

SKILLING FOR NET ZERO

LEARNINGS FROM BUILDING
A NEW GREEN JOBS TRAINING
PROGRAMME WITH SOCIAL
MOBILITY AT ITS HEART

“Generation has equipped us with skills to enter the green energy sector with confidence. Lectures are interesting, enjoyable and engaging, thanks to the wonderful course tutors. I am hugely grateful for their expert guidance and to be offered a role within 1 month of finishing the course”.

Bahara | Programme graduate

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EXECUTIVE SUMMARY

The transition to net zero faces a huge skills gap, in turn requiring rapid scaling of skilling infrastructure

UK CURRENT STATE

The transition to net-zero will create hundreds of thousands of new jobs. National Grid¹ estimates the energy industry alone will create 400,000 new jobs by 2050. The Construction Industry² estimate 350,000 for the building sector. We are already seeing the first wave of this: a recent PWC report⁴ showed the number of green jobs tripled in the last year.

Yet supply is already behind demand. 65% of 'green' employers surveyed by Generation confirmed it was already hard to find new hires, echoing findings by Learning & Work⁶. This is stalling progress, with less than a fifth of companies⁷ on track for emissions reductions targets.

CHALLENGE AND OPPORTUNITY

The size of the skilling need will increase exponentially. Yet skills shortages cannot create a bottleneck on the path to net-zero: the timeline does not allow for it. Green-skilling initiatives must be ready to scale up rapidly.

This is a challenge and an opportunity new programmes can and should target a 'just transition'. The labour supply we need is already here. There are >1m⁸ unemployed people in the UK – only 20%⁹ of whom find work each quarter - as well as many others working in declining sectors.

Furthermore, unemployment and barriers to good work are disproportionately experienced by specific groups. Young people¹⁰, ethnic minorities groups¹¹, those with disabilities¹² or without degrees¹³ are twice or more as likely to be unemployed and remain¹⁰ so. And when out of work there is 'scarring'; being out of work for more than a year quarters¹⁰ your chance of finding work soon. Traditional hiring systemically under-represents these groups.

There's a gap for new, agile programmes to plug existing and emerging skills gaps and support these groups. Such programmes will bring social mobility, drive growth and support net zero transition.

SCALABLE SOLUTIONS

Generation and the Macquarie Group Foundation In late 2020, Generation - a UK charity which is part of a global non-profit network - Macquarie, and its Green Investment Group joined forces inspired by the above challenges. The goal was to launch the UK's first 'green jobs' programme that:

- 1 Could support thousands facing barriers to employment into life-changing work
- 2 Provided a pipeline of skilled, diverse, motivated new hires for crucial green jobs.

PARTNERSHIP INGREDIENTS

The new partnership had had the model - specifically a seven-step, WISE-award (World Innovation Summit for Education) winning model for programme design (see page 5), and the track record to match. Part of a global network that has supported >70,000 beneficiaries across 16 countries, Generation UK has placed more than 1200 unemployed beneficiaries facing significant barriers to employment on pathways to tech and health careers. Macquarie and its Green Investment Group had the expertise and connections with an upfront investment of £420k grant from the Macquarie Group Foundation as part of their Covid-19 response.

In 2021 we launched a first-of-its-kind green jobs programme: a 10-week, full-time, free Retrofit Advisor bootcamp, working in partnership with Retrofit Academy CIC.

The programme has now supported >30 graduates into life-changing green jobs and grows from strength to strength.

This report tells the story and shares the learnings to support the next wave of programmes that will be needed to meet the enormous skilling need of net-zero.



A HOLISTIC METHODOLOGY

Generations 7-step approach to successful programme design

OUR APPROACH

THE DIAGNOSTIC

A key element of the Generation model to deliver good job outcomes for people who are unemployed is to deliver profession-specific training for day one readiness in a specific job, not generic employability training.

We first therefore needed a specific 'green job' for our focus – a role (i) in acute, growing skills shortage demand; (ii) attractive, offering good salary and progression; and (iii) crucial to net zero.

Over 3 months the project team spoke to c.150 experts, prospective employers and industry stakeholders and reviewed >20 sector reports. We created a long list of around 20 roles, a shortlist of 6 and then chose Retrofit Advisor.

MACQUARIE'S ROLE

This process was accelerated by invaluable support from Macquarie and their Green Investment Group who generously supported with secondees who gave us rapid connection to sector experts, and supported problem solving and prioritisation.

We established a joint steering committee where experts from Macquarie and its Green Investment Group were absolutely vital to decision making and played a key role in shortlisting potential job roles and interrogating reports and learnings. Working together in a collaborative partnership has been crucial to the success of the project and expedited the process by around six months.

THE RETROFIT ADVISER ROLE

Retrofit Advisors (and similar roles) are found across a variety of employers - housing associations, energy and utility providers, retrofit/energy efficient specialists and installers, councils, and fuel poverty advice charities alike.

They have two key job responsibilities:

- 1 Provide expert advice, guidance and troubleshooting to homeowners, renters and tenants on energy efficiency and retrofit measures
- 2 Deliver efficient process support and administration including booking visits/installations, collating energy documentation, conducting initial triage, and more.

RETROFIT ADVISOR CLEARLY MET OUR CRITERIA

- i In acute growing skills shortage demand.** The UK's Climate Change Committee² and PWC¹⁵ (a professional service network) both highlight the need for >10,000 retrofit specialists by 2030, along with an acute skills gap for specific roles including Retrofit Advisors. Employer interviews consistently confirmed a need with many reporting turning down or delaying work due to skills gaps.
- ii Attractive, offering good salary and progression.** Salary estimates for entry level roles are £20-25k/year. This is matched with good career progression routes including to Retrofit Assessors (possible in 1-2 years), Retrofit Coordinators (possible in 3-5 years), Retrofit Evaluators, Retrofit Designers, or team managers.
- iii Crucial to net zero.** Reducing the UK's energy use and carbon emissions will require improving the energy efficiency and retrofitting of many of the UK's almost 30 million homes¹⁶ (3 out of 5 of which¹⁵ have an EPC rating below D) and buildings - buildings being the UK's second largest source of UK emissions. Retrofit Advisors will play an increasingly key role here.



"It's already clear there is already significant industry demand for Retrofit Advisors, and it's going to continue to grow. That made Retrofit the clear choice from our diagnostic work: it meets an urgent industry need, whilst also being a really exciting and attractive career option for the people that we seek to serve, and support into great jobs."

Michael Houlihan | CEO Generation UK & Ireland

THE DESIGN

With a role selected we set about a curriculum design in three stages.

1. SCOPING

Conducting an intensive series of interviews with hiring managers and sector specialists, job shadowing and complemented by job description reviews to understand key technical skills, mindsets and behaviours. This unique methodology called “activity mapping” has been used to design >30 Generation programmes worldwide.

2. BUILD


Creating a unique curriculum in partnership with the Retrofit Academy that combines employability, behavioural and mindset, and key technical sessions. The result was a 10-week full-time bootcamp for 20-25 learners at a time with >300 hours of expert instructor-led training. The course – detailed in Annex A – reflects Generation’s learnings and experience from building more than 30 bootcamp curricula worldwide with industry leading and award winning results.

The course stands out for its...

- profession specificity and tailoring of every curriculum element to skills needed for the role;
- combination of technical skills training with behaviours, mindsets and employability skills training;
- the unwavering focus on practice not presentation in role plays, case studies and simulations;
- the end-to-end nature with support from the application process; to extensive wrap-around mentorship and coaching; through to active matchmaking to ring-fenced interviews with employer partners.

3. CERTIFICATION

Submitting course details, materials and an assessment approach to the Open College Network to certify the course to include a Level 3 qualification in Retrofit Advice.



“The Retrofit Academy worked closely with Generation from the outset. Initially to help identify retrofit as an appropriate market, and later to co-create a retrofit advisor course appropriate for people with no prior knowledge or experience of the profession. We’re consistently hearing businesses around the country turning down work for lack of junior retrofit skills... programmes like this fill the gap!”

THE IMPACT

The pilot was launched in 2021 and we have since enrolled c.100 learners in a total of 6 bootcamps.

Results so far have been incredible!

Through multi-channel outreach including with jobcentres, local charities and extensive targeted social media marketing and careful selection processes to select learners, the programme has reached and supported a diverse group facing significant barriers to employment.

WHO WE'VE SERVED

41%
with dependents

c.65%
Black, Asian and other ethnic minorities

c.20%
with a disability

29%
lowest 2 IMD deciles

c.57%
women

24%
unemployed for >12 months

...and all telling stories of challenges finding work.

Learners have been delighted with the course. Across responses from the most recent cohort 100% (strongly) agree they feel more positive about their future having started the course, 100% have found their mentor sessions helpful, and 93% feel more prepared for the world of work.

DELIVERING INCREDIBLE JOB OUTCOMES

Post-programme we have now placed 34 learners into jobs (up to April 2023) – 74% of those who have graduated programmes have found work within 6 months.

Graduates have gained work with employers in the industries mentioned above including Eon, Agility Eco, GroundWork Trust, The Royal Borough of Kensington and Chelsea, and many more.

These are not just any jobs but good jobs, with average placement salaries of c.£25k/year representing a significant uplift compared to pre-programme income (generally universal credit) and life-changing at a time of widespread rises in the cost of living.

Such job outcomes represent a significant 'social impact' relative to what would have happened without support. Learners from supported groups (see stats in the introduction) are systematically less likely to find good jobs. We estimate (using ONS data and surveys of people who applied to Generation programmes) that ~55% of learners from supported groups would find work after 6 months, and this is any work, not necessarily well paid secure employment with good prospects.

The result is Generation learners will earn, we estimate, over £30k more in the 5 years post-programme than if they had not received our support.

The majority of placements have been achieved through matchmade interviews with learners put forward for interviews for ring fenced vacancies at employer partners. Since launch, more than 50 vacancies have been pledged for interviews for bootcamp learners by c.30 employers across the UK.

Employer feedback has been strong too and five employers have already hired learners multiple times.



“[Generation] provided candidates that surpassed our expectations... [the candidates] knew exactly what to expect coming to work in the retrofit industry”

HR Manager | Q-Bot (employer partner)

GRADUATE STORY



Barbara is a graduate from our Retrofit Adviser bootcamp. Before joining the programme she was self-employed and found having an irregular income challenging. Barbara was keen to find employment in an industry she was passionate about, but with little experience, was struggling to find work.

“After so many disappointments, I lost my confidence and I felt like a failure in life.

Generation was unique and different to me, because not only was I not paying, the Retrofit Advisor course was about helping to tackle the causes and impacts of climate change, which is something I am very passionate about.

The teachers and mentors were very supportive, they made me feel comfortable to be myself, and at ease to participate in sessions without fear. [The support] was a massive contributor to my personal development and learning. I would not have been successful without the support from Generation and my colleagues in the cohort.

The bootcamp has helped me progress as an individual by enhancing my behavioural and professional skills required for employability. Through the bootcamp I have gained valuable technical knowledge to begin a new career, and to continue progressing within an industry that I am passionate about.”

What would you say to others thinking about joining a Generation programme?

“Go ahead and apply! When you finally receive the certification in the end, you will be the proudest woman in the world! Anyone can achieve if you put your mind to it! Most importantly, the Generation programme/tech sector is for any gender.

Before the programme, I was losing hope in the employment system. But, it all changed, when I joined the Generation bootcamp training programme - it can only add positive to a person’s life!”

Barbara has been successfully employed by the Groundwork Trust, a Generation Employer Partner, within one month of graduating from the programme. She looks forward to starting her role as a Green Doctor in March 2023.

Barbara¹⁹
Location: London
Graduated: January 2023
Current Status: Employed

OUR LEARNINGS

We've learnt a huge amount from launching this programme. The 5 key learnings are as follows:

1 Secure catalytic, up-front investment and support launching a new training programme like this requires a significant investment of time and resource before day one.

The role of Macquarie Group Foundation, as a partner for Generation has been crucial in launching this programme. As a young, relatively small charity Generation could not have launched the programme alone.

Macquarie's philanthropic funding supported the initial investment for the diagnostic and the build of the enduring curriculum assets. The funding also covered a significant proportion of the delivery cost for four pilot bootcamps.

Funding like this is truly catalytic in that it creates the assets that can be used in multiple future deliveries, along with providing a base and commitment to attract further funding. Since launch the programme has attracted match-funding from the private sector including LinkedIn and Blackrock, and the public sector including the European Social Fund and the Education and Training Boards in Ireland.

Macquarie's support was not just funding, but fully engaged philanthropy. Macquarie and its Green Investment Group supported with seconded resources into the project team, introductions to industry and a steering group for guiding the key decisions – the focus job, the roll-out plan and more. Such support significantly increased the Generation's ability to engage more employers and industry stakeholders, and the speed with which the programme could be rolled out.

Launching new programmes in the green sector will need philanthropy and investment to provide the risk-seeking up front support.

2 Build partnerships and collaborate across sectors. Partnerships with organisations across sectors have been fundamental at every stage of the journey.

As the programme evolved we learnt the importance of the support of multiple organisations and sectors ensuring the best outcomes for every learner.

Setting out we could not have appreciated that...

- Industry stakeholders would provide crucial guidance in shaping and guiding our profession choice and programme design
- Jobcentres and work coaches across DWP and support workers in partner charities would play such a key role in encouraging those facing barriers to apply to a programme in a new sector
- The Retrofit Academy, as an expert training provider, would deliver such important technical material to ensure the course was up-to-date with evolving regulation and reflecting industry best practice
- Employers would shape the the curriculum to such a degree, and their commitments to interview and repeat hire would provide such a key building block
- A wide range of funders, not just Macquarie, from an exciting and varying mix of private and public sector organisations would emerge and support rapid scaling.

As we scale we will look to deepen and increasingly formalise these partnerships with multi-year funding agreements; multi-year licensing and curriculum collaboration agreement; and enduring employer partnerships with commitments to repeat hire.

New programmes in the green sector will need leaders to coordinate, but partnerships are essential and they should be embedded from the start.

GRADUATE STORY



Omosola was unemployed for several years and struggling to find work. In late November 2021 he joined Generation's first Retrofit Advisor bootcamp in London which has led him to life-changing employment.

"When I read about what Generation was offering, I was very sceptical. [I thought] there was no way a company would offer you tutoring, mentoring, help you get a job, and then look after you for 6 months... this is too good to be true.

[As well as learning technical skills], we also learnt communication skills, how you translate that into soft skills and mindsets.

You're not just learning about the technical stuff and the retrofit industry and the construction industry and how it plays into the UK economy, you also learn how to write and build your CV, how to interview... how you translate [technical skills] into soft skills and mindsets.

If you're willing to grow, you will grow from it and you will develop skills about yourself that you did not believe you could develop before. It's a very big package in such a short time frame.

I would never in a million years have thought that I would apply to work for one of the biggest energy companies in the world, but to have done that as my first job in the UK is massive for me."

On graduating Omosola secured employment with E.ON, a Generation Employer Partner, as a Retrofit Adviser, where he continues in role.

You can also head to Youtube to hear Omosola tell his story as he finishes the bootcamp¹⁷ and then 6 months into his role¹⁸.

Omosola¹⁹

Location: London

Graduated: February 2022

Current Status: Employed

OUR LEARNINGS

3 Be agile. Iterate curricula and plans.

New programmes will never be perfect first time, especially when launched in new sectors or targeting emerging jobs, and programmes cannot stand still as economies and skills needs evolve. Iteration is necessary and will drive better outcomes.

On each of our first two bootcamps two learners dropped out as they found the course too hard or preferred another programme. Our graduation rates for learners who started programmes were well below the 90% we achieve and target on other programmes.

From extensive learner feedback we learnt the course was too technical, too hard, and covered too much ground.

And we responded. We removed detail from all areas whilst staying true to the requirements of the L3 certification and the needs highlighted by employers. As we delivered the course again we improved specific exercises and edited timetables in collaboration with our instructors. Moving forward we'll continually improve.

Early programmes also attracted a higher number of learners with degrees or professional experience than we typically support. These learners were still facing barriers to finding work, but had study skills many of our learners do not. We thought these learners would need less 1:1 support but this was not the case. These learners needed as much support, but with a different focus, including to help them adapt their learning style to the 'on-course' model of our bootcamps.

The importance of this work is clear. Graduation rates for recent bootcamps are higher, placement rates remain high, certification rates are still tracking at 100% and learner feedback is humbling (as reported above).

With the mindset and approach to actively make changes every cohort and bootcamp is more effective and efficient than the one before. The first iteration will never get everything right.

4 Go beyond the headlines. Engage deeply with employers to identify skills gaps.

The programme has delivered sector-leading outcomes with 74% gaining employment within 6 months of graduating.

A driver for this is the programme's profession specificity and focus on an acute, unmet employer hiring need. Engaging with >100 stakeholders including employers and trade associations allowed us to look beneath headlines highlighting the need for entry level hires in other 'green jobs'.

We learnt entry level roles in renewable energy generation including in wind and solar were limited to low-scale hiring into apprenticeships, with demand spread thin across the UK. We learnt that although smart meter installers were in high-demand in the eyes of key employers, demand will only fall over coming years as key roll-outs are completed and that although insulation installers are scarce, the training uplift to start from day one is limited and a bootcamp training programme not needed. We could not pick this up from desk research alone.

Further detailed work including interviews with representatives, managers and juniors at >10 employers, once retrofit was chosen as a focus area, allowed us to build a curriculum to fit day-one needs of new hires as well as securing an initial set of partners to interview learners.

Retrofit advisor as a role was not even in our initial long-list of possible green jobs roles. Without employer and industry engagement at this scale we would perhaps never have identified it nor built the programme we did.

OUR LEARNINGS

Invest heavily in and experiment with outreach and promotion.

There is a low level of understanding of 'green jobs' and 'retrofit' in particular amongst those facing barriers to employment. Careful and extensive widespread messaging is crucial for overcoming a lack of awareness, scepticism and the 'unknown' of these new careers – a key learning for the sector.

The pilot programmes received fewer applications than targeted. Each cohort had space to support 20-25 learners and only supported c.15 each. Key channels that drive learners to Generation's other programmes, such as referrals from work coaches in job centres and social media marketing, did not have the same results. And with this being a new programme we did not have a network of programme alumni to spread the word.

The applicants we did then receive often then did not meet our target profile – either they already had significant career experience, or lacked the motivation or understanding of the target role and programme.

We hypothesised we had got the messaging wrong and so coordinated focus groups and ran digital marketing test campaigns to refine.

We learnt that most people in our target groups had never heard the word 'retrofit' and instead of sounding modern, it sounded archaic and past. We learnt that messaging stressing the topical nature of green jobs and the importance of retrofit advisors for tackling the net zero challenge was positive but unrelatable to many looking simply for good, well-paying, interesting work.

We then applied the learnings. We developed an animation to explain the role in engaging terms, we changed the title of the programme page to remove the words "retrofit advisor", we increased our digital marketing budgets to focus on the channel that was working best, and we stressed the fundamental offers of the job including salaries, progression routes and the fact we had engaged employers.

We predict similar experiences delivering and launching any new training programme in this sector, noting c.90% of young people⁶ don't know what green skills are.

A woman with dark hair is smiling and hugging a man from behind. The man has long brown hair and is wearing a grey sweater. The scene is set in a warm, dimly lit room with a wooden chair and a lamp visible in the background. The lighting is soft and golden, creating a positive and supportive atmosphere.

“The candidate we hired fitted in really well. The course they had completed was so well matched to what we were looking for it eliminated what could have been weeks of additional training for what is a very niche role... [We are] already discussing progressing our graduate through the higher level Retrofit Coordinator qualification in the future”

Hiring Manager | Yes Energy Solutions (employer partner)

GRADUATE STORY



Quasim joined Generation's first Retrofit Advisor bootcamp in November 2021 following a difficult time during the Covid-19 pandemic when his business in property management took a hit. He was looking for new opportunities and was interested in the "hot topic" of energy usage.

"I was very excited by the renewables part of the course. Learning about heat pumps and solar panels was very exciting.

The support was excellent. We were given guidance from a dedicated mentor [who gave us] guidance on CV building and interview practice, something I benefited from enormously.

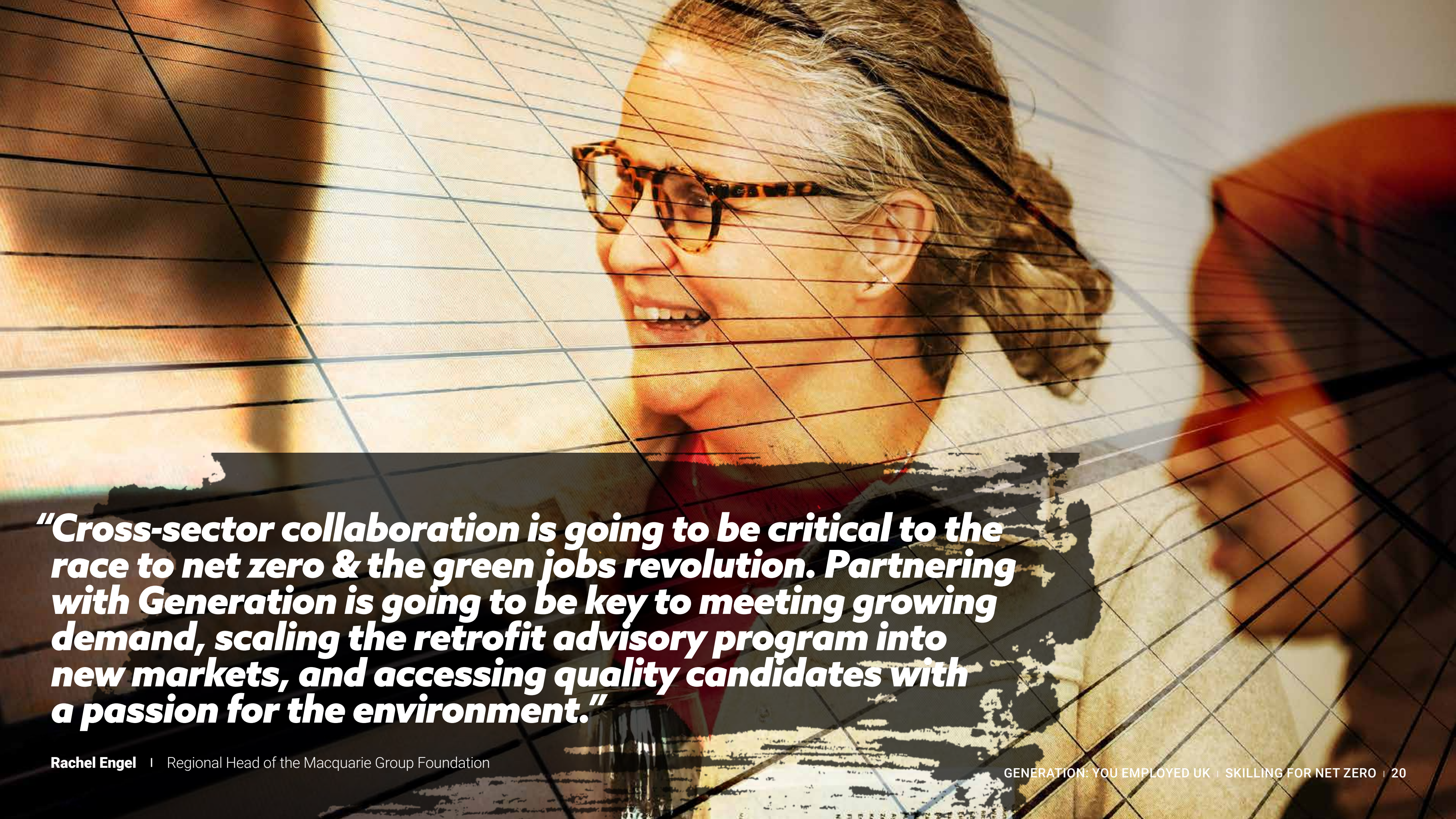
The course has helped massively build my confidence. To enter a new industry at my age was something I thought would be too difficult, however the course at Generation made that possible. I am certain I would not have been able to get the job I have now had it not been for the course I did with Generation."

What would you say to anyone wanting to join a Retrofit Advisor bootcamp?

"Just do it, you will learn so much. It's not just the knowledge from the course, you will meet new people and learn skills that are so important for when you transition to the working environment."

On graduating Generation introduced Quasim to Employer Partner Equans where he gained a role as an Energy & Innovation Technical Advisor. He is now a qualified DEA and Retrofit Assessor.

Quasim¹⁹
Location: London
Graduated: February 2022
Current Status: Employed



“Cross-sector collaboration is going to be critical to the race to net zero & the green jobs revolution. Partnering with Generation is going to be key to meeting growing demand, scaling the retrofit advisory program into new markets, and accessing quality candidates with a passion for the environment.”

Rachel Engel | Regional Head of the Macquarie Group Foundation

NEXT STEPS ON SKILLING FOR NEXT ZERO

Generation and Macquarie are now actively scaling the Retrofit Advisor programme to meet growing demand. We continue to work together to develop new programmes targeting skills gaps in the green sector - we see future potential in solar, wind and other sectors - and are planning a new programme launch for 2024.

The sector needs are larger than what this partnership alone can deliver. Apprenticeships, T-levels, university degrees, school curricula and so on will all have to change to meet the changing needs of our economy and will all need to play a role.

However, we think bootcamps - as also called out by the government's strategy for education for sustainability and climate change¹⁹ - are uniquely placed for impact here. As our work demonstrates, bootcamps are...

- uniquely scalable and rapidly deployable to new professions and geographies in comparison to traditional educational routes; Generation has launched multiple programmes from a standing start in less than 6 months
- uniquely effective in supporting those facing barriers to employment who find it difficult to access other opportunities, with the combination of intensive training, peer support, and deep pastoral support

HOWEVER, INDEPENDENT OF THE TRAINING FORMAT, AS NEW PROGRAMMES ARE DESIGNED AND INTRODUCED WE URGE THAT THOSE RESPONSIBLE BUILD ON AND FROM OUR FIVE LEARNINGS:

1 Engage deeply with employers beyond the headlines



2 Invest in and think carefully about marketing to ensure wide understanding of these new careers



3 Be agile and continuously improve their curricula and focus to emerging needs



4 Seek significant up-front investment and support



5 Deliver collaboratively with organisations across sectors



THANK YOU'S

The development and pilot of this programme has been made possible by the generous support of our funders and employer partners.

LEAD PARTNERS

Generation UK, Macquarie, Green Investment Group

PROGRAMME DEVELOPMENT AND DELIVERY PARTNERS

Retrofit Academy, Corio Generation

INITIAL PROGRAMME FUNDERS (2022)

Macquarie, ESF, Blackrock, Verizon, Garfield Weston, LinkedIn

EXAMPLE EMPLOYER PARTNERS

Agility Eco, Airex, E.On, Equans, Groundwork Trust, Q-Bot, Retrofit Action for Tomorrow, Royal Borough of Kensington & Chelsea, United Living, Vital Energi, Vinci-UK, Q-Bot, Yes Energy Solutions, Energy Saving Trust

ANNEX A

CURRICULUM DETAIL

A high-level summary of the 10-week curriculum is in the following table:

Technical Skills (~190 hours + ~30 flex)	Behavioural Skills & Mindsets (~11 hours)	Employability, social support & community sessions (~80 hours)
TECHNICAL SESSIONS (~125 HOURS)	BEHAVIOURAL SKILLS SESSIONS	EMPLOYMENT ESSENTIALS SESSIONS
<ol style="list-style-type: none"> 1. Home Energy Use and Why Retrofit Matters 2. Retrofit Basics 3. Retrofit Industry and the RA role 4. Retrofit Advice in practice 5. Supporting consumers 6. Professional and administrative good practice as a retrofit advisor 	<ol style="list-style-type: none"> 1. Communication 2. Customer Focus 3. Organisation 4. Adaptability 	SOCIAL SUPPORT AND MENTORSHIP SESSIONS
SKILLS APPLICATION SESSIONS (~54 HOURS)	MINDSET SESSIONS	COMMUNITY SESSIONS
REFLECTION AND REINFORCEMENT (~11 HOURS)	<ol style="list-style-type: none"> 1. Growth Mindset 2. Persistence 3. Personal Responsibility 4. Future Orientation. 	

ANNEX B – REFERENCE LIST

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