

Installer Skills and Quality Assurance for Heat Pumps

Sustainable Energy Supply Chain

26 October 2022



Presenters

Pilar Rodriguez	Programme Manager, Sustainable Energy Supply Chain, Energy Saving Trust	Presenter, Q&A Panel
John Renwick	Sector Manager, Construction, ESP	Presenter, Q&A Panel
Iain Boyle	Curriculum Manager, Glasgow Clyde College	Presenter, Q&A Panel

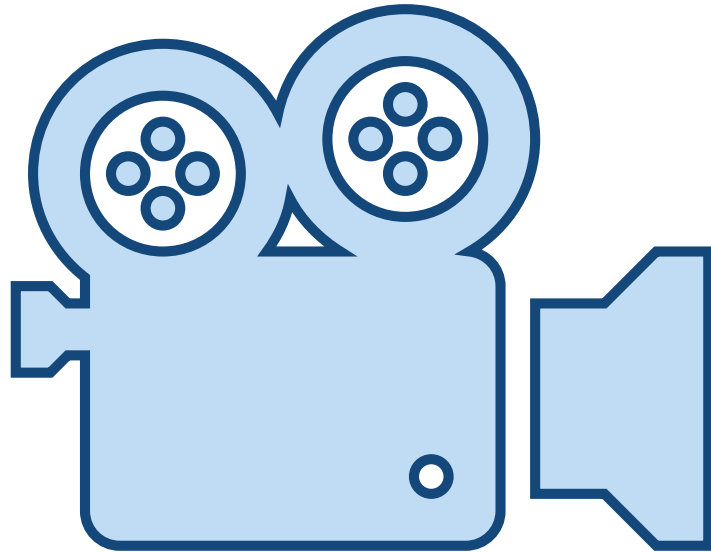
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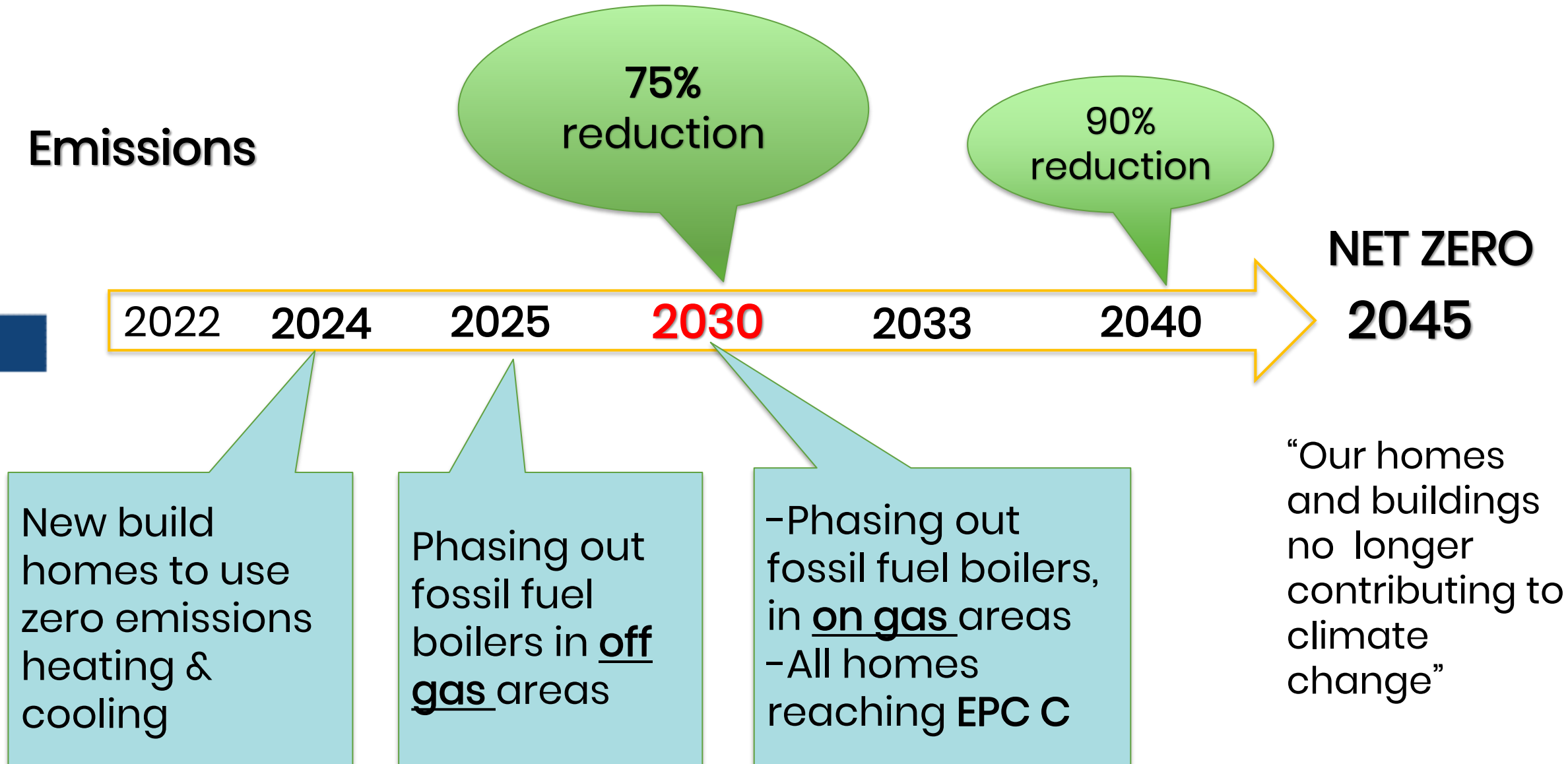
Installer Skills and certification for Heat Pumps

Pilar Rodriguez
Programme Manager,
Sustainable Energy Supply Chain
26 October 2022



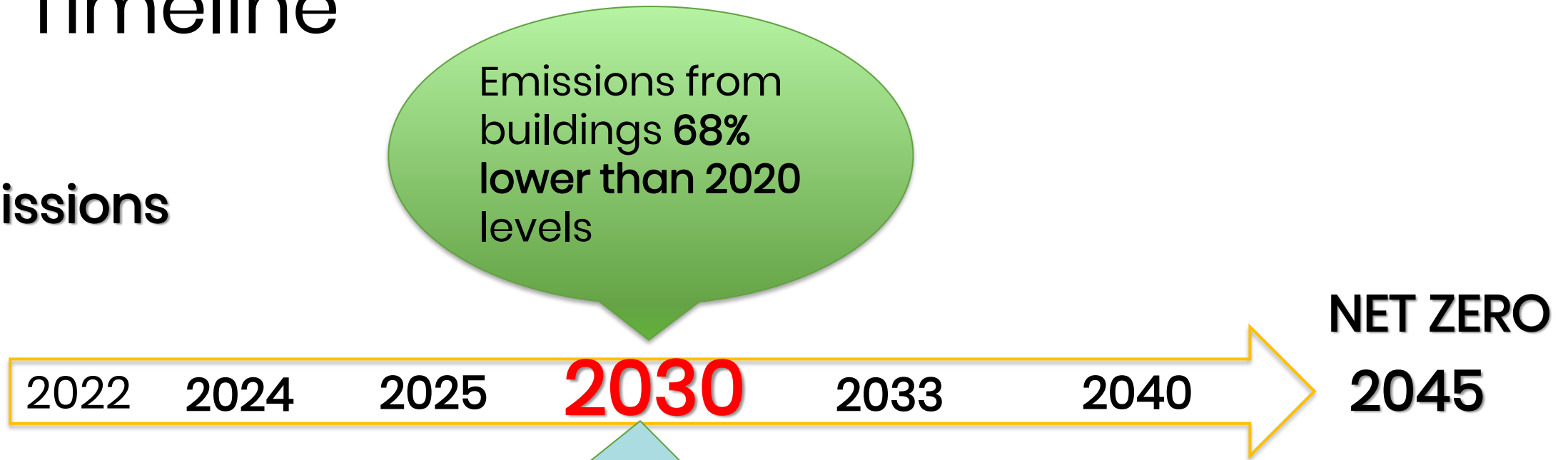
Timeline

Emissions



Timeline

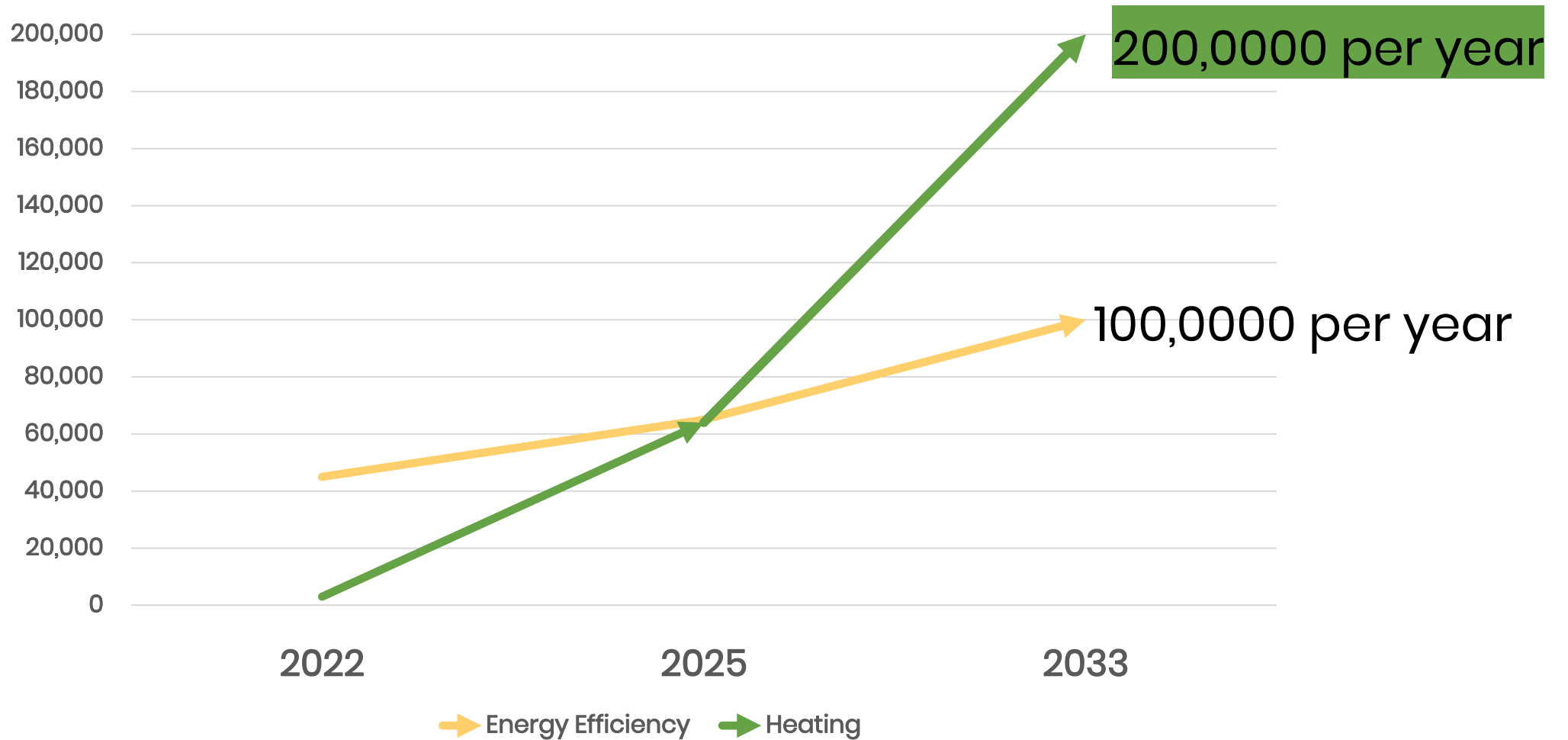
Emissions



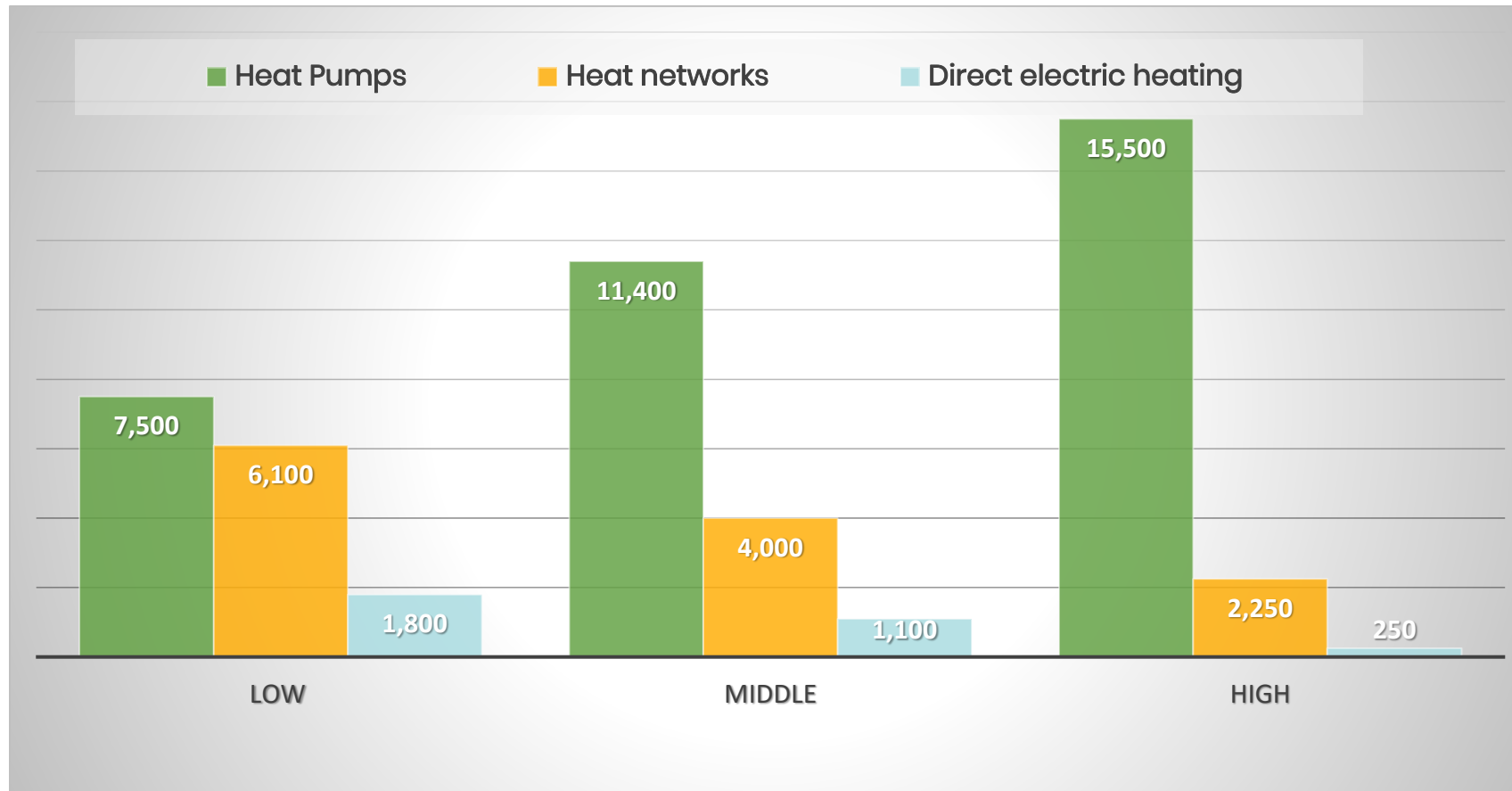
This requires zero emissions heating in:

- ✓ The vast majority of the 170,000 off gas homes
- ✓ At least 1 million on-gas homes
- ✓ 50,000 non-domestic buildings

Zero emissions heating installations



Heat pumps workforce requirements by 2030



www.climateexchange.org.uk/media/5361/cxc-clean-heat-and-energy-efficiency-workforce-assessment-april-2022.pdf

Funding for heat pumps

	Home Energy Scotland loan	SME loan
Cashback grant	75%	75%
Maximum cashback	£7,500	£10,000
Interest rate	0%	0%
Loan value	£10,000 (£2,500 loan + up to £7,500 cashback)	£100k with up to 8 years repayment

homeenergyscotland.org/find-funding-grants-and-loans/interest-free-loans
businessenergyscotland.org/smeloan

Funding for certification

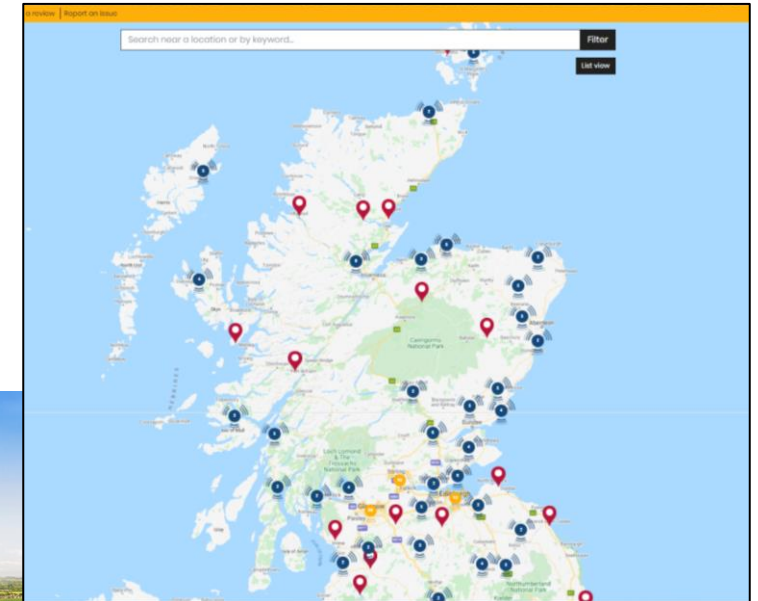


- **Scottish Government MCS certification fund for heat pumps :**
 - For heating engineers with an interest in installing heat pumps (either air, ground or water source)
 - The grant pays 75%, up to a maximum of £1,000, of the certification fees
 - Until the end of March 2023 or until funds run out.

energysavingtrust.org.uk/grants-and-loans/mcs-certification-fund

The Renewables Installer Finder

- Free to join for MCS installers operating in Scotland
- Customer reviews of installed systems
- More than 600 reviews last year
- Customers can search by name, location and technology
- Register using MCS email address and password
- Direct links to profile page



Installer registration

The Renewables Installer Finder is linked to data on the MCS Installer Database. To register on the Renewables Installer Finder you must use the same email address and password that you used to register with MCS. Once your account has been created you can add further details of your company and work. Some details, such as which technologies you are MCS accredited to install will be automatically populated.

By registering on the Renewables Installer Finder tool you are agreeing to our [data protection statement](#)

For further information about how we use your details please see our [privacy policy and cookie policy](#). Please note, the Energy Saving Trust may contact you in the future by email, post or telephone, to evaluate our service and monitor customer satisfaction.

If you have already registered, please [login](#) to update your profile.

MCS Email

MCS Password

[Forgotten password?](#)



rif.est.org.uk/Installer/Registration

Thanks for listening





energy saving trust

Scotland's college's
Supporting the
journey to "Net Zero"



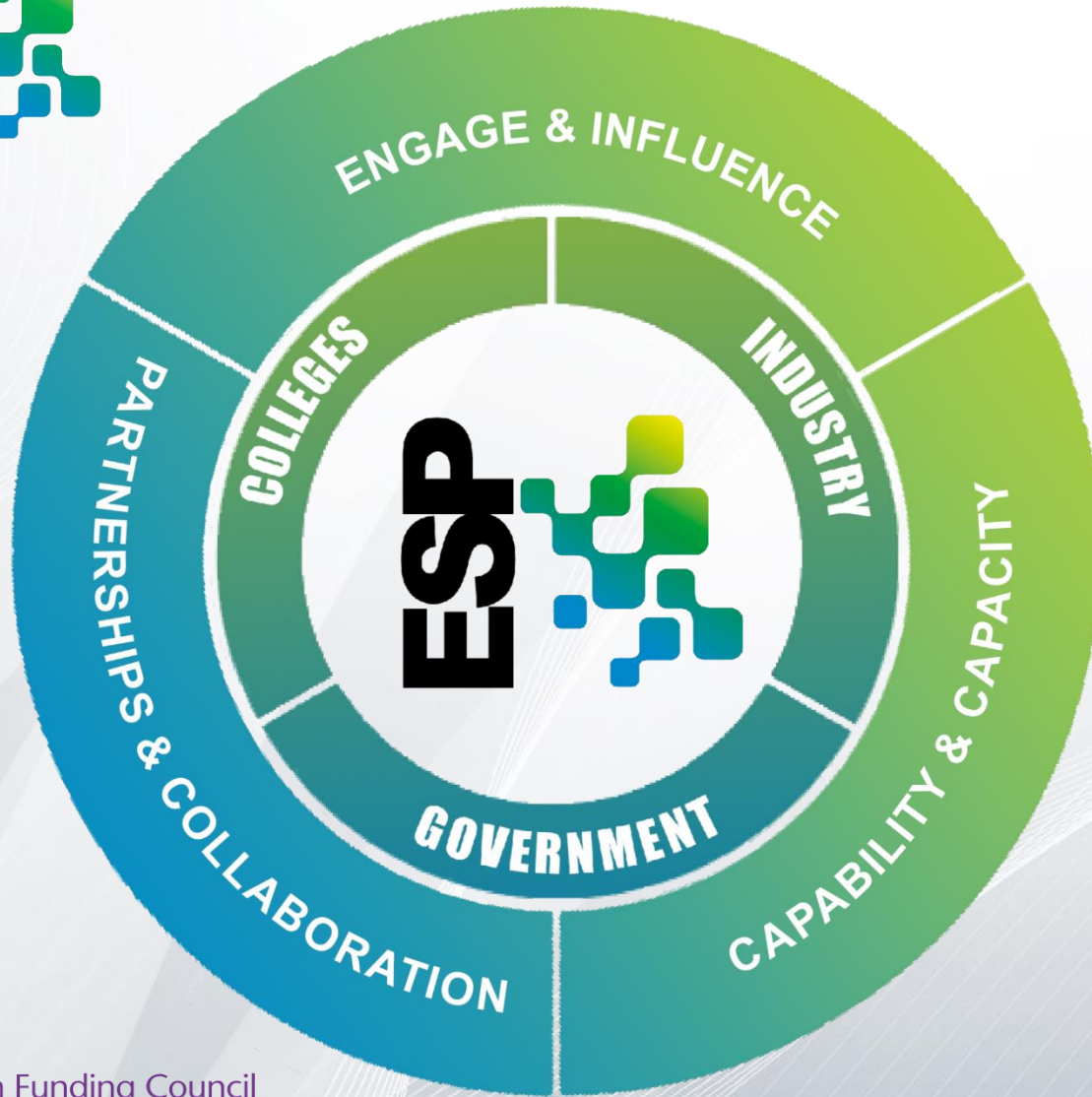
Scottish Funding Council

Promoting further and higher education

John Renwick
Sector Manager
Construction
ESP



Scotland's colleges – delivering skills for the energy, engineering and construction sectors



About us

WHO ARE WE ?

ESP is the college sector agency in Scotland for the energy, engineering and construction sectors. Whilst also being the college sector lead for STEM and the college sector agency leading on the Climate Emergency Skills Action Plan.

OUR VISION

A college sector working in partnership with Government, agencies and industry to meet national and regional skills needs, maximising investment and job opportunities aligned with emerging technologies, the **Climate Emergency** and the **Just Transition to Net Zero**.



Scottish Funding Council
Promoting further and higher education

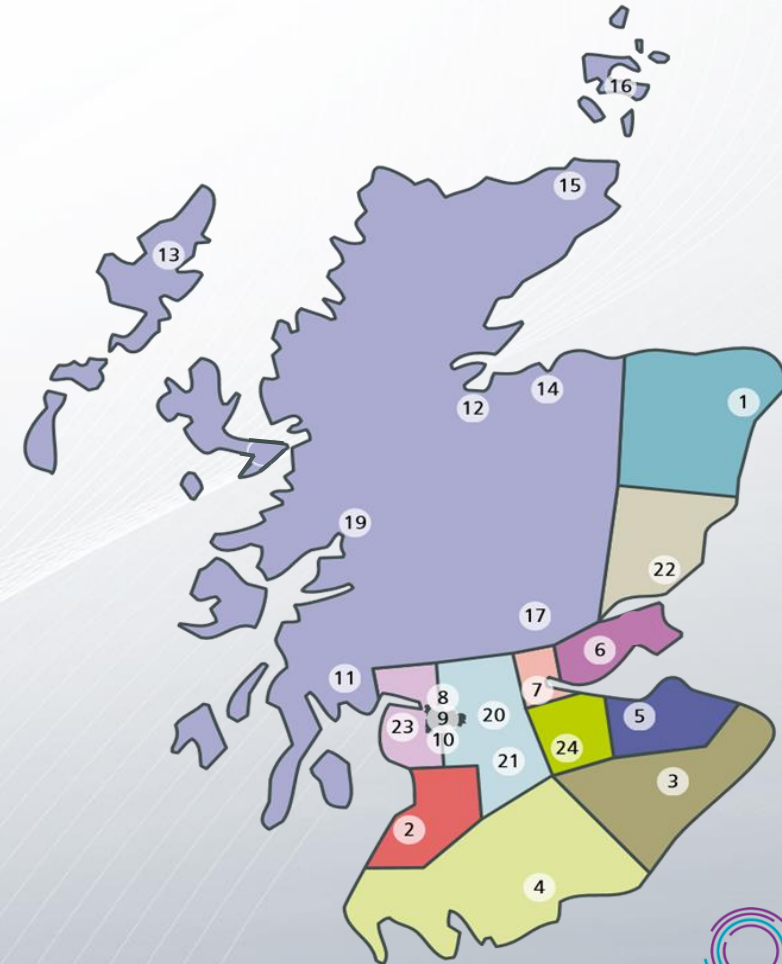
Scotland's colleges – delivering skills for the energy, engineering and construction sectors



Scotland's Regional Colleges



Aberdeen & Aberdeenshire	1- NESCol (Inc. Fraserburgh)
Ayrshire	2- Ayrshire College
Borders	3- Borders College
Dumfries & Galloway	4- Dumfries & Galloway College
Edinburgh & Lothians	5- Edinburgh College
Fife	6- Fife College
Forth Valley	7- Forth Valley College
Glasgow	8- City Of Glasgow College
	9- Glasgow Clyde College
	10- Glasgow Kelvin College
Highlands & Islands	11- UHI Argyll
	12- UHI Inverness
	13- UHI Outer Hebrides
	14- UHI Moray
	15- UHI North Highland
	16- UHI Orkney
	17- UHI Perth
	18- UHI Shetland
	19- UHI West Highland
Lanarkshire	20- New College Lanarkshire
	21- South Lanarkshire College
Tayside	22- Dundee & Angus College
West	23- West College Scotland
West Lothian	24- West Lothian College





Scotland's Colleges

Energy Efficiency & Low Carbon Heat Training Facilities

















Scottish Funding Council
Promoting further and higher education

✓	Under Development	West Lothian College	West College Scotland	Dundee & Angus College	South Lanarkshire College	New College Lanarkshire	Perth College UHI	Moray College UHI	Lewis Castle College UHI	Glasgow Kelvin College	Glasgow Clyde College	Forth Valley College	Edinburgh College	Dumfries & Galloway College	Borders College	Ayrshire College	NESCOL
	Updated: 4 th Oct 2022																
	Level 3 Award in Energy Efficiency Measures for Older and Traditional Buildings	✓															
	Air Tightness	✓			✓								✓		✓		
	Thermal Imaging	✓										✓	✓				
	SMART Control systems										✓	✓	✓				
	Internal Wall Insulation												✓				
	External Wall Insulation												✓				
	Battery Storage											✓	✓				
	Ground Source Heat Pumps	✓								✓	✓	✓	✓	✓	✓	✓	
	Air Source Heat Pumps	✓						✓		✓	✓	✓	✓	✓	✓	✓	
	Solar Thermal	✓								✓	✓	✓	✓	✓	✓	✓	
	Solar Photovoltaic											✓	✓				
	Rainwater Harvesting											✓	✓				
	Mechanical Ventilation Heat Recovery												✓				
	Grey Water System											✓					
	Electric Boiler											✓					
	Electric Vehicle Charging										✓			✓	✓	✓	
	Solid Biomass													✓			
	Smart Metering												✓				

Scotland's colleges – delivering skills for the energy, engineering and construction sectors

AS GS Heat pumps

Individual styles

-  Ayrshire College
-  Borders College
-  Dumfries and Galloway Colle...
-  Dundee and Angus College
-  Edinburgh College
-  Fife College
-  Forth Valley College
-  Glasgow Kelvin College
-  NESCol
-  South Lanarkshire College
-  West College Scotland
-  Moray College UHI
-  Perth College UHI
-  Glasgow Clyde College - Anni...



**AS/GS HP Training
Facilities 2022 (14)**

**250% Increase
from 2019**



Mobile Heat Pump Training & Assessment Microgeneration Centre

Partners



Purpose

Develop a mobile assessment and accreditation centre that will be used to upskill the supply chain in Air/Ground Source Heat Pump technologies accessible to all colleges in Scotland.

- Industry up-skilling/re-skilling AS/GS HP
- Public and private awareness
- Community projects
- Schools / STEM projects
- Industry events
- Supply chain merchants

DIMENSIONS
L 5.6M H 2.3M W 2.1M

KG | **MAX PAYLOAD UP TO 1250KG** | **MAX VOLUME UP TO 28M³** | **GVW 3500KG**

Internal Cargo Dimensions		Exterior Dimensions			
A	Load Length	5620mm	K	Wheel Arch Width	310mm
B	Load Height	2300mm	L	Total Length	8200mm
C	Load Width	2100mm	M	Total Height	2865mm
D	Height through rear doors	2105mm	N	Total Width Excluding Mirrors	2140mm
E	Width through rear doors	1935mm	O	Total Width Including Mirrors	2490mm
F	Between Wheel Arches	1495mm	P	Loading Height [Std Susp]	550mm
G	Bulk Head to Wheel Arches	2700mm	Q	Ground Clearance	320mm
H	Wheel Arch to Rear Frame	2010mm	R	Wheel Base	4700mm
I	Wheel Arch Height	300mm	S	Rear Overhang	2070mm
J	Wheel Arch Length	865mm			

COMPETENCE

The Scottish Installers Skills Matrix

ABILITY

SKILLS

For installers working in the energy efficiency and low and zero carbon technologies sector

ADVANCED TRAINING

GROWTH

February 2022: The installer skills matrix has now been incorporated into the updated BSI PAS 2030 (2019) standards (referred to as A1 – amendment 1). Specifically the matrix is mentioned in chapter 3 ‘terms and definitions’ Link to skills matrix is here - [Scottish Installer Skills Matrix \(esp-scotland.ac.uk\)](https://www.esp-scotland.ac.uk)

- The skill requirements listed in the installer matrix also forms a key part of the Scottish Government’s broader [Climate Emergency Skills Action Plan \(CESAP\)](#) which was published alongside the Climate Change Plan update in December 2020.
- Creating the skills matrix is just the beginning and the stakeholders involved with its development will continue to review this. Consequently the skills matrix may evolve over time
- For small-scale renewables, the Microgeneration Certification Scheme (MCS) welcomes the installers skills matrix. The scheme plans to link to the matrix to help installers understand the training and qualifications they need to demonstrate their competency. MCS are engaging with the sector’s skills bodies to map core competencies.



Scottish Government
Riaghaltas na h-Alba
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ENERGY &
UTILITY SKILLS



Skills
Development
Scotland



SNIPEF
Plumbing and heating association



WARMWORKS
Scotland



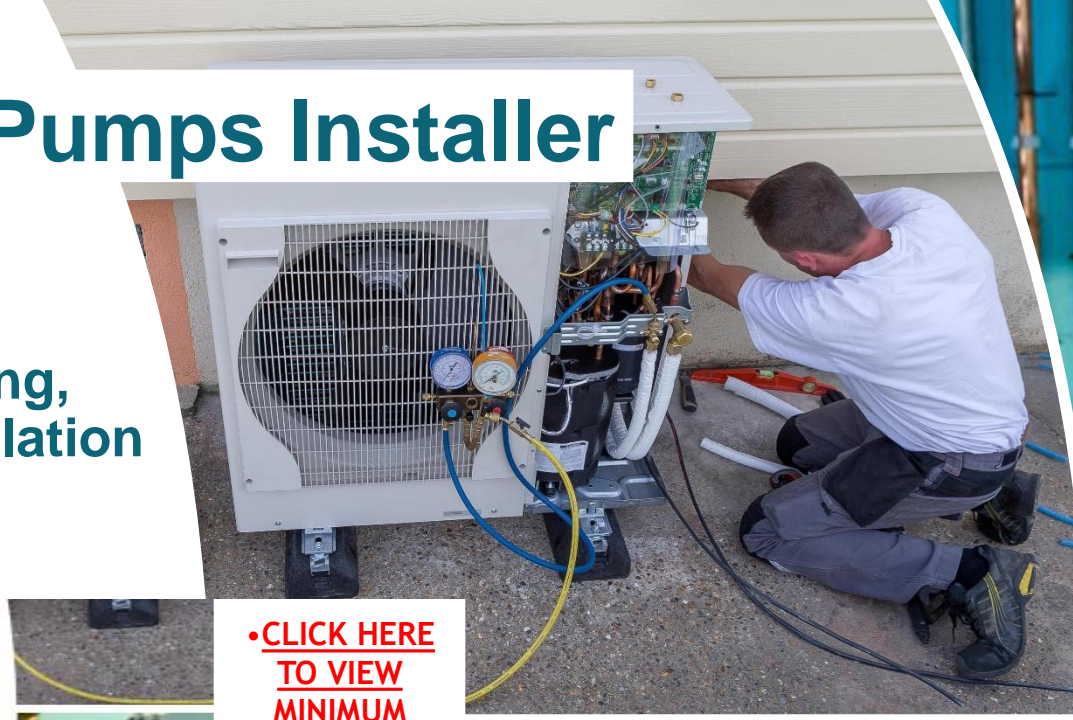
Any comments or suggestions in relation to the skills matrix please email skillsmatrix@esp-scotland.ac.uk



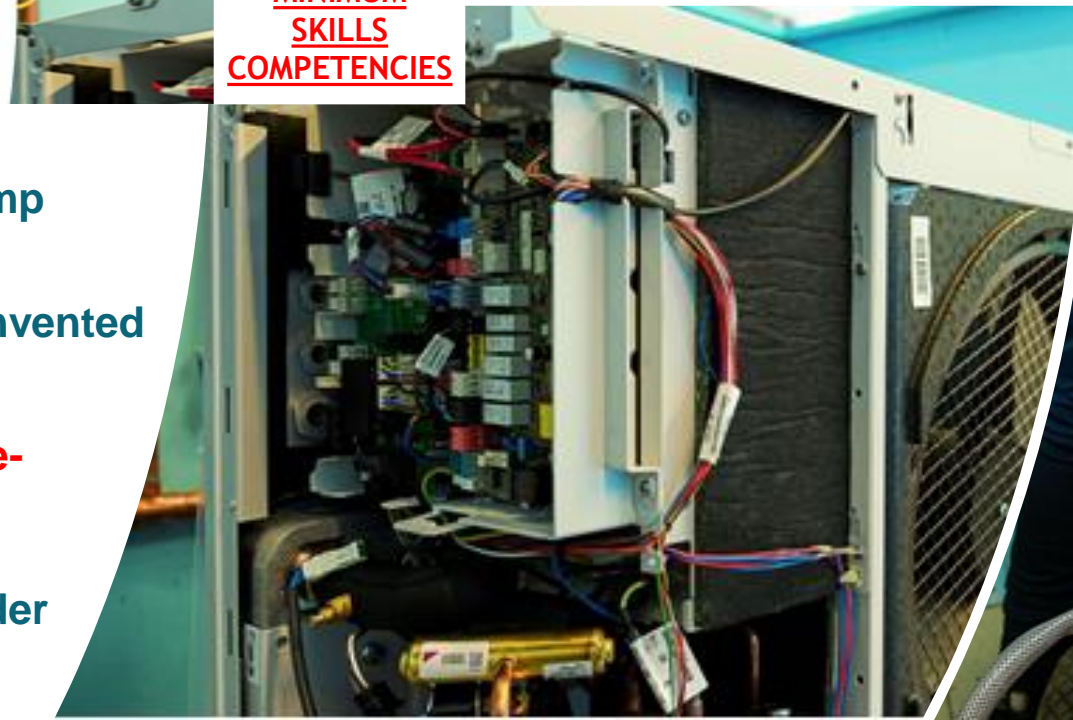
Heat Pumps Installer

Accredited

**SVQ - Plumber, Heating,
Refrigeration or Ventilation
Engineer**



[•CLICK HERE
TO VIEW
MINIMUM
SKILLS
COMPETENCIES](#)



Bolt-On

- NOS Mapped – Heat Pump
- Water Byelaws/Regs
- Domestic Vented and Unvented Hot Water Storage

AND (only if working on pre-1919 buildings)

**Level 3 Award in Energy
Efficiency Measures for Older
and Traditional Buildings**



**energy
saving
trust**

Develop a 3/5 year skills need analysis using the [installers skills matrix](#)

Engage with your regional college's Business Development Advisor (BDA)

1. Develop a workforce planning model
 - a. Upskilling
 - b. New Entrants
2. Identify funding streams

Undertake training and assessment

Competent and qualified installer

“Net Zero Delivery”

Apprenticeships

- Pre-apprenticeship programmes
- Work Placement
- Site Visits
- Guest Lecturers

“Supply Chain”

Transitioning at Pace

Low carbon heat or energy efficiency sector.



Supply Chain Skills Need Analysis (Example)

TRADE QUALIFICATIONS			Renewal	Joe Bloggs 1	Joe Bloggs 2	Joe Bloggs 3
Plumber	SVQ 3 Plumbing And Heating at SCQF Level 7		N/A	01/06/2004		
Heat Pumps Installer	Must hold one of the following trade qualifications	SVQ 3 Plumbing And Heating at SCQF Level 7	N/A	01/06/2004		
		SVQ 3/SCQF 6 Install, Commission And Maintain Refrigeration Systems	N/A		01/06/2014	
		SVQ 3/SCQF 6 Install, Commission And Maintain Air Conditioning Systems	N/A			
		SVQ3/SCQF 7 Service, Maintain and Commission Building Engineering Services	N/A			01/06/2020
		SVQ3/SCQF 6 Heating and Ventilating: Industrial and Commercial Installation	N/A			
	Must complete	NOS Mapped - Heat Pump Systems	5 years	01/08/2022	01/08/2024	01/08/2025
		Water Byelaws/Regs	10 years	01/08/2022	01/08/2029	01/08/2030
Domestic Vented And Unvented Hot Water Storage		10 years	01/08/2022	01/08/2029	02/08/2030	
ONLY if working on pre-1919 buildings	Level 3 Award in Energy Efficiency Measures for Older And Traditional Buildings	N/A				
Electricity for Plumbers			5 years	01/08/2006		
SUPERVISORS QUALIFICATIONS						
SVQ Construction Site Supervision (Construction): Retrofit SCQF level 7						01/06/2022
IOSH Working Safely					01/06/2014	
IOSH Managing Safely						
First Aid Risk Assessment - Principles and Practice: 1						01/06/2022
First Aid at Work:					01/06/2018	
Emergency First Aid at Work					01/06/2018	
First Aid at Work Re qualification Course						
SITE SAFETY QUALIFICATIONS						
CPCS (A14) - Rough Terrain Forklift - Training & Testing						
CPCS (A17) Training - Telescopic Handler Courses & Testing						
Site Safety Plus - Health and Safety Awareness				01/11/2015		01/06/2022
CSCS Test and Card Application				01/09/2015		01/06/2022
CITB (SMSTS) - Site Management Safety Training Scheme Courses						
IPAF Powered Access Operator Training (1 Category - 3A & 3B)						
MISCELLANEOUS QUALIFICATIONS						
Heat Pump Non- Installer	Limited Scope Heat pump Systems		N/A			

Key	
	Qualified
	Qualified requires renewal
	Training required

Company

Lead

Date

Upskilling Plumbing Apprentices in Heat Pump Technologies



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- Skills needed to transition Scotland to meet Net Zero targets by 2045

- **Preparing our future workforce**

- In partnership with Energy Savings Trust & Scottish Government

- August - March 2023

the bpec Certified
charity
re-investing in our industry

- Air Source & Ground Source Heat Pumps
- Scottish Water Bylaws
- Unvented Hot Water



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saving
trust**



Scottish Government
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- Social Housing
- Regional Councils
- Government Agencies
 - New Build
- Industry Supply Chain
 - Businesses
- Innovation Centers
- Supply Chain Merchants
 - Manufactures
 - Awarding Bodies
 - Trade Associations



2022

2045



Transition to Net-Zero

Scotland's colleges – delivering skills for the energy, engineering and construction sectors



John Renwick
Sector Manager –
Construction



Juliet Mallace
BArch(Hons), DipArch BA
Programme Manager-
Construction





Heat Pumps

Iain Boyle



People-centred



Pioneering



Principled



Passionate

Heat Pumps?

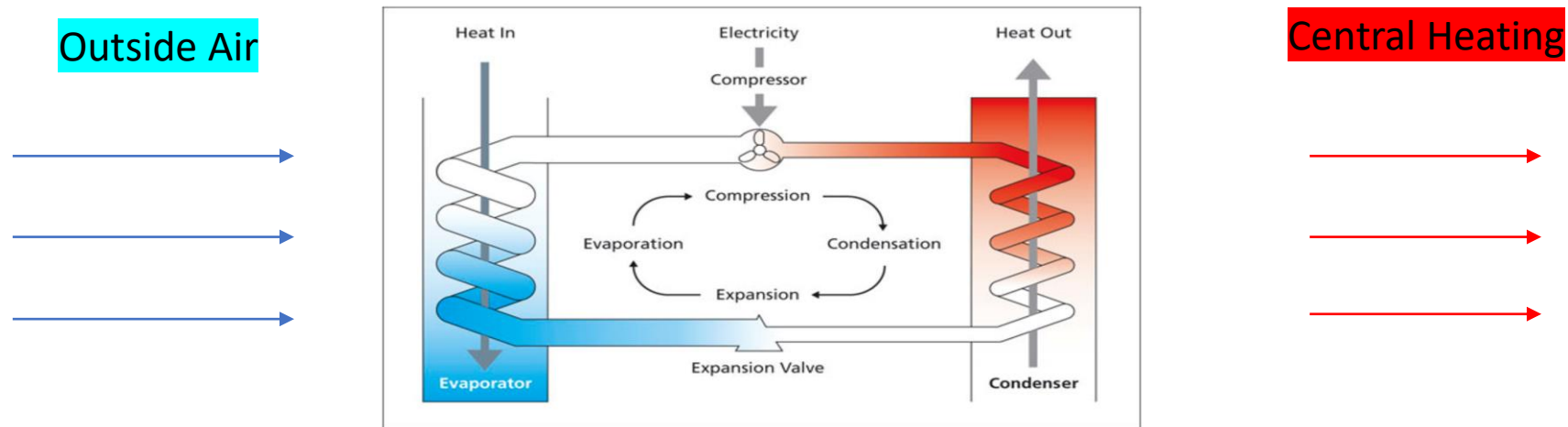
Introduction to Heat Pumps

- Heat pumps are a way of heating your home and providing hot water. They use environmentally friendly, money-saving energy sources rather than finite fossil fuels like gas and coal.
- Heat pumps use electricity, so you will still have energy bills. But their energy efficiency compared to the older, less efficient heating systems they replace should further reduce energy bills.



How do they work?

- Simply put, a heat pump is a device that transfers thermal energy from one point to another.
- Transferred either from the air or the ground
- The “Magic” comes from the use of refrigerant



Benefits

- Low running costs
- Low maintenance
- Better safety
- Reduces carbon emissions
- Long life span
- Quiet
- Superior efficiencies



What's next for me?

Upskill you and employees to become competent installers of Heat Pumps, which will both benefit you and contribute in our journey towards Net Zero



Pre-Requisites

Pre-Requisite from Bpec below

CANDIDATE DECLARATION

To be accepted for assessment, the candidate must be able to tick the boxes below:

ALL CANDIDATES MUST BE ABLE TO TICK THIS BOX (unless Defined Scope)

I declare that I hold Water Regulations qualification (please supply copy of certificates)	
--	--

HEAT PUMP INSTALLER TRAINING (Please tick appropriate box)

I declare that I hold or am working towards a formal craft qualification e.g. N/SVQ 3 in one of the following (please supply copies of certificates): **(do not tick if defined scope)**

- | | |
|---|--|
| • N/SVQ Level 2/3 in Plumbing or equivalent earlier certification; or | |
| • N/SVQ Level 2/3 in Heating and Ventilating (Domestic Installation) or equivalent earlier certification; or | |
| • N/SVQ Level 2/3 in Heating and Ventilating (Industrial and Commercial Installation) or equivalent earlier certification; or | |
| • N/SVQ Level 2/3 in Oil-Fired Technical Services or equivalent earlier certification; or | |
| • N/SVQ Level 2/3 in Gas Installation and Maintenance or equivalent earlier certification; or | |
| • A Heating Installer with minimum of 3 years' experience installing wet central heating systems (evidenced either by manufactures courses certification or Gas safe Register, OFTEC, MCS, or HETAS registration) | |



Funding Available for Me

Flexible Work Force Development

- Each levy-paying employer can access up to a maximum of £15,000 in 2022/23 with SMEs eligible for up to £5,000.

Gary McDaniel, 0141-272-3335

GMcDaniel@glasgowclyde.ac.uk



How do I Apply?

Lets see how easy it is to apply or even make enquiries for upskilling to Heat Pumps

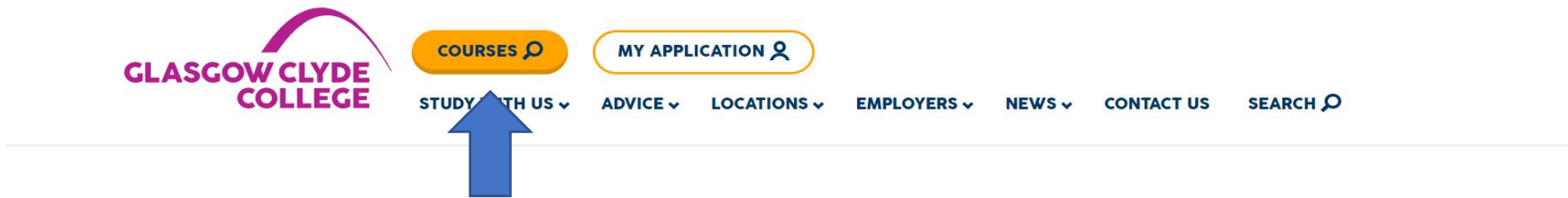




How do I Apply?

Simply visit - <https://www.glasgowclyde.ac.uk/>

Apply now for courses starting in January →



How do I Apply?

Apply now for courses starting in January →

COURSES 🔍

MY APPLICATION 👤

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Courses

Heat Pumps

×



<https://www.glasgowclyde.ac.uk/fulltime>



People-centred



Pioneering



Principled



Passionate

How do I Apply?

Filter Courses 

Found 1 course [Show all](#)

BPEC Installation and Maintenance Heat Pump Systems



START DATE

Various start dates



CAMPUS

Cardonald



COURSE TYPE

Part-Time



People-centred



Pioneering



Principled



Passionate

How do I Apply?



LOCATION

Cardonald Campus



START DATE & TIME

Various start dates

£600.00



QUALIFICATION TYPE

**Other non-advanced
qual**



COURSE TYPE

Part-Time



DURATION

4 days

ENQUIRE NOW

NEXT COURSE: Monday 21 November 2022 to Friday 25 November 2022



People-centred



Pioneering



Principled



Passionate




How do I Apply?

is oversubscribed at your first choice you will be automatically considered for alternative sites and may be made an offer without a further application.

More questions? Contact us about this course

commercialcourse@glasgowclyde.ac.uk 

0141-272-3362 

[ENQUIRE NOW](#)

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Laura McDiarmid
Imacdiarmid@glasgowclyde.ac.uk



Thank You



Questions.



Panellists:

Pilar Rodriguez	Programme Manager, Sustainable Energy Supply Chain, Energy Saving Trust
John Renwick	Sector Manager, Construction, ESP
Iain Boyle	Curriculum Manager, Glasgow Clyde College



Thank you for attending

- **Website:**
<https://energysavingtrust.org.uk/business/energy-efficiency/support-for-supply-chain/>
- **Email updates and quarterly newsletter subscription:**
bit.ly/2PSatKL
- **LinkedIn Group:**
[linkedin.com/groups/5139242](https://www.linkedin.com/groups/5139242)
- **Email:**
supplychainscotland@est.org.uk

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after the webinar has finished

