SESSION 3: SUPPORTING A GREEN ECONOMY

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@MidsNetZeroHub **Midlands Net Zero Hub**

GRIFF THOMAS

GTEC

Preparing to Reach Net Zero

Skills Training Competition (2020 – 2021)

Griff Thomas MIET

www.gtec.co.uk

GTEC Training

Who we are?

GTEC Training Ltd are the leading UK training and consultancy business for regulatory framework compliance and renewable technology training. With over 20 years of experience, we have become the “go to” company for major projects across the UK.

- ✓ **Always “lived what we teach” at our offices and home**
- ✓ **Engineering based, so everything is possible**
- ✓ **Firmly embedded within the renewables sector but remaining independent**
- ✓ **A team that is lean and adaptive to new challenges**
- ✓ **Problem solving and new initiatives are a specialty**

GTEC Training

Who we are?

- ✓ **Established in 2006 to deliver Electrical and Solar Thermal Training (white label delivery)**
- ✓ **Focusing on value added and 3rd party delivery across the UK and beyond**
- ✓ **Electrical systems for sustainable developments (rebuilding) Kandahar & Kabul**
- ✓ **United Nations Solar PV systems for mini-grid environments for field-based operations**
- ✓ **Involved in all major framework schemes since clear skies**
- ✓ **RHITSS (1) scheme in 2013**

GTEC Training

Who we are?

- ✓ **Auditing of >1,000 sites per year for MCS compliance (2011-2014)**
- ✓ **NISEP compliance audits for 2 years running (~500 sites per year)**
- ✓ **400+ MCS audits 2019 showing 50-70% non-compliance**
- ✓ **RHITSS (2) £1M BEIS project delivering >1,000 training places and supporting 150 certifications**
- ✓ **Electrification of Heat (EoH) project – over 200 site visits and 60 desktop reviews (data to be released soon)**

GTEC Training

Who we are?

- ✓ **2011 we built “Amy” to take around the country to educate installers about renewables**

GTEC Training

Who we are?

- ✓ **2011 we built “Amy” to take around the country to educate installers about renewables**

GTEC Training

Net Zero - Low Carbon Heat Training Challenges

Target to install 600,000 HP's PA by 2028.

Where are we now

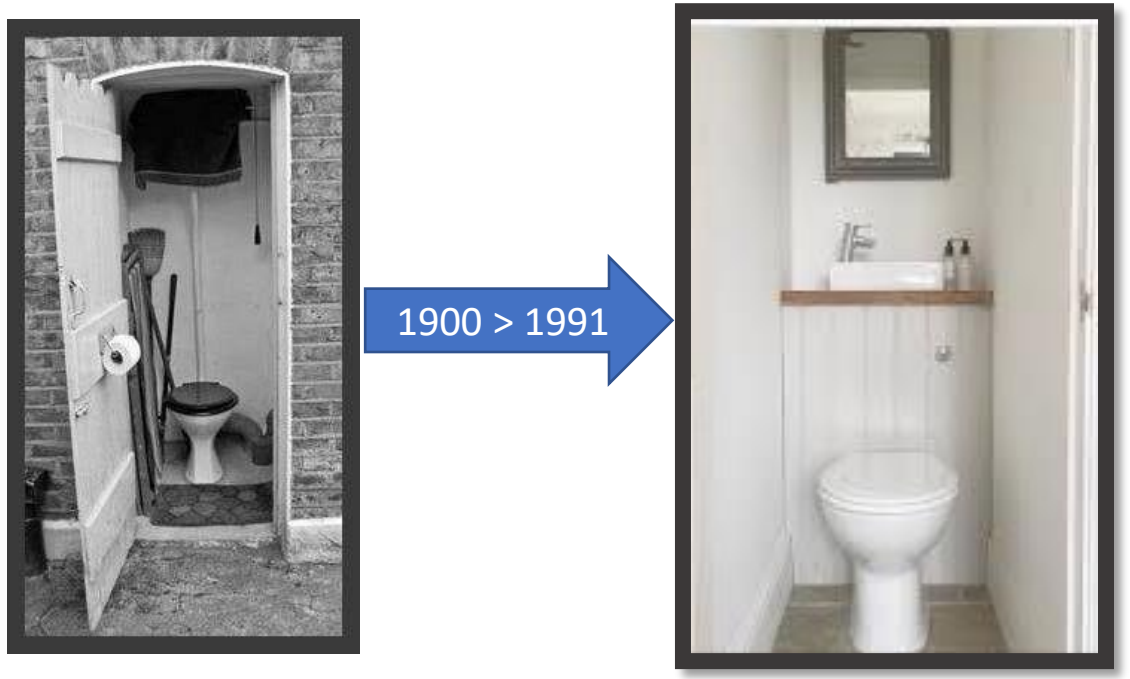
Where do we need to be ?

Heat Pumps 2028

"a target to install 600,000 heat pumps every year by 2028"

Rapid Transition – What have we learnt from history?

- ✓ **Rapid Transition plans are nothing new.**
- ✓ **The scale has been matched in numbers but the timeframe is ambitious!**
- ✓ **In 1967 25% of properties had no inside WC or bathroom**



Heat Pumps 2028

"a target to install 600,000 heat pumps every year by 2028"

Rapid Transition – "Why should we" to "Why wouldn't we ?"

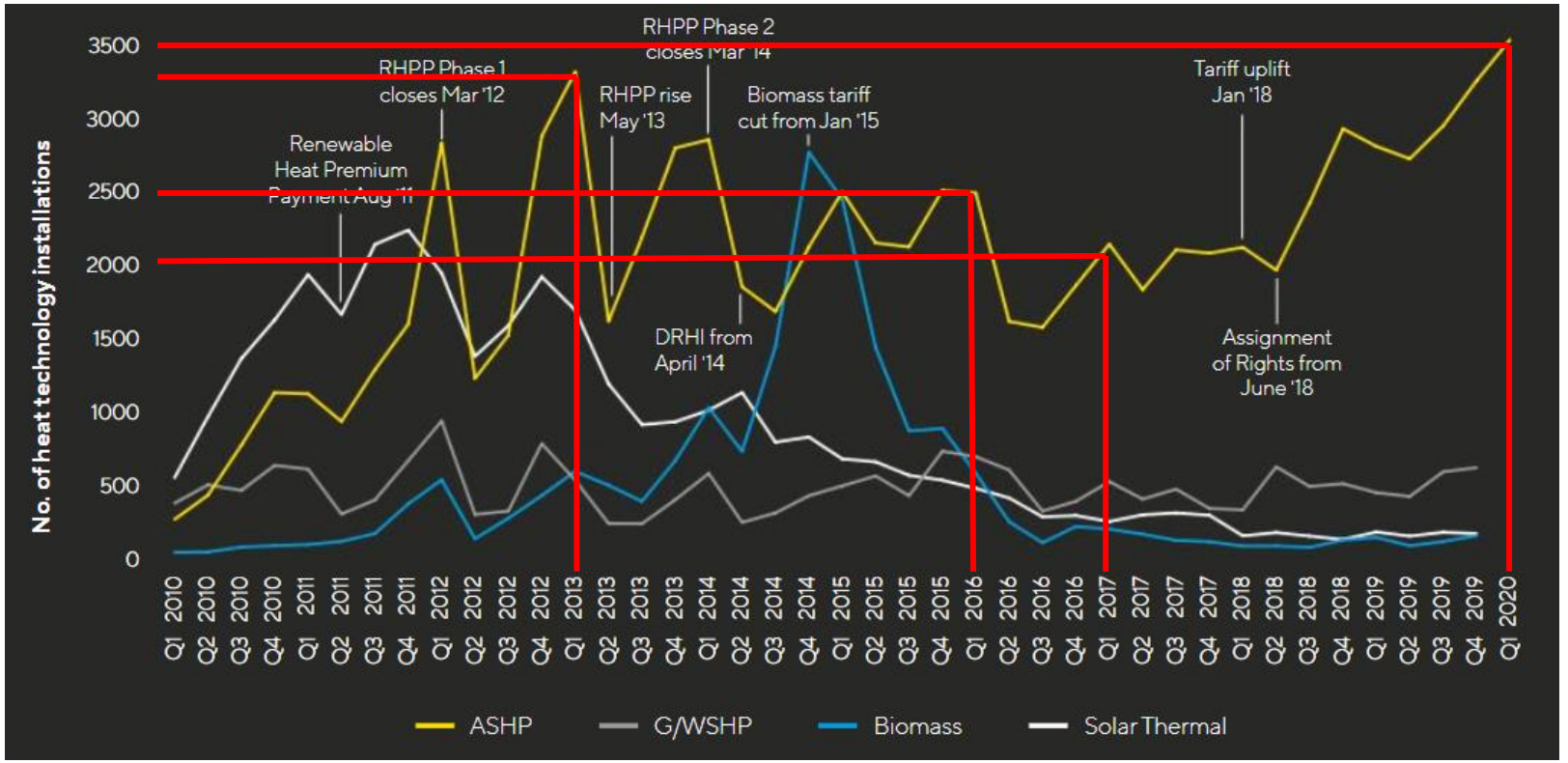
"Why wouldn't we have an inside loo"

Why wouldn't we install a heat pump ?

Transition to LED lighting……

Heat Pumps 2028

History of renewable technology deployment



Heat Pumps 2028

Long term irrevocable plan and legislation required

- ✓ **Manufacturers plan in 5-10 year cycles**
- ✓ **Many invested heavily in product in 2010 through to 2014 and then exited market**
- ✓ **Need long term certainty to invest**

- ✓ **Installers spent thousands on training and certification in 2010 to 2015 (~5,000 companies now ~2,000)**
- ✓ **Need long term certainty to invest**

- ✓ **Training providers plan in 3 to 5 year cycles**
- ✓ **Many invested heavily in 2012 to 2015 and have now reverted to space to gas and oil**
- ✓ **Need long term certainty to invest**

Heat Pumps 2028

Learning from past programmes and corralling industry

- ✓ **Industry has to be consulted but firm lines have to be taken**
- ✓ **IF long term plans can be built and guaranteed then the sector will adapt and meet any challenges set**
- ✓ **Many want to deliver but are nervous about investment**

- ✓ **10-15 year plan minimum for any framework that is built**
- ✓ **Move low carbon technologies to mainstream under the Building regulations**
- ✓ **Ensure mandatory requirements are accessible**

“Build it and they will come”

Heat Pumps 2028

Installer Challenges

- **Training – is it reflected in the quality of installation ?**

- **Current quality of installation work is poor with an average of 50%-80% non-conformances across all sites we visit.**

- **Unless this improves the sector will be unable to demonstrate quality installations and efficient cost effective to run systems.**

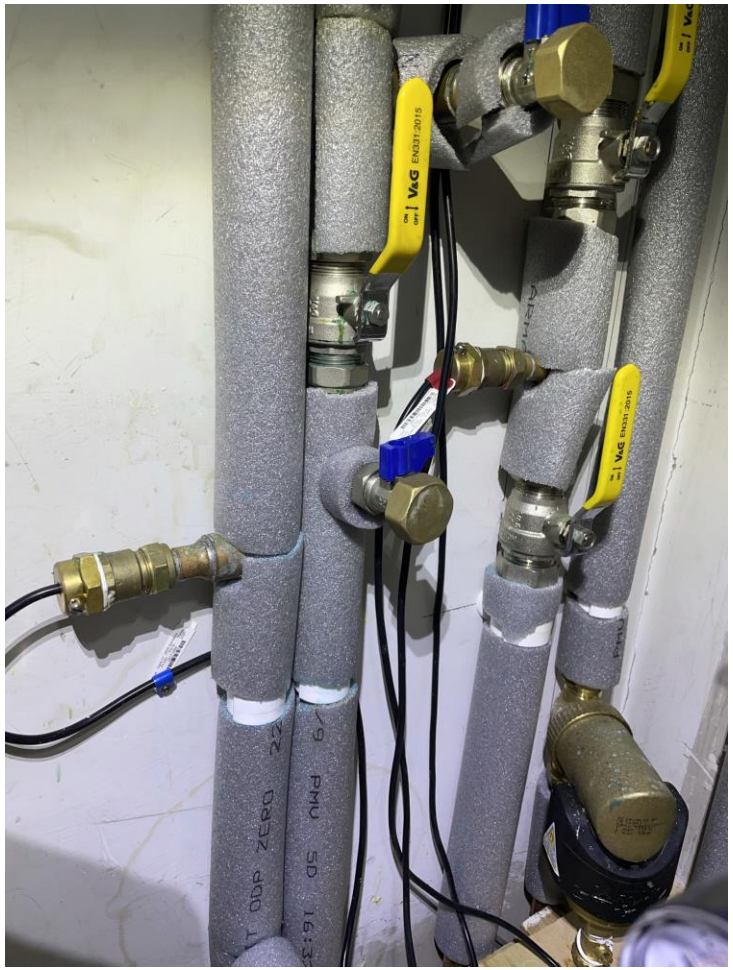
- **Zero tolerance accessible scheme required with pro-active and digitally based enforcement (mainstream & AI)**

Heat Pumps 2028

Installer Challenges

Heat Pumps 2028

Installer Challenges



Heat Pumps 2028

Installer Challenges

Heat Pumps 2028

Installer Challenges

- **HPA and NESTA reports (and all other industry reviews…….)**

Identify skills shortages as a major issue:

- **Currently ~3,000 trained installers in the UK across 1,300 companies**
- **27,000 needed by 2028 at current HP / installer deployment rate**
- **37,000 needed by 2030 at current HP / installer deployment rate**
- **62,000 needed by 2035 at current HP / installer deployment rate**

>>> 4,000 per year to be trained every year (flatline approach) <<<

Heat Pumps 2028

Installer Challenges

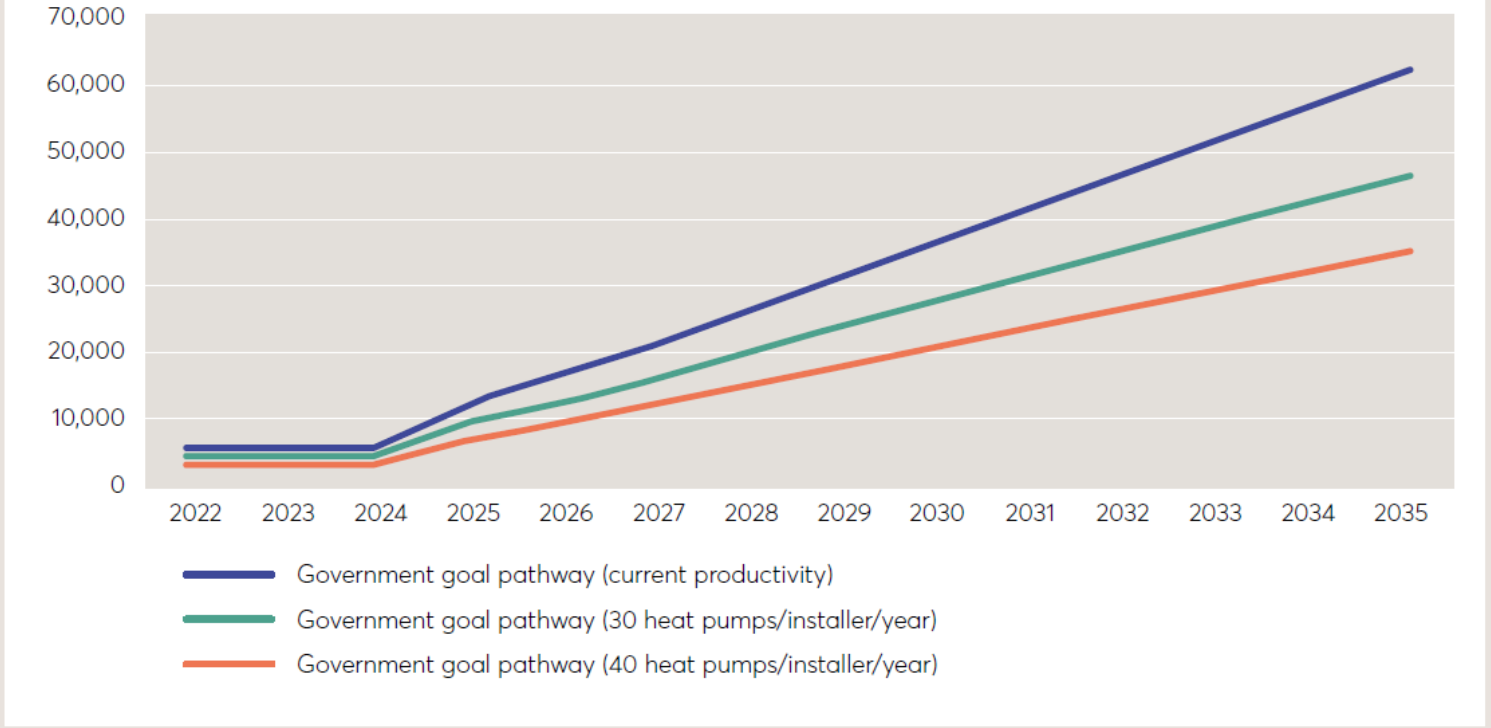


Figure 8. Total heat pump engineers needed

*Image courtesy of NESTA

Heat Pumps 2028

BEIS Skills Training Competition Managed by Midlands Energy Hub

- Challenges – “what do I need to install a heat pump” – no easy answer.
- Delivered in 2014 for dRHI readiness RHITSS
- GTEC led a bid into the 2020-2021 competition
- Renewable Heat Installer Training and Support Scheme V2 (RHITSS) 2021-2020
- Secured ~£1M of funding for installers
- Partnered with other training providers and certification bodies

Heat Pumps 2028

BEIS Skills Training Competition Managed by Midlands Energy Hub

- **Training capacity**

- **53 registered providers - only ~10 that are “turnkey ready”**

- **Training and assessment varied widely**

Heat Pumps 2028

BEIS Skills Training Competition Managed by Midlands Energy Hub

Everything a funding stream should be ……..

- ✓ **Uncomplicated**
- ✓ **Straightforward reporting**
- ✓ **Expand centre coverage easily**
- ✓ **Easy for installers to access**

Heat Pumps 2028

BEIS Skills Training Competition Managed by Midlands Energy Hub

Everything a funding stream should be ……..

- ✓ **Website and portal established as a central point**
- ✓ **Candidates accessed centralised resource (data)**
- ✓ **Created a voucher**
- ✓ **Vouchers redeemed at their chosen centre (had to be registered on RHITSS)**
- ✓ **Standing start in November 2020**

Heat Pumps 2028

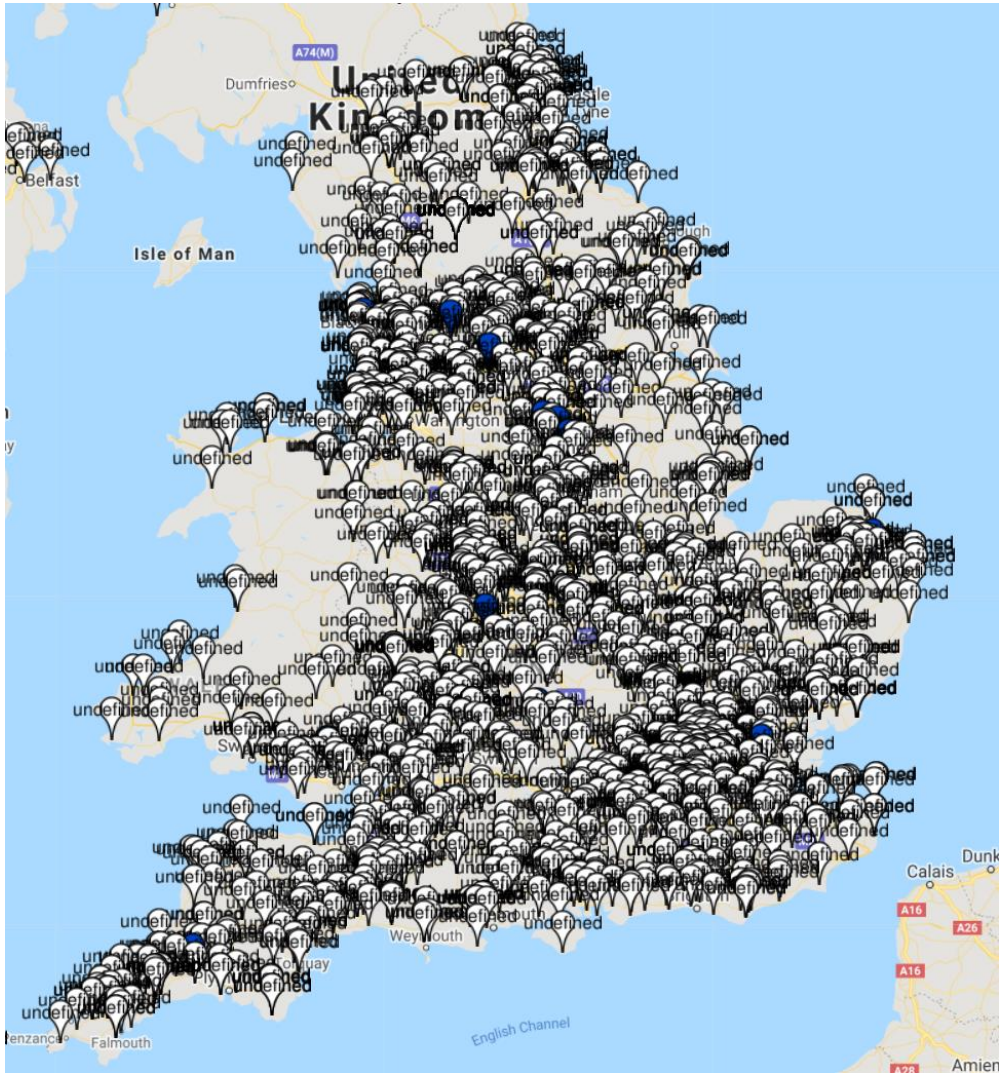
BEIS Skills Training Competition Managed by Midlands Energy Hub

- ✓ 1,600 vouchers issued
- ✓ ~1000 redeemed (relatively high dropout reduced latterly by shorter validity)
- ✓ Vouchers redeemed at their chosen centre (had to be registered on RHITSS)
- ✓ Delivered >1,000 training places in 34 weeks with only 8 delivery sites (6 training providers)
- ✓ Provided really useful data
  - ✓ Profiling of candidates
  - ✓ Course types selected
  - ✓ Demand mapping
  - ✓ Future planning

Heat Pumps 2028

Skills Training Competition

- ✓ **Demand Density Map**
- ✓ **Delivery Site Map**
- ✓ **Plot future demand**
- ✓ **Centralised**



Heat Pumps 2028

BEIS Skills Training Competition Managed by Midlands Energy Hub

- **Training capacity**

- **Other training providers are now slowly ramping up, as are manufacturers**

- **Training and assessment vary widely (still)**

- **Incentives required to attract new entrants as well as specific heat pump training for both new and existing candidates**

Heat Pumps 2028

Summary

- ✓ **Roadshow events at manufacturer / merchant sites for engagement and established trade shows**
- ✓ **Incentivise individuals to undertake qualifications in plumbing / heating**
- ✓ **Specific heat pump training funding launched on mass.**

HDSTC coming soon from

Midlands Net Zero Hub

Heat Pumps 2028

Summary

→ **~125,000 gas engineers ~85,000 are SME typically 1-5 person businesses**

→ **They are the route to mass market through their existing customer base**

- **Installers "identify and select"**
- **Majority are not equipped for design**
- **Installers are heating installers / plumbers who know how to fit a heat pump**
- **No specialist trade required for mass market rollout**
- **Move low carbon technologies to mainstream under the Building regulations**
- **Ensure mandatory requirements are accessible**

Heat Pumps 2028

Single cradle to grave solution for

Survey, Design, Installation and Commissioning

Total Heat pump Installation Solution

>> THIS <<

THORMER Solutions Ltd

www.thormer.co.uk

HPR2 – Collaboration

Heat Pumps 2028

“With the right people in the room anything is possible, you just have to know the right people .....”

GTEC

Questions & How We Can Help

www.gtec.co.uk

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RICHARD GARNER AND SERENA BACUZZI ZELLAR AND MIDLANDS NET ZERO HUB

MIDLANDS NET ZERO HUB

Zellar Pilot Schemes in the Midlands

Serena Bacuzzi (MNZH) & Richard Garner (Zellar)

zellar

creating economic prosperity
llep
Leicester & Leicestershire Enterprise Partnership

Greater Birmingham & Solihull Local Enterprise Partnership

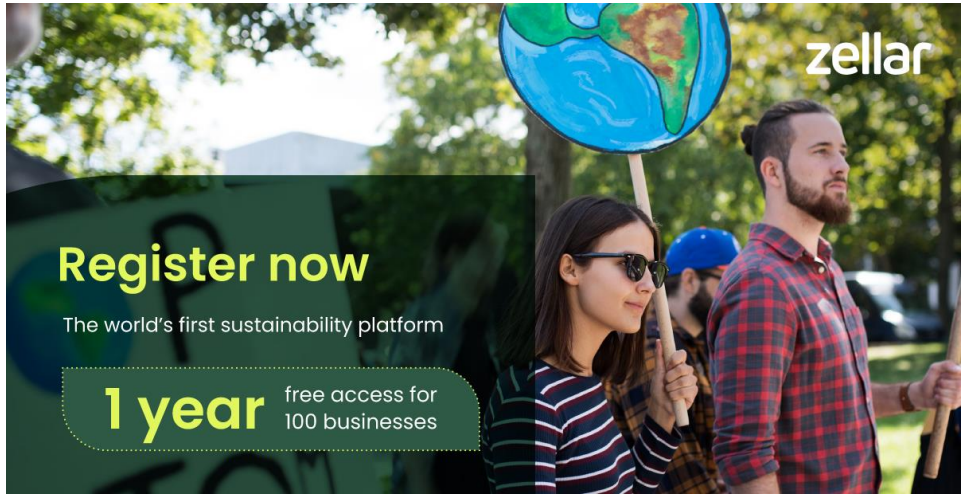
Nottingham City Council
Carbon Reduction, Energy and Sustainability

Zellar partnership

- Provide the region's low-carbon businesses with a platform to virtually demonstrate their goods/services.
- Offer an overview of low-carbon solutions for end users seeking to procure from local suppliers.
- Link the low carbon supply chain with businesses that want to pursue their decarbonisation journey.
- Provide intelligence/data to inform future LEP's Policies and delivery of Growth Hub's business support programmes.

Pilot Schemes

- A year's free access to the Zellar sustainability platform funded by LLEP and GBSLEP.
- Available to SMEs located in:
  - Leicester & Leicestershire LEP
  - Greater Birmingham & Solihull LEP
  - Coventry & Warwickshire LEP
  - Black Country LEP.
- First 100 SMEs could join the pilot schemes by submitting an expression of interest.



zellar

creating economic prosperity
llep
Leicester & Leicestershire Enterprise Partnership

Greater Birmingham & Solihull
Local Enterprise Partnership

MNZH Role

- Enabled connection and introductions between Zellar and LEPs
- Proposed the idea of 100 SMEs Pilot Scheme
- Secured funding from the LEP to progress the project
- Defined and managed the relationship between Zellar and LEPs
- Promoted Zellar across the region
- Defined the process for businesses to sign up to Zellar through an Expression of Interest
- Provided insights and connections to help Zellar grow
- Test the platform and set an example to be replicated across other Local Authorities and LEPs

zellar

creating economic prosperity
llep
Leicester & Leicestershire Enterprise Partnership

Greater Birmingham & Solihull
Local Enterprise Partnership

Zellar is on hand to support

The platform brings everything into one place that a business might need to kickstart their sustainability journey

One-stop-shop sustainability platform

Any Business
Any City
Any Country

Zellar works anywhere

64 guided business programs unique to sector and location

Customised with data, insight, benchmarks, behavior change, green tech, energy supply, community and local offset & volunteer projects

Transparent commission-free marketplace:

- Green energy
- Green technology
- Volunteering
- Carbon offsetting
- Biodiversity impact offsetting

Panorama data – collective reporting by sector and region

See the impact that you're having, and compare by region, city, or community group

Live sustainability score & community profile

Compare your business to others in sector or geography

Adaptable and scalable platform

As we learn more about business we can inform and create new features within the platform

Zellar Users taking Action

GBSLEP& LLEP Zellar – 125 Users

Appointed a Sustainability Champion
65

Sustainability Checks completed
563

Calculated Building emissions
55

Invested in Green Tech
28 - Over £600K invested

Calculated employee travel emissions
27

Biodiversity Investment
£1,100

The Willoughby book club

Leicester book subscription service

Action	Impact
1 Offset Project: Woodland creation in Yorkshire	£298 17 Future Offset
1 Biodiversity Project: Creating Tomorrows Forest	£400 8 trees planted per staff member per year
1 Green Tech: LED lighting	£450 6 Ceiling Panels

"Zellar has been great as a focal point for our efforts on taking positive action. It has enabled us to easily calculate our carbon footprint, invest in offsetting and become part of a community of businesses that are all working toward the same end." *Marianne Chala*

THE WILLOUGHBY
ESTD BOOK CLUB 2012

Kiasa

Leicester wholesale trade

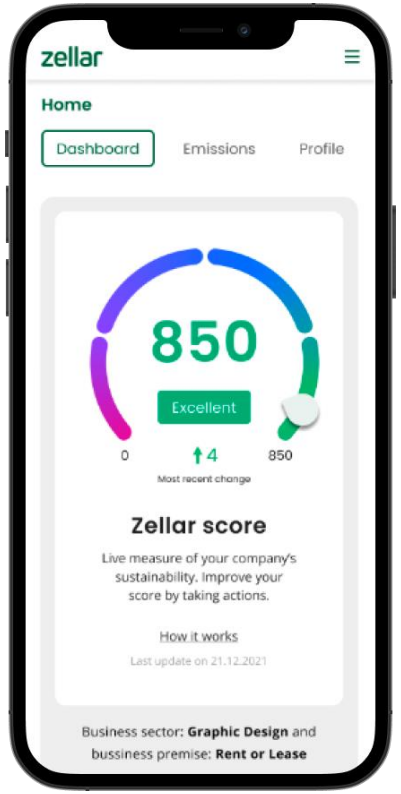
Action	Impact
1 Volunteering Project: Park clean up	4 hours volunteering
2 Green Tech: LED lighting Energy efficient boiler	£2417 12 lights 1 boiler
16 Sustainability behaviour actions implemented	33% higher implementation than sector average

"Kiasa uses Zellar to help achieve healthier communities around the world, cleaner air and a non-toxic environment. We hope for Kiasa to become a green business that serves the local and global environment in a way that benefits both the community and economy, which depend on a healthy world." Megha Kaur

Collaboration with Public Sector

What we are

Zellar are a purpose-drive sustainability-as-a-service software platform with community at its heart. Our aim is to mobilise businesses to make their sustainability count, helping them along each step of their journey.



You're a Local Authority/Lep/Growth Hub

Passionate about climate change and wanting to meet government targets, you are finding it hard to support your business communities in taking real, positive action in driving down emissions. You want to understand sustainable behaviours and require the data to shape future policy.

Together, we can make a difference

How the public and private sector can come together to leverage their strengths, and ultimately make an even bigger impact in the fight against our changing climate.

What's the value of Zellar to Local Authorities?

- Support business communities in taking specific action on climate change in the fastest, most efficient and cost-effective way possible, showing them that you can play a major role in their net-zero journey.
- Gain insight into specific emission data that is currently unavailable across individual businesses, sectors, towns, villages and even individual high streets.
- Understand sustainable business behaviours within your community enabling you to influence future policy.
- Gain access to powerful data that will support your wider sustainability objectives and government targets.
- PR, case studies and stories ft. local businesses and their sustainability journey.
- Enable you to land grants and funding with the right audience.

Our aim

To deliver the single biggest acceleration in UK SMEs becoming sustainable businesses.

Our strategy

SSE Energy Solutions & Zellar collaboration will see us partner with local authorities in pledging to fund actionable sustainability roadmaps for 23k SMEs by end 2023.

sse Energy Solutions

Thank you

zellar

www.zellar.com

SARAH HOWARD

K-MATRIX

MIDLANDS NET ZERO HUB

Working to support and grow the green economy

Low Carbon Environmental Goods and Services

Midlands Net Zero Hub Conference 2022

Sarah Howard
kMatrix data services Ltd
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Study published March 2021 in partnership between kMatrix Data Services and Sustainability West Midlands

sustainability west midlands

kMatrix

kMatrix Data Services Ltd

If you can measure it – you can manage it

LCEGS Study Overview and Outputs

MIDLANDS NET ZERO HUB

kMatrix

Quantitative Evidence

Data Triangulation of 2,769 activities in 65 Local Authorities and 9 LEPS with Covid impact in 2020

- ✓ **9 LEP-level market reports**
- ✓ **1 Hub-level market report**
- ✓ **1 Hub-level growth report**
- ✓ **1 Covid impact report**

sustainability west midlands

Qualitative Evidence

Literature review
Interviews
Focus group organisation/facilitation

- ✓ **Stakeholder engagement report**
- ✓ **Extensive literature review**
- ✓ **Recommendations report**

9 Focus Groups

- Project ran: November 2020-March 2021
- Steering group included representatives from the Hub and LEPs
- Fortnightly meetings where needed with project managers
- Monthly board meetings with the steering group
- Hub team available for clarifications etc at any time
- Hub actively engaged in developing stakeholder engagement program, suggesting attendees, facilitating focus group breakout sessions etc

Focus today is aspects of the kMatrix outputs

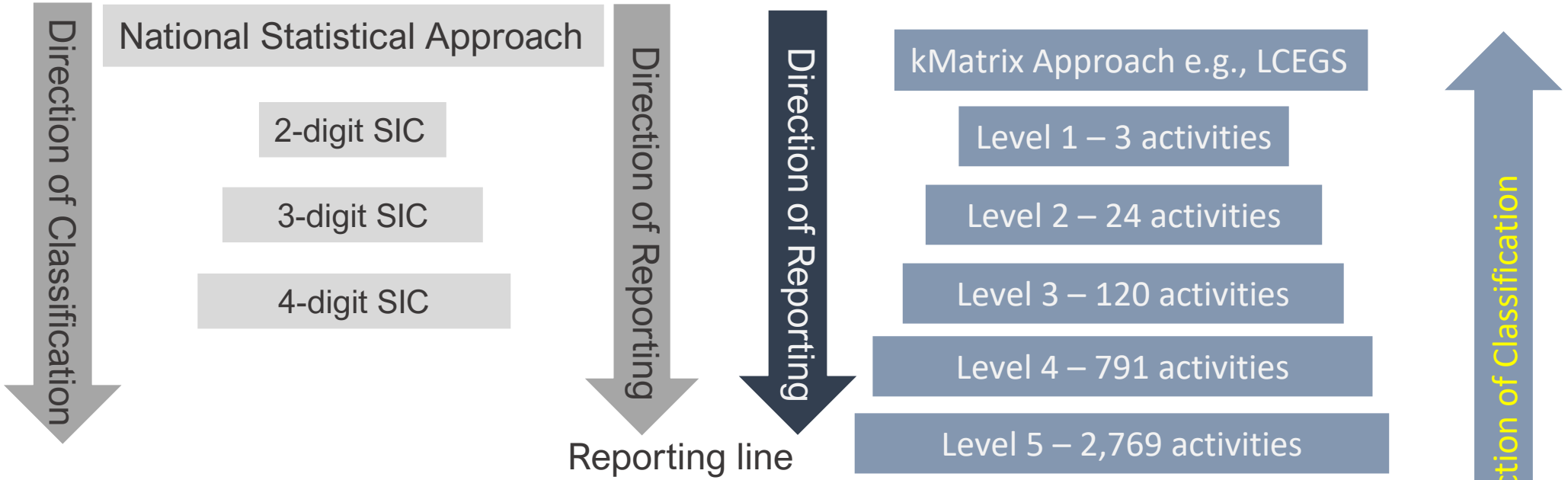
kMatrix

Fundamentals of the kMatrix Research Methodology

- Methodology has been in the marketplace for **over 35 years**
- **Unique data triangulation** methodology developed with Professor R. Jaikumar of Harvard University
- Developed to provide evidenced data for company development
- Mapped the market of **single technologies** to whole countries (e.g., Mauritius)
- Origins of development results in a **flexible system** that can look at markets from **product/service** level of detail
- Capability to cross SIC codes, cherry-picking relevant activities across multiple 'traditional' SIC code sectors, to build bespoke sectors
- This system of data collection, which triangulates transactional data from many sources, **over 70,000 for this study**, provides the flexibility of a definition tailored to the sector being studied
- Sector is classified and measured from the **bottom up**, and reported from the sector level down, through a series of levels of complexity
- Used when markets are difficult to measure, or **high level of granulation** is needed in sector studies

kMatrix Sector Classification System

Example of Bottom-up Approach to Classification – LCEGS Taxonomy



Activities 'collected' and arranged from 'Top-Down'

Often leads to under- or over-reporting due to self-classification system

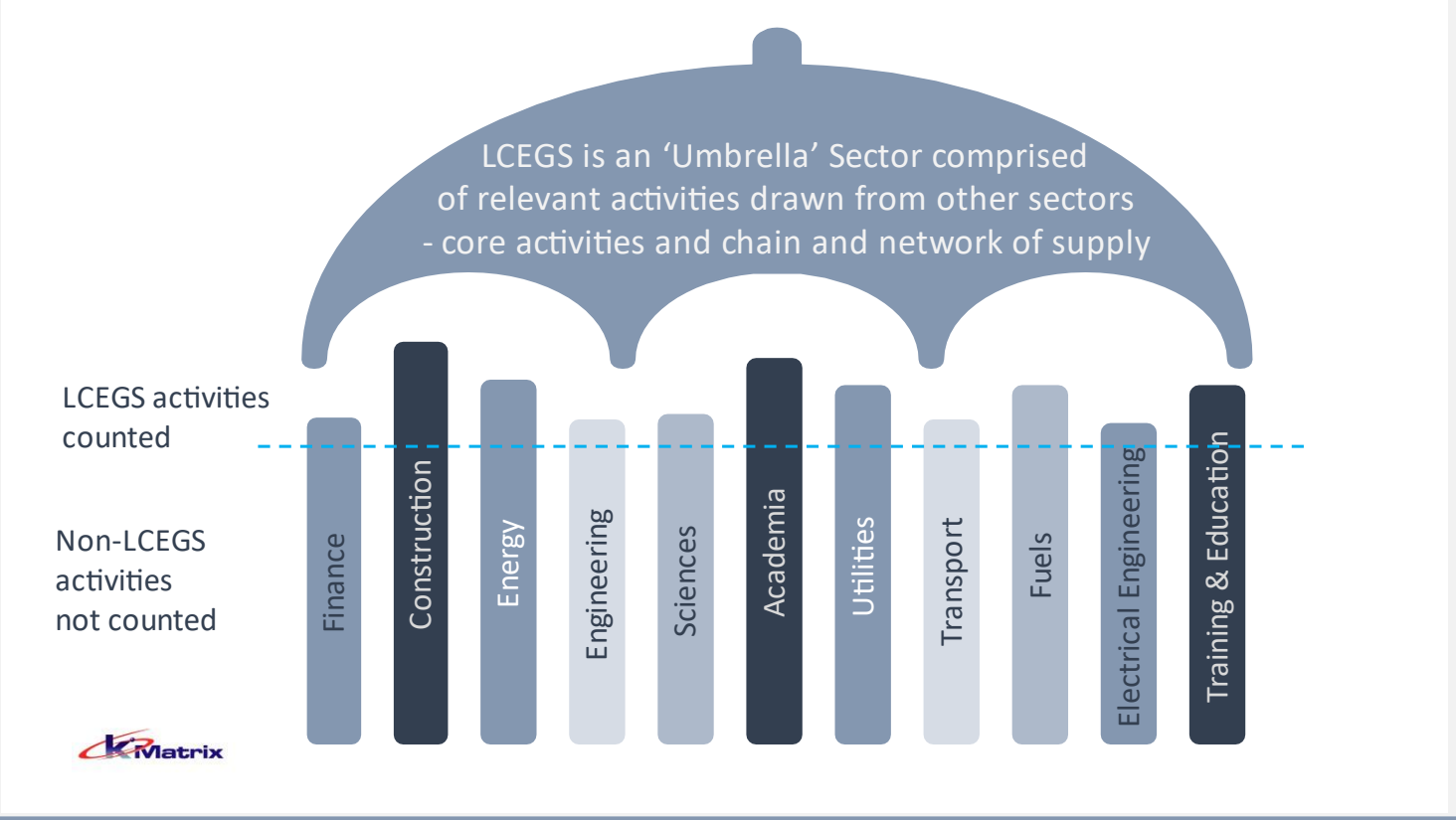
Company level assistance

Activities are 'collected' at the most finite level of disaggregation and grouped into successive levels of detail.
Captures more market than NSA

Low Carbon Environmental Goods and Services: an Umbrella Sector

Comprises products and services from across the economy, which actively enable a shift towards a green economy

The LCEGS sector is considered an 'umbrella' or horizontal sector, crossing many other traditional sectors, counting products and services from those sectors which can reduce carbon emissions and improve the environment



It is comprised of both core elements and those in the chain and network of supply, without whom the sector could not function.

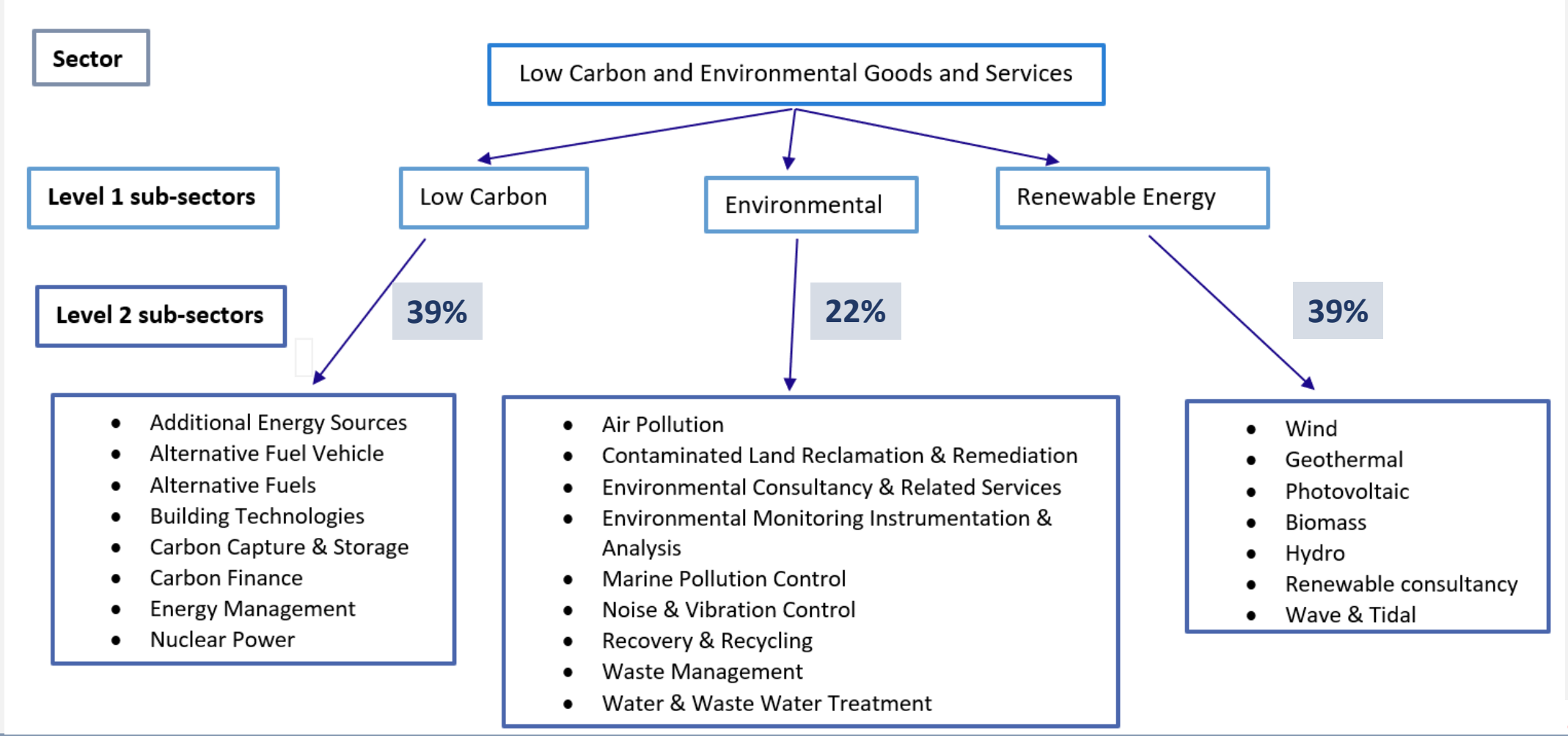
- Measurements includes relevant activities by companies within Finance, Construction, Energy, Engineering, the Sciences and so on, with non-LCEGS aspects of those companies and sectors discounted
- This format removes potential double-counting

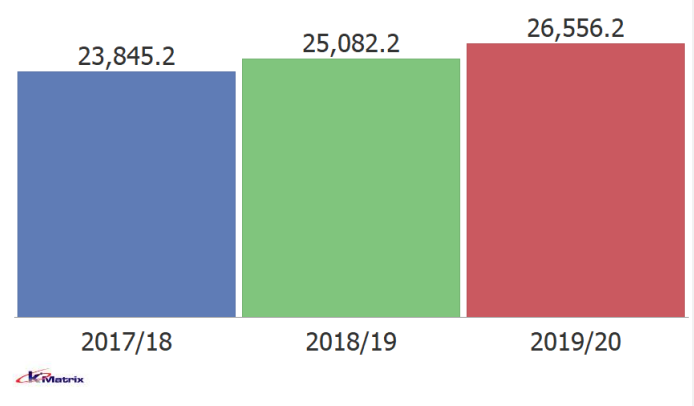
Low Carbon Environmental Goods and Services Taxonomy

LCEGS Taxonomy is an existing definition used to measure the green economy since 2007/08

Sale were split:

- ❑ **39% Low Carbon**
- ❑ **22% Environmental**
- ❑ **39% Renewable Energy**



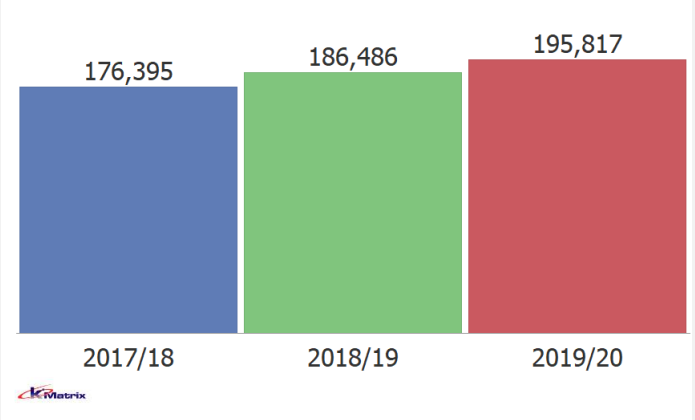


Sales

Grew from **£23.8bn** to **£26.6bn** between 2017/18 and 2019/20

5.2% 2017/18 to 2018/19

5.9% 2018/19 to 2019/20

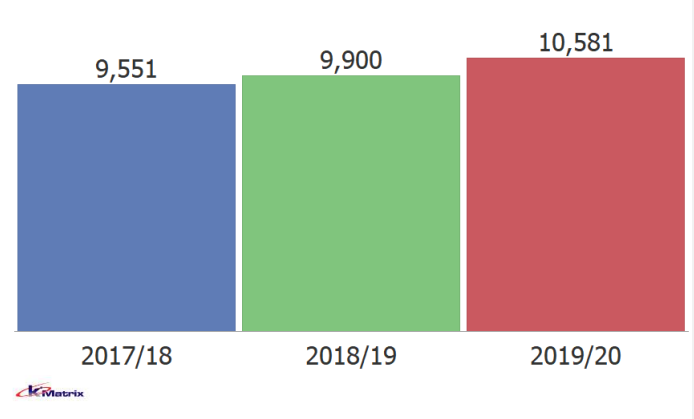


Employment

Grew from **176,395** to **195,817** between 2017/18 and 2019/20

5.7% 2017/18 to 2018/19

5.0% 2018/19 to 2019/20



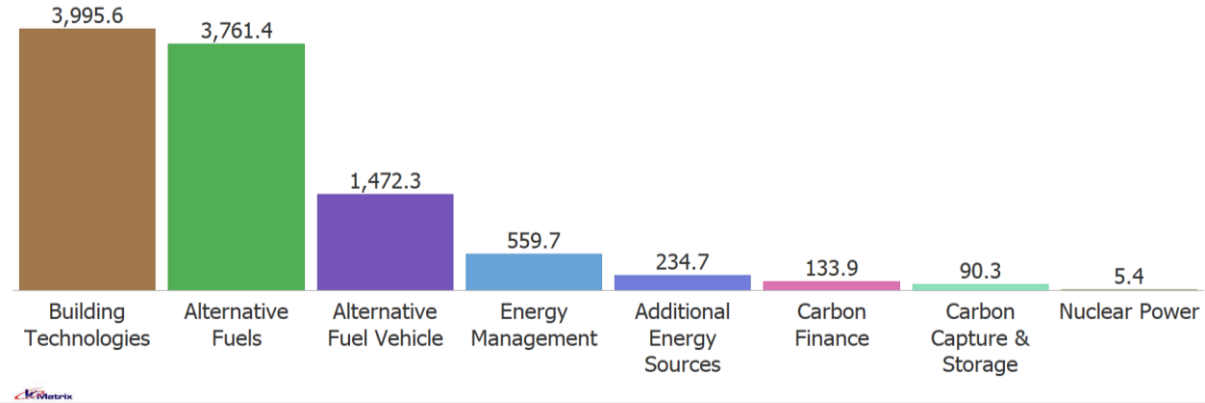
Companies

Grew from **9,551** to **10,581** between 2017/18 and 2019/20

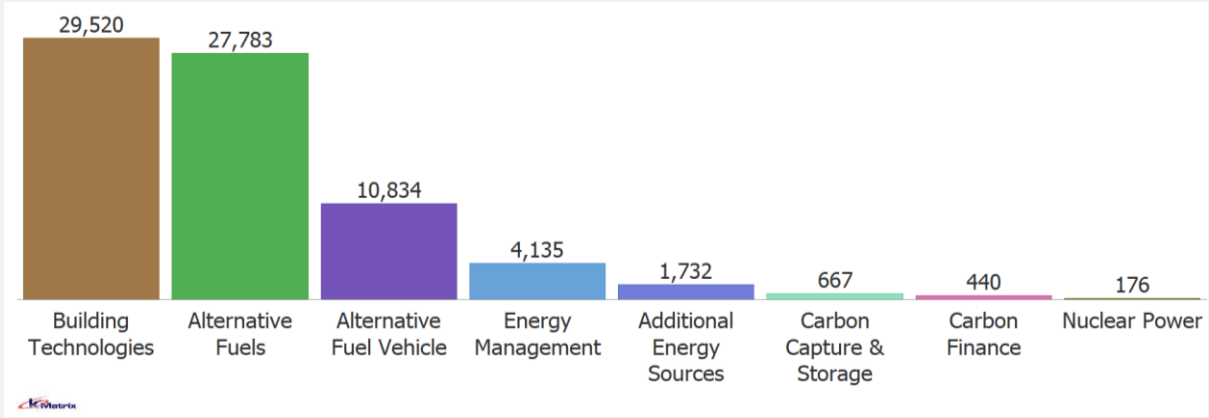
3.7% 2017/18 to 2018/19

6.9% 2018/19 to 2019/20

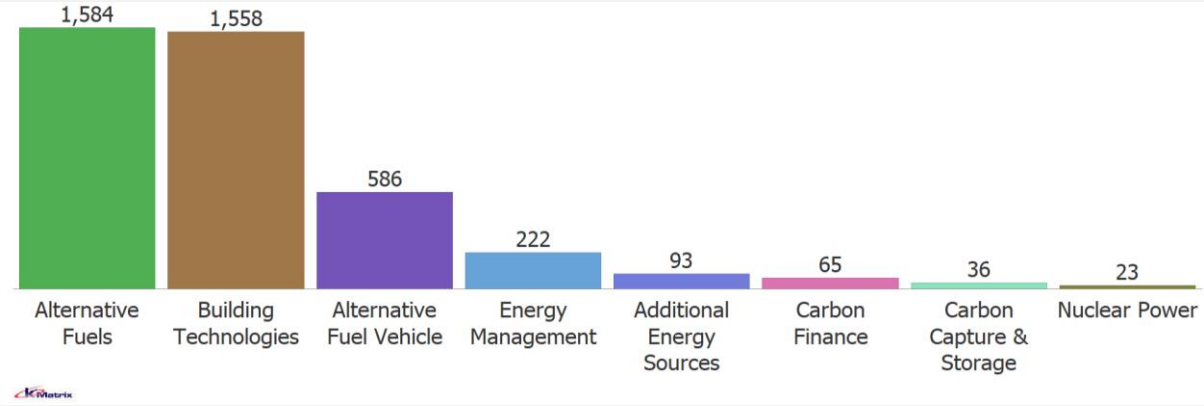
Low Carbon Sub-sector in Detail



Sales



Employees

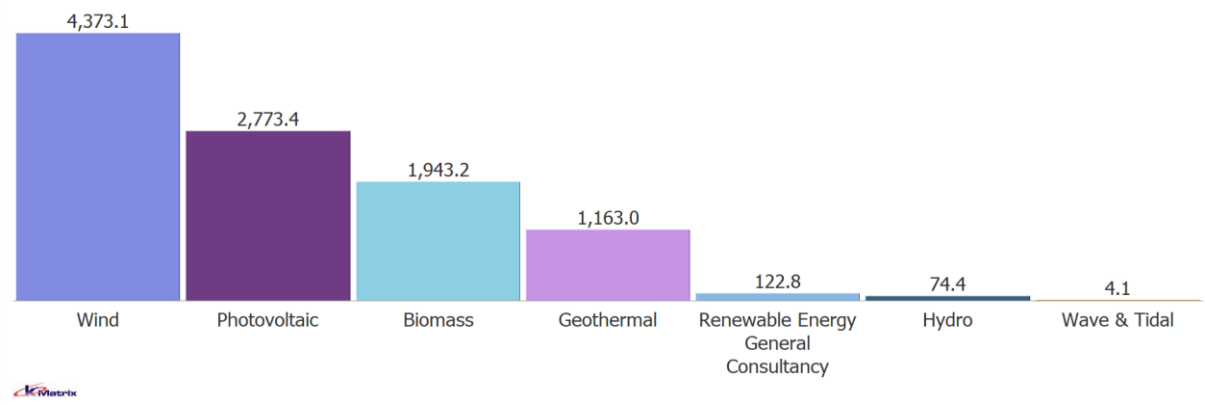


Companies

4 sub-sectors = 95% of market:

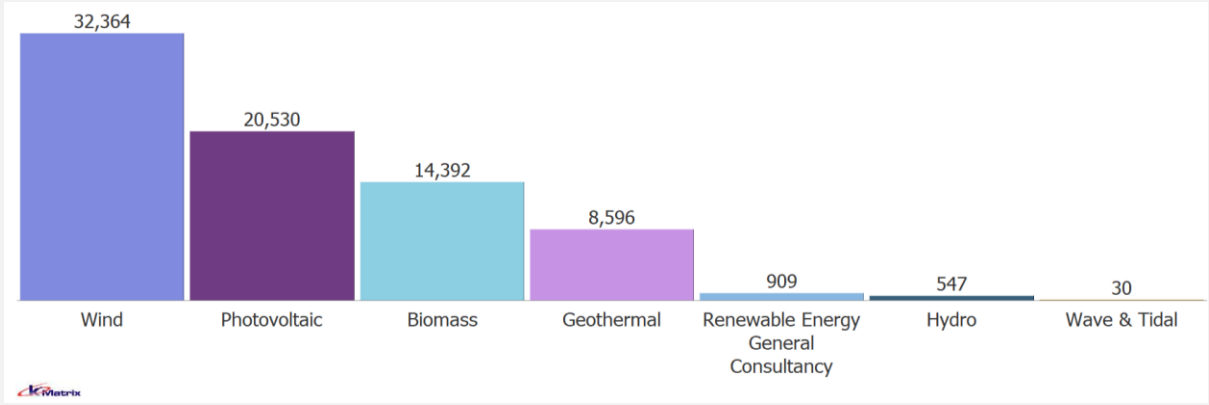
- Building Technologies
- Alternative Fuels
- Alternative Fuel Vehicle
- Energy Management

Renewable Energy Sub-sector in Detail



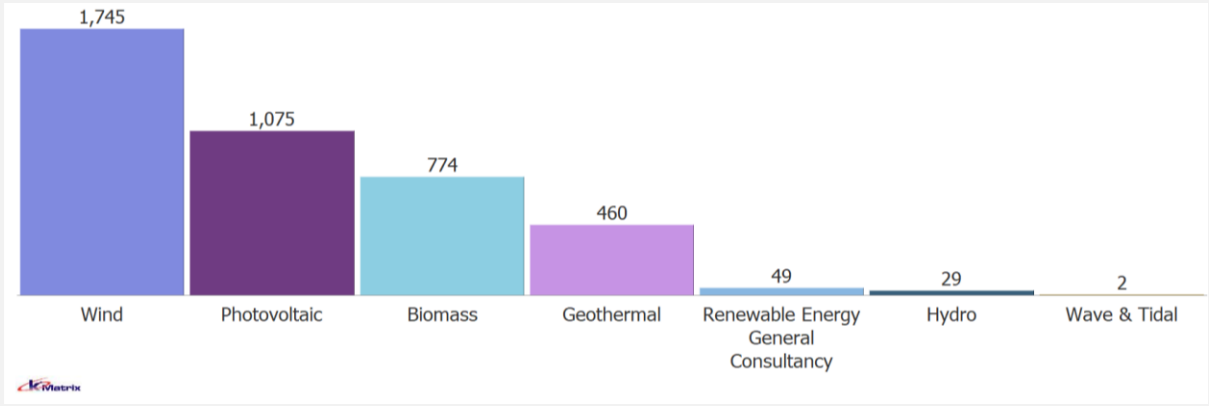
Sales

4 sub-sectors = 98% of market:



Employees

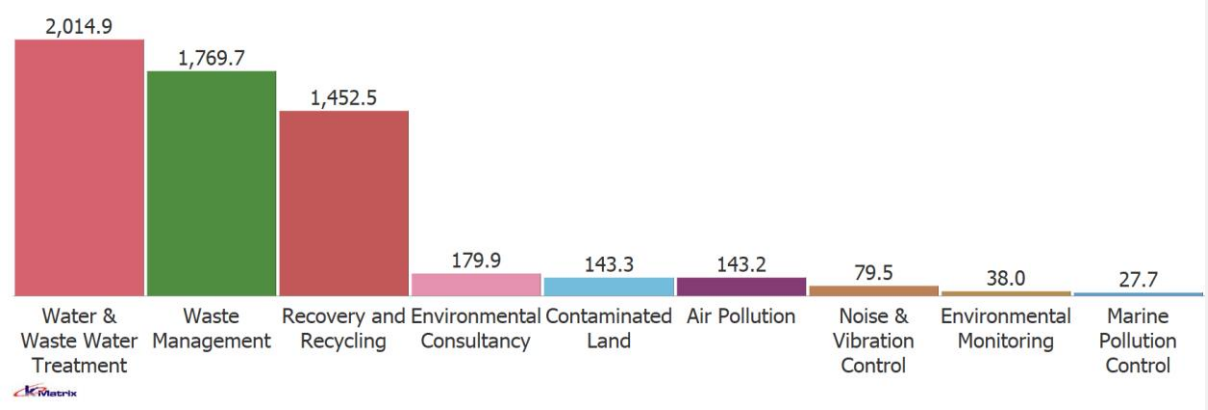
- Wind
- Photovoltaic
- Biomass
- Geothermal



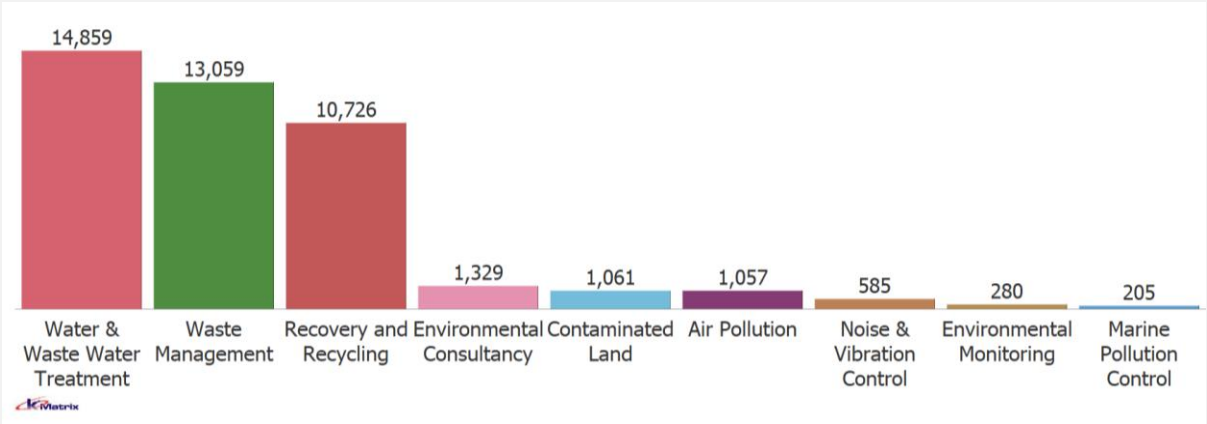
Companies

Note: Hydro refers to Hydroelectric

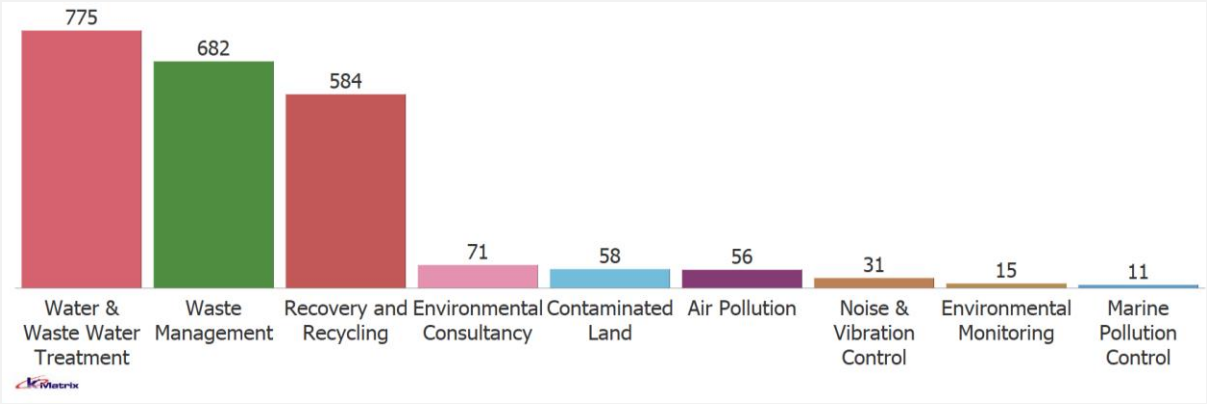
Environmental Sub-sector in Detail



Sales



Employees



Companies

4 sub-sectors = 89% of market:

- Water & Waste Water Treatment
- Waste Management
- Recovery and Recycling

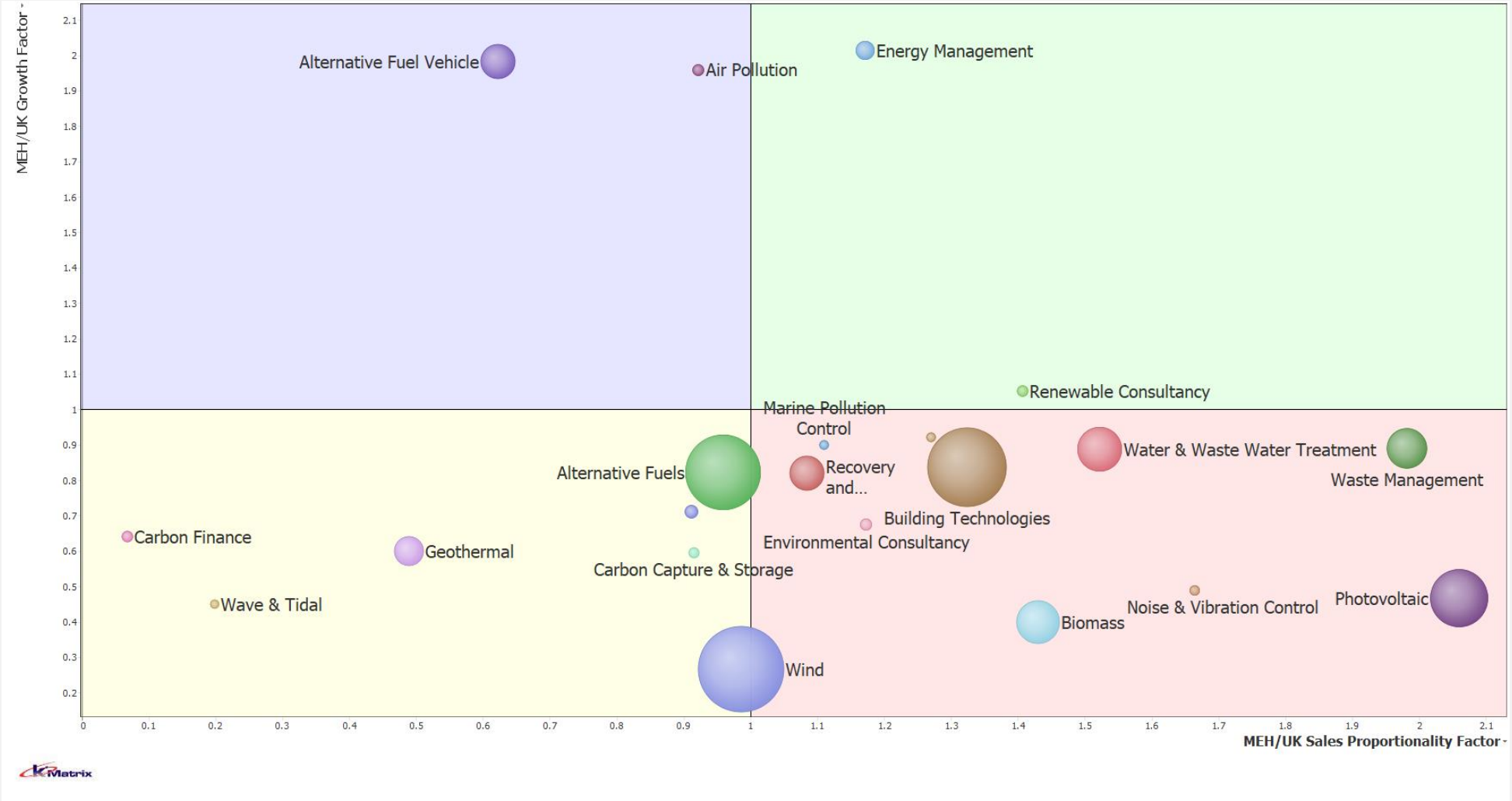
Sub-sectors with considerably stronger growth across the 3-year study period than the UK average:

Sub-sector	MEH	UK
Nuclear	29.0%	2.9%
Alternative Fuel Vehicle	11.4%	5.7%
Hydro*	11.0%	1.8%
Energy Management	11.4%	5.7%
Contaminated Land Reclamation and Remediation	11.4%	1.0%
Air Pollution	11.4%	5.8%

*Hydro refers to Hydroelectric

Growth compared with UK average vs. proportion of UK market

bubbles sized by sales



Nuclear, Contaminated Land and Hydro removed (higher growth, smaller market)

On both axis,

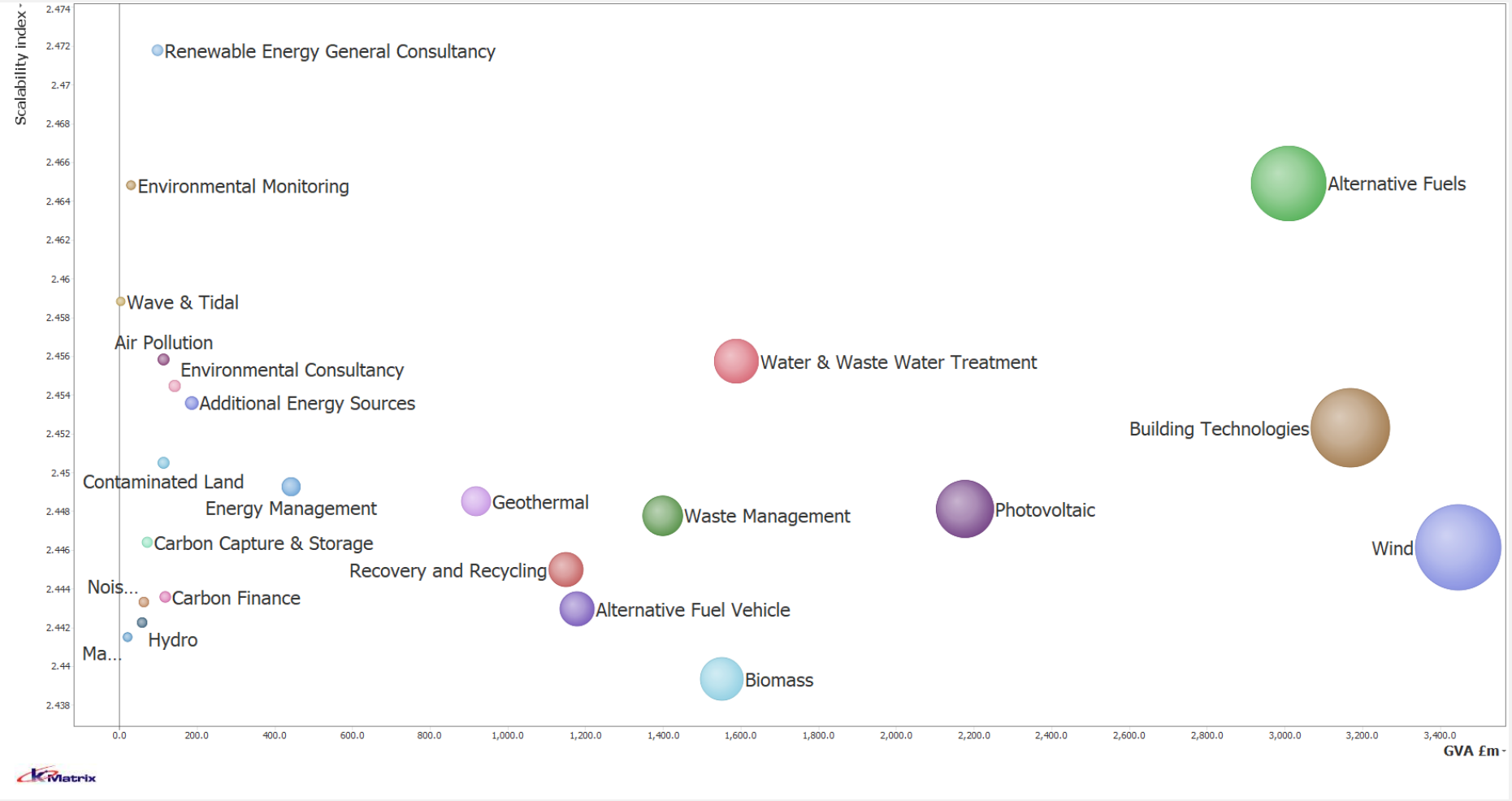
1 = UK Average
>1 = Higher than UK average
<1 = Lower than UK average

Top right-hand corner is the most desirable with sub-sectors representing more than 12.1% of UK sales and higher growth than UK average

Bottom Right have more than 12.1% of UK sales but slower growth than UK average

Scalability of Level 2 sub-sectors *relative to each other*

bubbles sized by GVA



- ✓ Scalability refers to the combination of:
- ✓ Existence of appropriate available market
- ✓ The scalability of technology within a company, area or market
- ✓ Affordability of technology
- ✓ Availability of appropriate skill sets in the locality
- ✓ Historic growth
- ✓ Accessibility of networks and chains of supply

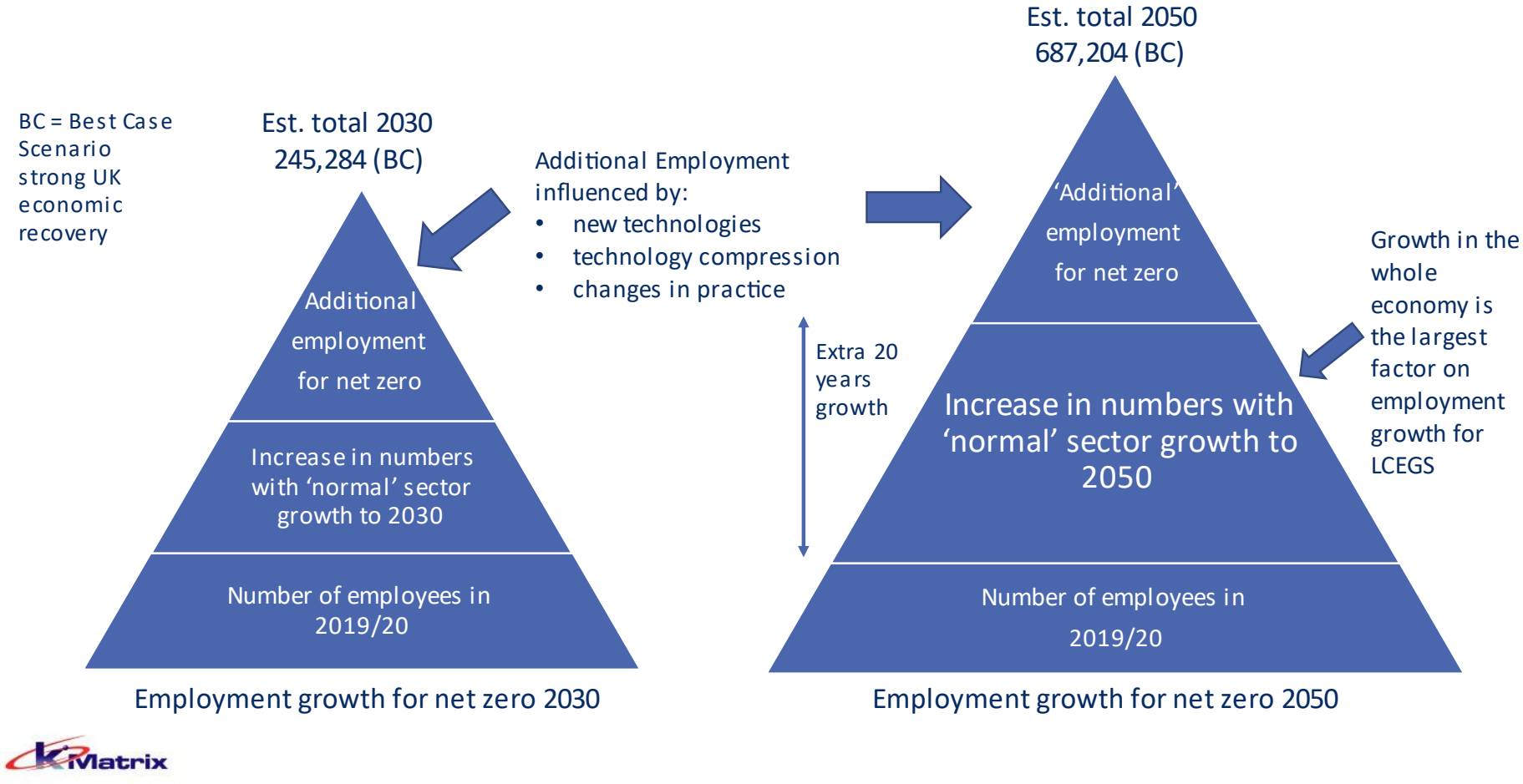
Relative Influences on Employment to Reach Net Zero 2030 and 2050

The Increase in employees through normal sector growth has a larger impact on 2050

For this graph, additional employment is sized the same for 2030 and 2050, to illustrate reaching net zero by **2030 would involve relatively more people and less technology; while 2050 will involve more technology and less people**

This is because by 2050 practices will be more streamlined and technologies and technology compression will be more advanced

In reality, the additional employment component is more nuanced, varying between sub-sectors and geographical area



Whole of LCEGS: includes ongoing activity e.g., recycling, water treatment etc.

Relative Influences on Employment to Reach Net Zero 2030 and 2050

Worst case scenario = slow recovery of UK economy
Best case = rapid bounce back

"Shortage" refers to those 'imported' from outside the region – forecast numbers assume the skills gaps are filled

Number of employees in 2030 and 2050 = those estimated to be employed in a net zero scenario

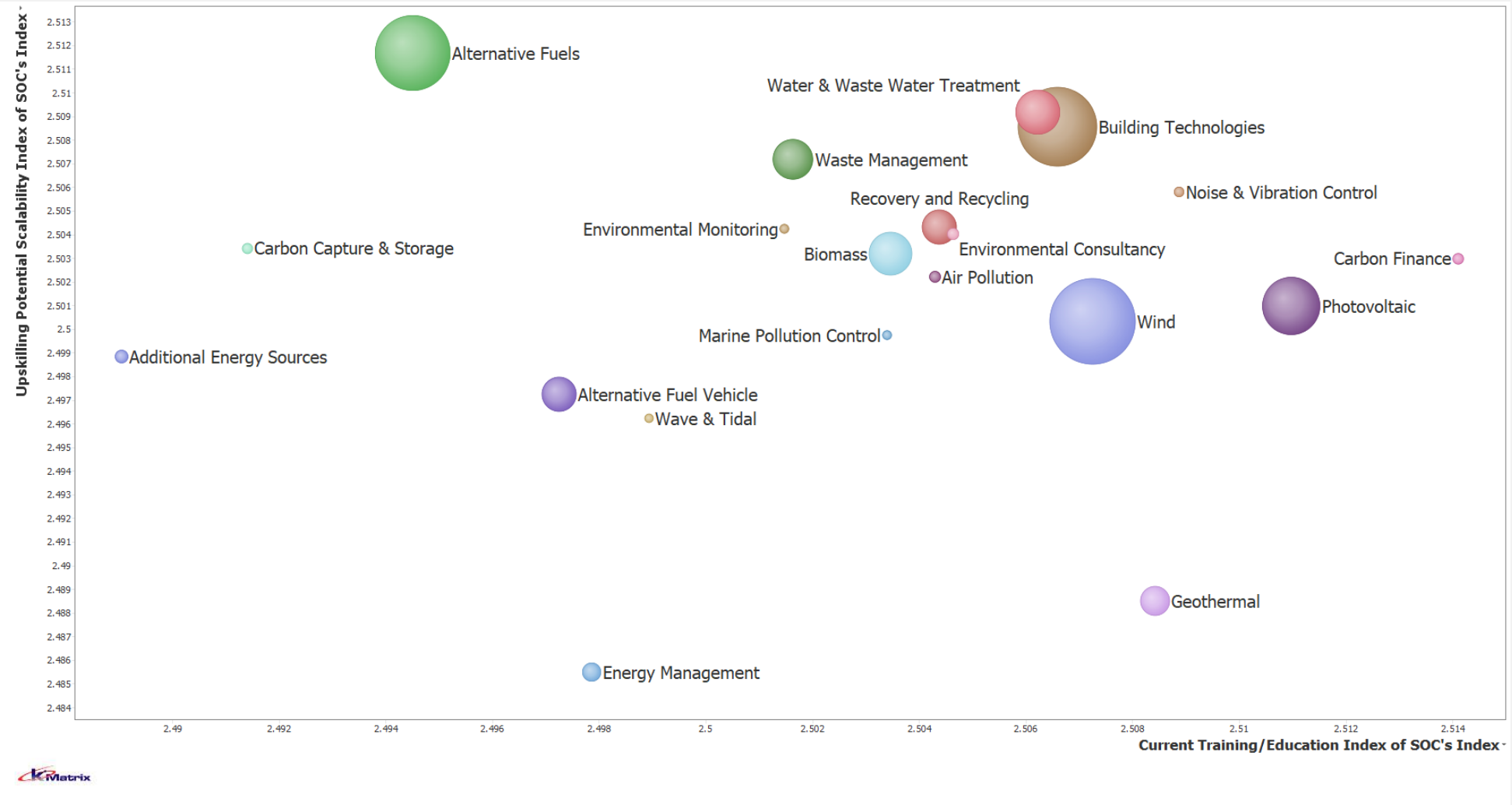
There are 3 factors in play:

- Usual sector growth
- Increase needed for net zero
- Tempered by introduction of new technology and change in practice

	Current Employment				Net Zero by 2030				Net Zero by 2050			
					Worst Case Scenario		Best Case Scenario		Worst Case Scenario		Best Case Scenario	
SOC	# Employees 2019/20	Shortage of Employees 2019/20	Shortage as a % of Total Employees	# Employees if Skills Gap Filled	Estimated # Employees Needed to Reach Net Zero by 2030	Growth in Employees Required (assumes no skills gap)	Estimated # Employees Needed to Reach Net Zero by 2030	Growth in Employees Required (assumes no skills gap)	Estimated # Employees Needed to Reach Net Zero by 2050	Growth in Employees Required (assumes no skills gap)	Estimated # Employees Needed to Reach Net Zero by 2050	Growth in Employees Required (assumes no skills gap)
Technicians	4,707	1,045	22.2%	5,753	6,149	6.9%	8,070	40.3%	9,526	65.6%	22,613	293.1%
Snr Management SME	11,148	1,124	10.1%	12,272	14,583	18.8%	19,115	55.8%	22,548	83.7%	53,480	335.8%
Supervisory	11,640	1,199	10.3%	12,839	15,190	18.3%	19,999	55.8%	23,544	83.4%	56,022	336.3%
Middle / Junior Management	11,260	1,157	10.3%	12,416	14,713	18.5%	19,309	55.5%	22,706	82.9%	54,155	336.2%
Designer / Developer	1,620	426	26.3%	2,046	2,116	3.4%	2,779	35.8%	3,268	59.7%	7,787	280.6%
Clerical	5,875	12	0.2%	5,887	7,696	30.7%	10,083	71.3%	11,882	101.8%	28,180	378.7%
Self Employed	1,578	204	12.9%	1,782	2,062	15.8%	2,707	51.9%	3,182	78.6%	7,582	325.5%
Advisor or Agent	1,084	180	16.6%	1,264	1,420	12.4%	1,862	47.4%	2,188	73.2%	5,210	312.4%
Educator	37	12	31.2%	49	49	0.1%	64	31.3%	75	54.1%	180	266.9%
Specialist or Consultant	6,279	207	3.3%	6,485	8,223	26.8%	10,760	65.9%	12,693	95.7%	30,162	365.1%
Editor	184	7	3.8%	191	240	26.0%	315	65.4%	371	94.8%	881	362.2%
Industrial Researchers	1,800	140	7.8%	1,940	2,348	21.0%	3,089	59.3%	3,644	87.8%	8,658	346.3%
Scientist	818	274	33.5%	1,091	1,067	-2.3%	1,403	28.5%	1,649	51.1%	3,927	259.8%
Maintenance Engineer	12,916	815	6.3%	13,731	16,877	22.9%	22,182	61.6%	26,150	90.4%	62,049	351.9%
Civil Engineer	898	240	26.8%	1,138	1,173	3.1%	1,539	35.2%	1,817	59.6%	4,317	279.3%
Production Engineer	2,330	831	35.7%	3,161	3,041	-3.8%	4,006	26.7%	4,703	48.8%	11,210	254.6%
Power distribution Engineer	5,906	1,758	29.8%	7,664	7,728	0.8%	10,129	32.2%	11,955	56.0%	28,393	270.5%
Construction Engineer	1,347	229	17.0%	1,577	1,764	11.9%	2,313	46.7%	2,723	72.7%	6,481	311.0%
Sales Exec	6,013	687	11.4%	6,700	7,865	17.4%	10,310	53.9%	12,154	81.4%	28,920	331.6%
Marketing Personnel	6,028	673	11.2%	6,702	7,882	17.6%	10,362	54.6%	12,165	81.5%	28,997	332.7%
General Semi Skilled Worker	12,514	262	2.1%	12,776	16,346	27.9%	21,504	68.3%	25,301	98.0%	60,171	371.0%
General Labour	15,123	0	0.0%	15,123	19,790	30.9%	25,965	71.7%	30,545	102.0%	72,748	381.0%
Other Employees	15,218	770	5.1%	15,988	19,889	24.4%	26,063	63.0%	30,768	92.4%	73,234	358.1%
Administrative workers	6,621	142	2.1%	6,763	8,657	28.0%	11,353	67.9%	13,347	97.4%	31,849	370.9%
Total	**142,943**	**12,394**	**8.7%**	**155,338**	**186,868**	**20.3%**	**245,284**	**57.9%**	**288,903**	**86.0%**	**687,204**	**342.4%**

Number of employees here is lower than the total – these 'fit' into the SOC system
LCEGS sector has a high proportion of Micro and SME companies, where employees wear 'many hats', makes allocation to SOC difficult

Upskilling Potential of the Workforce



Both the Current Training Index and Upskilling Potential have been defined by allocating low, medium and high to each line of the taxonomy, where 1 = low, 2 = medium and 3 = high.

Each LEP has a different graph illustrating strengths and weaknesses.

Top right-hand side is the most desirable position of an easily upskilled workforce and good training availability

Study Key Points – Hub-level Examples

- **Wind** – ***Overall large market getting it right***

  Average size & growth, low skills shortage, good training capacity, medium potential to upskill
  Highest for both sales and CO_2 reduction potential

- **Building Technologies** – ***important for retrofit***

  Above average size, slow growth, medium scalability, low skills shortage, good training capacity, good potential to upskill, Good CO_2 reduction potential

- **Alternative Fuels** – ***Highly scalable***

  Average size, average growth, **Highly** scalable, **large** skills shortage, below average training capacity, but **v. high potential to upskill**. Good CO_2 reduction potential

- **Photovoltaic** – ***Significantly larger size than regional average, but slower growth than UK***

  Not exciting in terms of scalability, good potential to upskill and reasonably good CO_2 reduction potential,
  but has exceptionally good training capacity and only 3.3% skills gap

- **Energy Management** – ***large skills gap 18.5% (MEH 8.7%)***

  larger size than MEH average & stronger growth than UK. Average scalability, reasonable current training capacity, low potential to upskill, medium CO_2 reduction potential

- **Geothermal** – ***large skills gap 17.1% (MEH 8.7%)***

  Smaller size than MEH average & weaker growth than UK. Medium scalability, Very good current training capacity, low potential to upskill, medium CO_2 reduction potential

"If you can measure it, you can manage it"

By providing a definition of the sector to define ***what*** is being measured, and providing many different types of metric, from sales, to exports, size of company to skills, we can:

- Track how the sector is progressing
- Quantify skills shortages
- Estimate the relative scalability of sub-sectors
- Identify regional strengths and weaknesses
- Indicate the CO2 reduction potential of activities in the region
- Estimate the training capacity to enable sector growth

Overall, provide a body of data in evidence, to contribute to strategy development and achievable targets for the sector in the region

SESSION 3: SUPPORTING A GREEN ECONOMY

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