follow-up survey of learners beyond the immediate post-training satisfaction survey.

For the two training providers that conducted a follow-up survey, the following quantitative evidence was made available:

- > In the Retrofit Academy follow-up survey [n=54]: 57% now offer additional services to their clients, 37% feel they have increased capacity, 24% feel the training resulted in increased contracts / clients. Only 15% said the course hadn't made a material difference.
- > In ECTA's follow up survey of learners in March 2022; 40% of respondents had installed heat pumps or solar thermal since the training, and 60% expect to do so in the next six months. ECTA clarified that without the training, learners would not have been able to install heat pumps or solar thermal.

In terms of more anecdotal evidence, trainers gave the following examples, albeit they were not able to quantify impacts on revenues / growth:

"I do know of one guy who signed up for the RC training and has since managed to build up quite a business off the back of it. He came back and put two more guys on the RC training and is no longer doing the NVQ part; he doesn't need to because he's had that much work as a coordinator, which he'd never anticipated would happen."

"We had a number of employers who have said to us that after the two days that the trainee had more confidence, more knowledge, and the employer was then more confident sending them out to a customers' home etc. They came out equipped with the skills to do their jobs to a high standard."

"Two learners from the pest control industry were a great example; they were doing a very specific role and were then able to widen the scope of their service to their client. They tell us that they removed a vermin issue at a property, then removed the contaminated loft insulation, but the client who hired them didn't have the money to then re-insulate the loft. The learners were then able to access government funding - we had helped them understand the whole Trustmark process, the PAS process, etc. So now this is an extra service that they can offer that benefits their business, and more importantly benefits their clients."

"There's a gas engineer who, on receiving the training, set up a company that specialises in installing heat pumps. They have taken on a new employee to fit heat pumps and have now taken on plumbing apprentices who, once qualified, they plan to put through the course too."

4.3 Benefits to unemployed learners

"We don't yet have any insight as to whether they have achieved employment, but in a market with a real skills shortage we would be hopeful they have. They didn't just 'turn up', they really got involved and embraced the training,"

Where the course attendees had included unemployed learners, training providers were asked if they were aware of benefits to these learners in gaining employment, especially within relevant sectors. Most responded that they did not know / had not sought to monitor this outcome.

Three training providers were able to share some insight on this:

- > One provider reported that of the six unemployed learners on their course, five have now entered full-time employment.
- > One knew of seven unemployed learners who subsequently gained 'green' jobs.
- > One reported that of six unemployed learners, four are now in employment: *"we've seen them working in the area, quite regularly now as they are coming in to pick up materials."*

One unemployed learner – interviewed in the evaluation – reported having gained employment: *"I was an unemployed student; I'm now conducting energy surveys and EPCs for the landlords and tenants."*

5 Benefits to training providers

As described in section 3.1, most providers felt the subsidy enabled by the GHGSTC funding had ensured much higher attendance for courses than was achieved before or since. Estimates of the extent of this varied, but many felt they would normally have had 25% or less of the take up they saw during the Competition.

Overall, whilst most providers acknowledged the benefits of participation to their growth, reputations, and ongoing customer engagement, few could quantify the business benefits of this. The key benefits acknowledged by providers are outlined in the sections below.

5.1 Revenue and employment

The total funding claimed by the eighteen providers was as follows:

BESA	£	495,793	Heat Geek Ltd	£	143,912
Building Our Skills	£	24,000	North West Skills Academy	£	980,820
Dudley College	£	7,503	Optimum UK	£	486,486
Elmhurst	£	462,907	Provincial Seals	£	124,551
Expedient Training	£	403,837	Retrofit Academy	£	784,637
Farnborough College	£	57,620	The Green Register	£	96,547
Greendale Ltd	£	248,211	Think Construction Skills	£	362,208
GTEC MCS	£	998,846	Trade Engine	£	176,198
Hampshire Training and Assessments	£	29,600	Windhager	£	44,850

Training providers were not asked directly about the impact of the GHGSTC funding on their organisation's financial performance. However, one provider volunteered that it had increased their typical annual revenue by around 40%¹⁹. Another reported participation in the scheme to have been transformative for their growth and prospects: *"The [GHGSTC] contract was a turning point for us. We had to very quickly recruit a whole team of learning support officers to deal with the applications etc. We went from a team of 3 people to 7 or 8 in a few weeks. And then from growth achieved, partly because of this contract, we now are at 23 people. So it was transformational."*

In terms of recruitment – either during or subsequent to the Competition – three training providers reported an increase; two had recruited one extra employee to help administer courses / deliver digital tasks. Another had recruited one of the course graduates to become a tutor.

5.2 Further take up: building reputation and partnerships

¹⁹ For that year alone; they expect a return to a more typical annual revenue.

Especially during delivery, some training providers reported challenges in managing the association of their training with the GHGVS, the closure of which providers feel has disappointed many in the sector. However, most training providers feel that overall, participation in the GHGSTC has:

- > Enhanced their reputation, both amongst the learners supported, and in the industry more widely. For some, this was felt to have come from having been selected for, and associated with, a Government scheme. More generally, and especially for smaller / lower profile providers, the Competition was felt to have 'got their name out' and led to greater recognition of their offer and brand.
- > Built important strategic partnerships for the future. In some cases, this is large manufacturers and / or trade bodies, who they see as having a key role for the future of the business in terms of recommending and signposting members to their training. In other cases, training providers referred to larger customers who have seen the benefits of the training and are taking up other courses that the provider delivers, and / or sending more staff on the GHGSTC-funded course. This is echoed by learners interviewed for the evaluation; many said they had recommended the training to colleagues and associates, or had sent colleagues on it already. Several learners reported that they themselves had either accessed further courses (on a related subject and often from the same training provider). For one training provider, participation also drew their attention to the opportunity of supporting unemployed learners: *"That was our first contact with that particular sector, and we would like to develop that more and offer more social value,"*

"It has given us good exposure. We are a new company and not yet a recognised brand or name, so the fact that we can say that [the course was] backed by BEIS has attracted more people."

"We've built up a network with the insulation industry and got invited to an NIA event. We've also been working with manufacturers who have their own training programmes and have been helping them adapt their training."

"Some of the employers have come back to us, having had a positive experience, and wanted further training from us; others now want the training after previously being disengaged."

Most training providers have reported ongoing demand for their courses, albeit some said it was hard to know how far they could attribute this ongoing interest to the GHGSTC course offer, as opposed to ongoing requirements for certain qualifications e.g. PAS, or shortages of qualified retrofit coordinators.

"There is demand for this training beyond the scheme as ECO4 is starting and running until 2026, with the requirement for all installers to be PAS-accredited."

"We are running another Heat Pump course as some individuals could not get on the GHG course in time. We are also getting enquiries for early next year, as work slows down and the sector can give time up for training."

However, interpretations of 'demand' varied. For example, where it was noted in interviews that there had been significant 'interest' in courses post-GHGSTC, some respondents acknowledged that this had not always converted into actual sign ups. Several providers said that there had been so much interest in their GHGSTC-subsidised course that, had they been awarded more funding, they could have trained many more individuals. However, interest in the offer of subsidised training cannot necessarily be interpreted as demand more generally; as one provider acknowledged: *"there is often a hesitation when it comes to the candidates paying in full."*

Albeit, in some cases, over a shorter time period, actual take up of courses has generally been lower than during the Competition (likely tied to the course being charged at 'full price' again); where providers were able to provide numbers on post-GHGSTC take up, this enabled comparison to the numbers funded by the Competition:

Learner numbers for the course in the Competition	Subsequent learner numbers (quoted by providers)
264	<i>"We have already signed up approximately 150 learners beyond those who have taken part in this scheme."</i>
463	<i>"Since the end of the competition we've probably had about 30 from 2 companies."</i>
96	<i>"We're still running the [GHGSTC] course; probably have 2 courses running a month with 2-3 people on each course."</i>

5.3 Building capacity and infrastructure

The GHGSTC was the catalyst for, and sometimes indirectly funded, improvements to training provider capacity and infrastructure that has been valuable on an ongoing basis.

Some training providers had developed new course content and materials for the GHGSTC-funded training, including creation of electronic / online content. This included recording and uploading lectures, and development of new presentations. One provider described having created "a bank of digital resources" for their trainers.

Many had introduced new systems to support increased online delivery, and / or meet the reporting requirements of the scheme. Several providers trialled remote assessment. One reported migrating to a new CRM system to better automate processes, motivated by the volume of learners they engaged through the Competition. monitoring and

Finally, one provider said that specifically for the GHGSTC course, to ensure compliance with COVID restrictions, they had converted a workshop and built a mezzanine floor, which is still being used.

"It's forced us to fast track certain things that probably would have taken us a little bit more time e.g. the online pre-recorded sessions. That's helped our business now moving forwards."

6 Future delivery

6.1 A future competition?

6.1.1 Topics

Perhaps unsurprisingly, all training providers said that they would welcome a future Competition. Both training providers and learners were asked about the subject areas that they anticipated might be valuable / of interest to the sector, in such a future competition.

In many cases, training providers felt that, certainly in the short term (and especially in the context of current regulations and scheme requirements around specific qualifications, as well as likely trends on take up of certain technologies) there would be ongoing demand for the courses they were already providing / had provided through the GHGSTC. In particular PAS / MCS compliance, heat pump design and installation, energy efficient retrofit, and retrofit coordination. Several training providers recommended that a focus on building fabric, and in particular wall insulation.

"There are an awful lot of buildings...that would benefit hugely from having external or internal wall insulation. But to do this properly is tricky; there are lots of examples where people who were unfortunately not trained properly have installed this stuff and it has caused more problems / damaged the fabric of the building. Good quality insulation is a real skills gap."

Although not a new technology, several training providers felt that a new Competition could include a Work Package / focus on electric vehicles, whilst two others suggested smart technology (heating controls, meters, etc.). One training provider suggested courses on hydrogen boilers. Learners with aspirations to do further training mentioned heat pumps, solar thermal, PV, efficient doors and windows.

Linked to course content, MNZH were interested in training provider views on whether they were seeing a trend for formal qualifications over other CPD. Albeit some training providers felt they weren't best-placed to comment (as their focus was qualifications anyway), the overwhelming view from providers was that their target markets are principally interested in formal qualifications over CPD. Several training providers pointed out that this is likely linked to schemes and accreditations often requiring formal qualifications, and in some cases these being necessary for the ongoing operation of the business in certain activities.

6.1.2 Competition design

Through evaluation interviews, and reporting to MNZH, training providers had a number of suggestions for adapting the design and delivery of a future competition. In addition, notes from the 'programme learnings' meeting between BEIS and MNZH were made available. The suggestions raised across these sources are collated and described below, organised by the aspect of the Competition they concern:

	Application To ensure a more consistent approach to assessing applications, BEIS and MNZH discussed the benefits of a future		Timing Amongst training providers, timescales were the most commonly cited area that could be improved in a future
<p>Competition using a more structured (less open-ended) application; this would ensure standardised submissions, answering all necessary criteria, therefore creating a more even playing field for those applying for the first time.</p> <p>Our evaluation also suggested a need for greater consideration by training provider with engagement and recruitment at the outset, particularly in the context of scheme underspend and recruitment challenges related to COVID. Whilst the GHGSTC</p>	<p>competition.</p> <p>Training providers typically called for a longer delivery period / realism from the outset, rather than piecemeal extensions. Several recommended greater flexibility, suggesting this should be dependent upon the scale and duration of providers' funded courses²¹.</p> <p>Regarding scheme longevity, as opposed to timing of an individual competition, one provider suggested that there should be an ongoing fund for strategically</p>		

²¹ One provider noted that they had been given six months to deliver a course that was typically twelve months.

<p>application did require an engagement and communications plan, scoring and assessment criteria did not seem to cover the quality / likely success of applicant plans for recruiting learners. It may be beneficial to require a marketing plan to recruit learners as part of the bid criteria.</p> <p>A specialist marketing expert could be sought by the successful applicants with suggestions on promotion and recruitment²⁰.</p>	<p>important training, to support the drive for net zero: <i>"a solid provision going forward is the way to go, rather than having short term commissions."</i></p>
 <p>Eligibility</p> <p>Providers made suggestions, in several distinct areas, on future competition eligibility.</p> <p>There were mixed views on the Competition awarding funding to overarching coordinators, who would then distribute learners to smaller, specialist training providers. Unsurprisingly, one respondent in such a coordination role saw themselves as a crucial intermediary, shielding smaller, less experienced trainers from the complicated bureaucracy of a government programme. Another training provider felt this was a wasteful arrangement, and sometimes confusing for learners: <i>"all they were doing was passing people on to us whilst creaming off their own admin charges."</i></p> <p>One training provider felt the Competition should only be supporting courses that end in formal qualifications, as compared to what they saw as less rigorously assessed and monitored schemes, that <i>"often lead to a lesser experience"</i> for both learners and their customers.</p>	 <p>Communications</p> <p>Several training providers commented that they would have valued quicker decisions, and quicker communication of those decisions, during the Competition. This was particularly with regards to clarity on decisions to extend contracts. One provider claimed that getting responses from BEIS may depend upon an individuals' availability.</p> <p>BEIS and MNZH noted the value (for greater efficiency) to have a plan in place at the outset for swapping budget around providers.</p> <p>Regarding communication between funded training providers, one respondent commented that they had no clear idea who the other participating providers were. This respondent felt that knowing the other organisations, and the courses they were being funded for, may have highlighted opportunities for more partnership working / designing courses that complemented each other.</p>
 <p>Payments</p> <p>The main suggestion in this area – from several providers – was for a greater proportion of per-provider Competition funding to be provided up front. With funding otherwise being linked to evidence of learner completions²², this would mean necessary investments in course design/development, marketing and recruitment would not be made at such risk to the provider. This was especially the case for smaller training providers with limited reserves: <i>"for us, as a small and new company, this did make things quite difficult."</i></p>	 <p>Monitoring and evaluation</p> <p>As discussed in Chapter 3, a number of training providers felt that: (a) the frequency of Competition monitoring and reporting could have been lessened, or at least tailored to the level of planned provider activity; (b) reporting requirements should either be more aligned to providers' existing data collection systems, and / or the current spreadsheet approach could be replaced by a live dashboard or similar.</p> <p>BEIS and MNZH noted the need for greater clarity and tailoring of reporting forms, as well as more advanced</p>

²⁰ This may have been particularly useful as providers sought to overcome barriers around COVID restrictions.

²² It should be noted that no providers had an issue with this method of quantifying how much funding should be distributed.

<p>One provider suggested that the Competition could incentivise training providers by allocating and awarding some up-front capital funding to invest in infrastructure e.g. equipment and training rigs. Though it should be noted that attracting applications from training providers had not been an issue on the GHGSTC anyway.</p>	<p>notice to successful providers of the key metrics that they will need to report against.</p> <p>One recommendation from the evaluation is to encourage greater monitoring by providers of post-training outcomes for learners. It makes sense to have a survey²³ immediately post-training with a focus on satisfaction, as was conducted. This is because learner recall may fade, and it would be too soon for significant further impacts to have been realised. However, after a few months, training providers could issue a follow-up survey of learners to provide robust data and insight on the longer term impacts and business benefits arising from the training²⁴.</p>
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Outside the areas described above, there were two overarching / general recommendations from providers on the design of a future Competition:

- > To support training provider recruitment, the programme team / BEIS could produce and conduct centralised promotional and marketing, including coverage in trade and wider press: *"PR was limited under the GHGSTC."*
- > Consider an expanded scope, whereby the Competition would look beyond completion of courses, to employment opportunities being made available for those that are trained.

²³ To ensure a high response rate, repayment of learner deposits could be made contingent on them completing this survey. This would be appropriate for a satisfaction survey immediately post-completion, not a follow up survey a number of months later. For the latter, providers could offer incentives e.g. a prize draw, or further (free/subsidised) training.

²⁴ They may need additional funding to administer this.

6.2 Enhancing supply chain capacity and capability

Both learners and training providers were asked for their views on specific policies, and / or changes in the general landscape, that would support the GHGSTC aims of enhancing supply chain capacity and capability to deliver net zero goals.

Inevitably, a number of requests were made for funding – either to incentivise the installation of particular measures, or subsidise training on specific topics. BEIS / MNZH will be well aware of such calls, and there seems little value in reiterating them in detail in this report. There was also, with particular reference to the GHG, the common call for more consistent Government support, with schemes being sustained for longer to be more impactful, and better drive attitude changes in the installation sector and the wider public / customers.

Suggestions from providers and learners to further support the upskilling and growth of the supply chain were as follows:

- > Regulations to ensure implementation of more energy efficiency and renewable measures (ASHPs were suggested) in the new build market, increasing the demand for installation services, and relying less upon the willingness of existing householders to invest in substantial retrofit.
- > Splitting MCS into a 'design' and 'installation' accreditation, as well as introducing an MCS 'compliance' role. It was argued that this would allow firms to focus on, and become expert in, their chosen specialisms, and overcome what were claimed to be widespread installer reservations about the processes required to become accredited.
- > A call for more inclusion of (particularly generalist) SMEs in local frameworks for schemes such as GHG-LAD. This, it was felt, would give smaller firms an incentive to invest in demanding (from an administration and skills perspective) accreditations such as PAS2030.
- > Finally, several respondents emphasised the need for the integration of net zero / green retrofit skills into the education system, both in terms of forming the focus of college courses / apprenticeships etc. Specific to the heating engineering sector, one respondent felt this was of particular importance in the context of the developing and increasing skills and qualifications requirements across the sector, which they envisaged would see significant proportions of the older generation opting to retire from the sector, leading to acute shortages unless addressed now.

"Until you make new build houses come under a regulation, you're never going to change anything, because that's where the easy money is made. Putting an ASHP into a new house is far easier than replacing an existing system."

"Much of the pre-installation work could be done by people other than the installer, allowing them to focus on the installation and easing the administration burden. There are people better suited to this pre-installation work, namely EPC assessors and Retrofit assessors. A recognised qualification for this pre-install role would energise the sector and remove some of the barriers to entry that installers perceive."

"At this time market conditions are not right for this group of contractors to benefit from certification that is neither driven by the markets they work in nor demanded by legislation."

7 Appendix: impact case studies

Company wins additional work through learning new skills

"I generally believe in self-improvement and this is an area where there will be more work."

"I used to get called out to look at some things and would know it was wrong, but wouldn't really know why, or how to fix it, or how to talk to the manufacturers about it. I can do some of those jobs now. I can go home and work out the measurements to fix it, like what size pipes are needed."

Ash runs a domestic plumbing company employing four staff, with 10 years' experience installing biomass and five years' experience installing heat pumps. He attended the training offered by Heat Geek to broaden his knowledge on heat pumps, gaining the understanding to have better conversations with manufacturers about systems (when talking about installations and problems). The Heat Geek training provided information on heat pumps, solar thermal, heating and hot water controls, how they operate and how to best install and integrate these technologies with existing systems. To date, Ash estimates that he has won work to the value of £15,000 as result of the course, being able to take on jobs he wouldn't have had the skills to do before, and would have previously turned down. He also feels he can work more effectively as a result of the training, and offer a better service to customers, through being able to calculate the size of boiler or heat pump that is going to be most efficient based on the house fabric, pipework etc.

PAS certification helps company to access contracts funded by the Green Homes Grant

"[The training has] contributed and assisted in getting more contracts. After the training, we went on to deliver GHG, LADS and ECO3."

Three of the four employees of ESW attended training provided by the Green Register to add more measures to their Publicly Available Standard (PAS) certification; namely external and internal wall insulation, and flat roof insulation. The company employees four staff, with a 60 / 40 split of commercial to domestic clients. As a result of the training, the company are better placed to win contracts for retrofit insulation works. They have quoted for, and been successful with, approximately 20 contracts funded by the Green Homes Grant, the Green Homes Grant Local Authority Delivery Scheme and the energy company obligation (ECO3) scheme. The 14 contracts funded by the Green Homes Grant totalled a value of £120,000.

Staff undergo training to ensure their work remains compliant

"We chose this course as the compliance that we work under changed, so if we wanted to work in this environment, so we had to get qualified."

Naeem works for a company employing 16 staff, installing insulation and building treatments in domestic properties. He was one of three staff who attended the training offered by the North West Skills Academy to achieve the PAS 2030:2019 standard when installing wall, roof insulation and internal insulation. As an installer, it is vital that they are certified to the appropriate PAS 2030 standard to take part in government-funded energy efficiency schemes in England. The new PAS 2030:2019 standard was released in June 2019 and fully replaced PAS 2030:2017 in 31 January 2021. Naeem undertook the training in advance of this date. He estimates that the company has undertaken at least 30 jobs that they wouldn't have been able to do without the certification. He also feels they can offer an improved service because of the extra knowledge and increased understanding of health and safety they have gained. They are more efficient when ordering materials, using materials, and in time and resource management.



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