



Scottish
Engineering



Route map to net zero by 2045

Securing a Green Recovery
on a Path to Net Zero

House keeping



- > Please place your microphone on mute and camera off
- > Session will be recorded
- > Recording and slides will be made available on the Scottish Engineering Net Zero micro-site: <https://www.scottishengineering.org.uk/net-zero-skills/>

Agenda

SMART roadmap to Net Zero



- > Diamond Power – getting started

- How we started
- Current situation
- Lessons learned

- > Q & A

- > Scottish Engineering - findings and learnings on our journey

- Methodology
- From Conceptualisation to Execution
- Progress to date



BABCOCK & WILCOX
DIAMOND POWER

Our Journey to Net Zero

Samantha Jamieson
EHS Officer

15 June 2022

How we started

- ▶ Understanding Net Zero – the bigger picture
- ▶ Putting Net Zero into perspective – the part we play
- ▶ Realising we didn't need to start over



Current Situation

Strengths

- B&W Climate Bright Technology
- ISO 14001 accreditation
- Air emissions risk assessment
- Utilities Records = Carbon Footprint (Scope 1)
- Planned Maintenance
- Implement Green Team
- 100% Renewable Electricity (Scope 2)
- Support from Scottish Engineering

Weaknesses

- Attitudes/mindset
- Limited resource and time
- Management Commitment
- Aged equipment and facility
- No budget
- Funding restrictions
- Supply chain (Scope 3)

Opportunities

- Management Commitment
- Promoting Net Zero
- ISO 14064 Greenhouse Gases accreditation
- Update Business Continuity Plan
- Reduce Air Emissions
- Understand Scope 3

Threats

- Losing customers
- Losing to competitors
- Losing employees
- Losing financial support
- Taxes

Lessons Learned

- Identify what you already have in place and what can be done to make it that little bit better
- Use the tools that you already have or are familiar with
- Don't beat yourself up about going round in circles – it's part of the process
- Accept help – make use of the one-to-one sessions with Eric



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Roadmap to net zero

Findings and learnings on our
journey

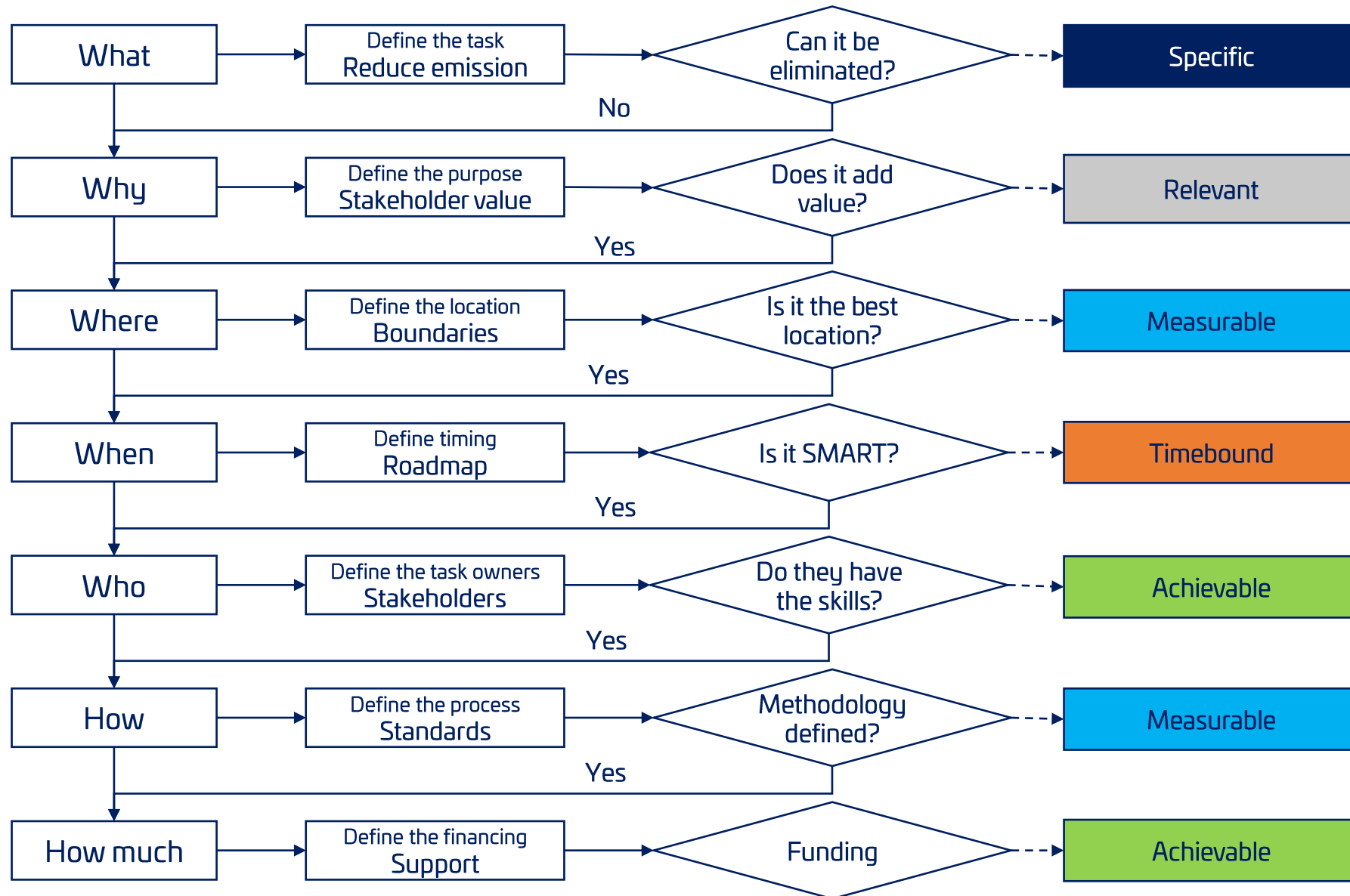
Make it SMART



- ❑ Specific – what
- ❑ Measurable – where, how much
- ❑ Achievable – who
- ❑ Realistic/Relevant – why, how
- ❑ Timebound – when

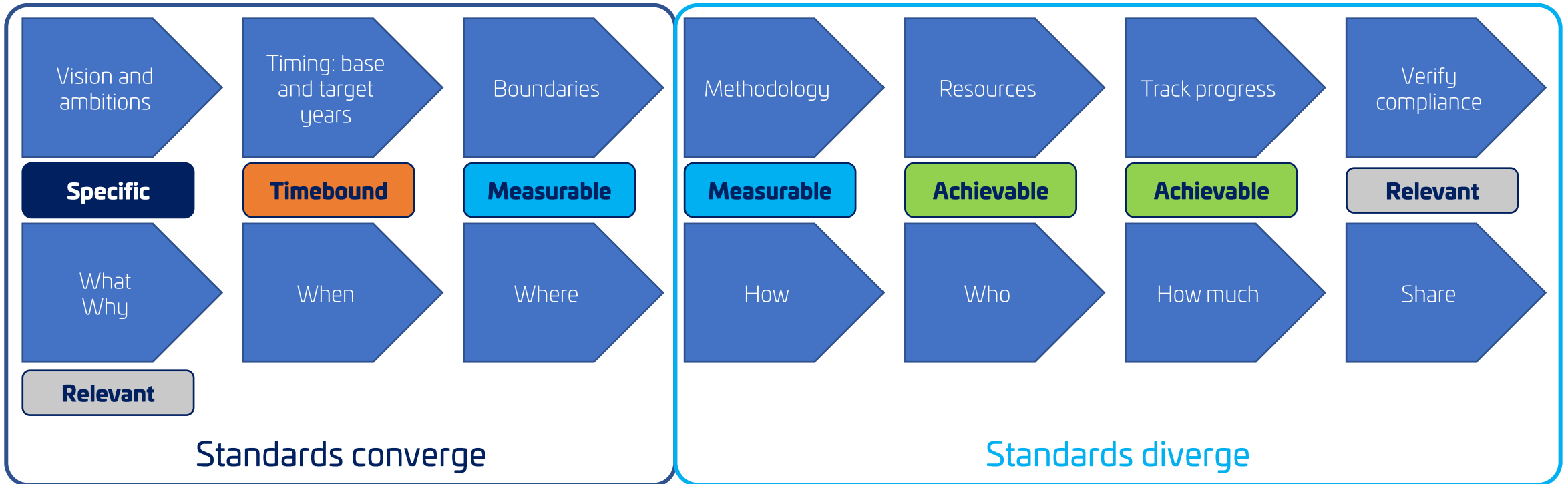
Specific
Measurable
Achievable
Relevant
Timebound

Make it Lean (5Ws & 2Hs)



Make it simple

SMART roadmap to Net Zero



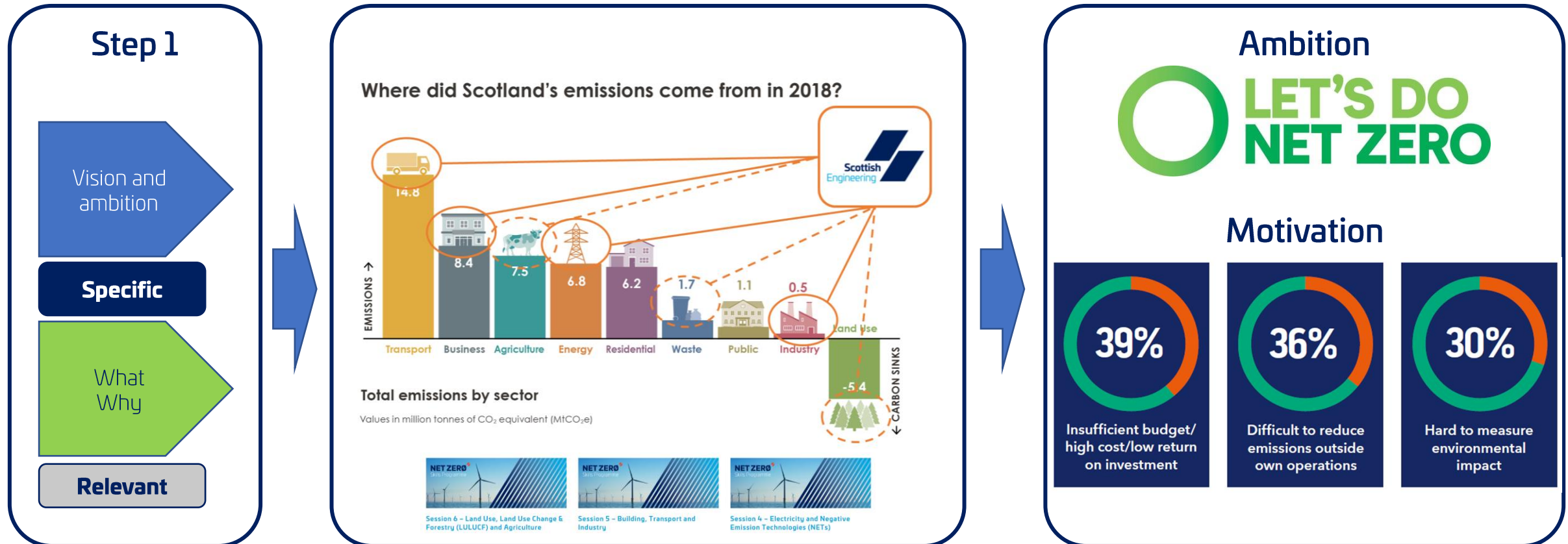
Roadmap



From conceptualisation to execution

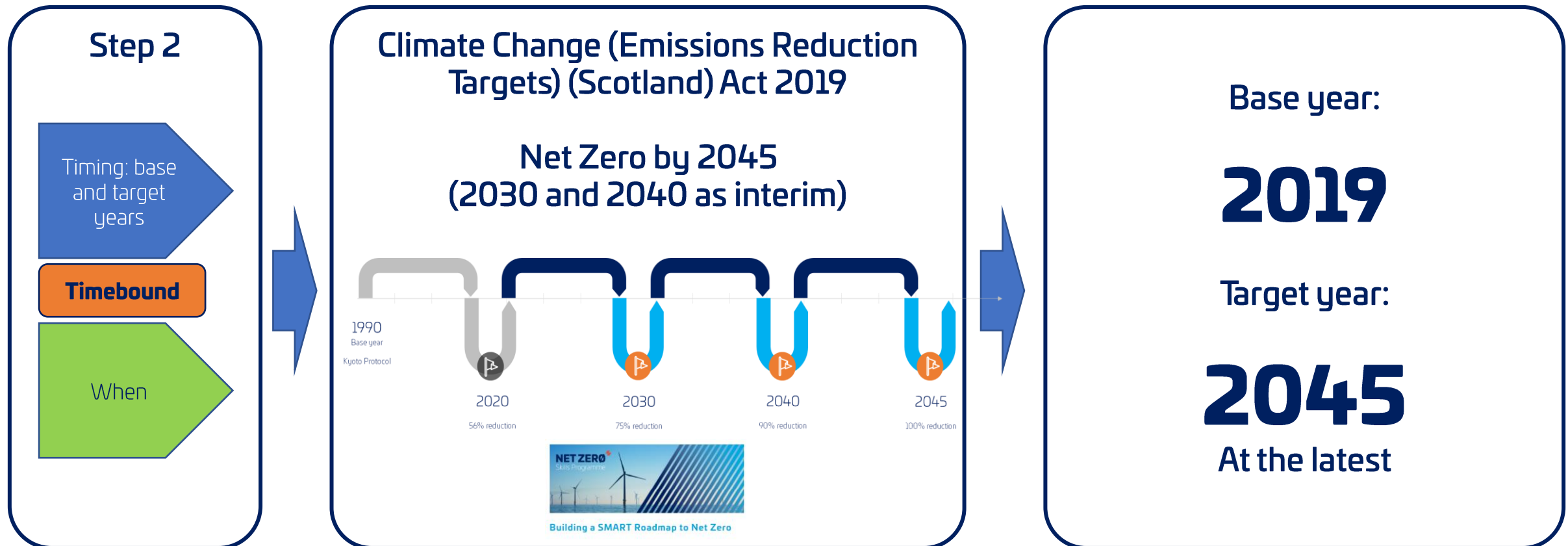
Process

Step 1: define your ambition and its rationale, i.e. your vision



Process

Step 2: define your base and target years, i.e. your timing



Process

Step 3: define your boundaries, i.e. your accountability

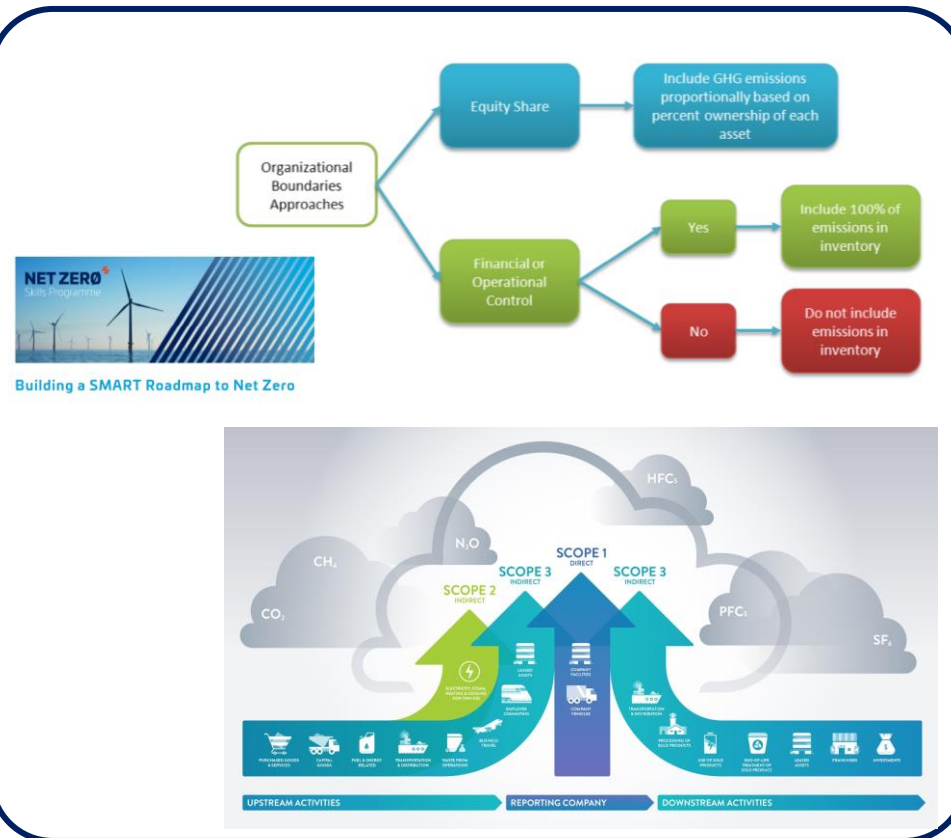


Step 3

Boundaries

Measurable

Where



Organisational boundary

100% operational control

Operational boundary

Scope 1: included
Scope 2: included
Scope 3: excluded but assessed

Process

Step 4: define your methodology, i.e. the reference standard



Step 4

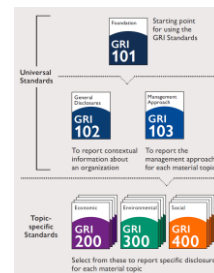
Methodology

Measurable

How



Understanding Net Zero Standards Webinar

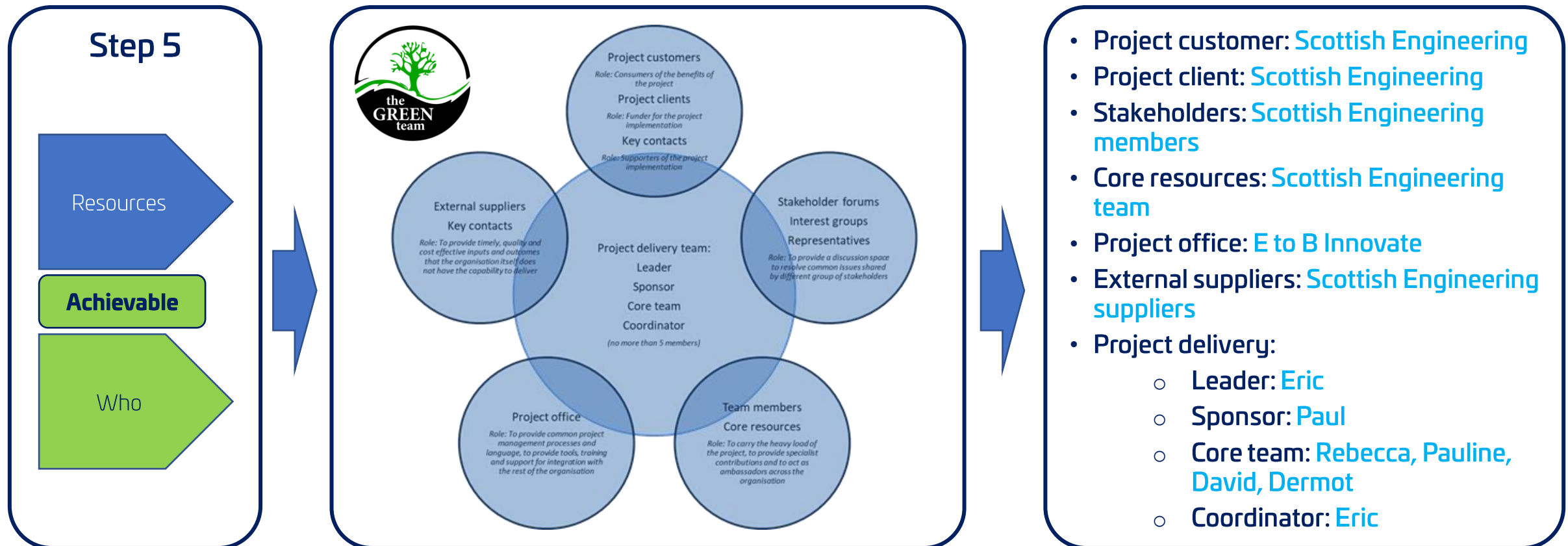


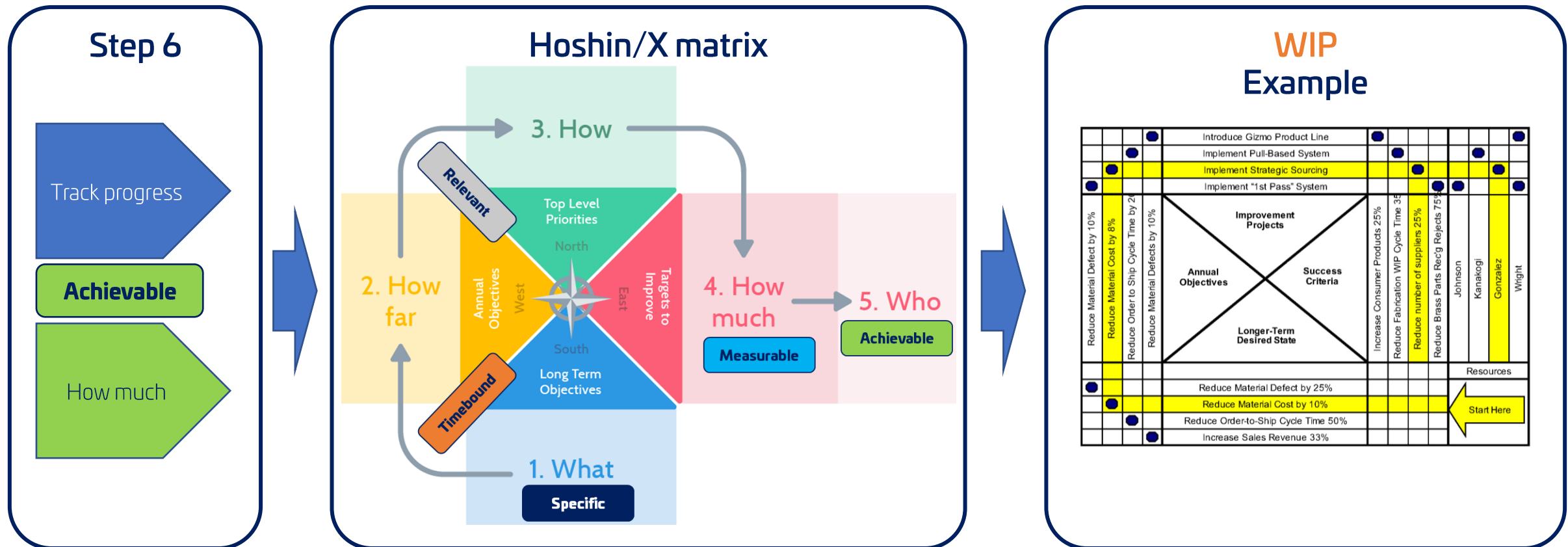
GREENHOUSE GAS PROTOCOL

- It has a global dimension
- It is the original standard
- It is referred to by the other standards
- GHGs: Kyoto protocol + NF_3
- Scope 3 is optional, but should be assessed
- It can be independently verified,
- It freely provides standards, guidance and tools

Process

Step 5: allocate resources, both human and financial





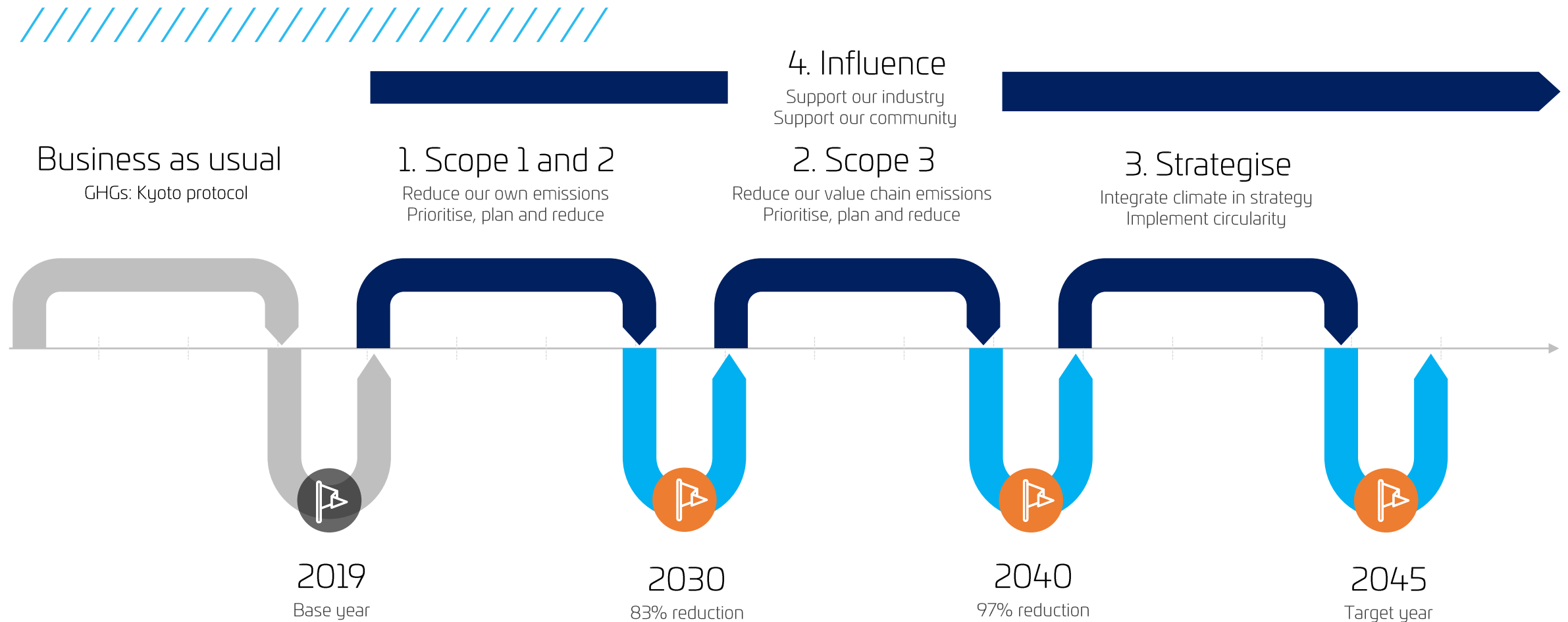
Process

Step 7: pledge and independent verification, avoid greenwashing



Roadmap

Scottish Engineering - Net Zero by 2045 at the latest



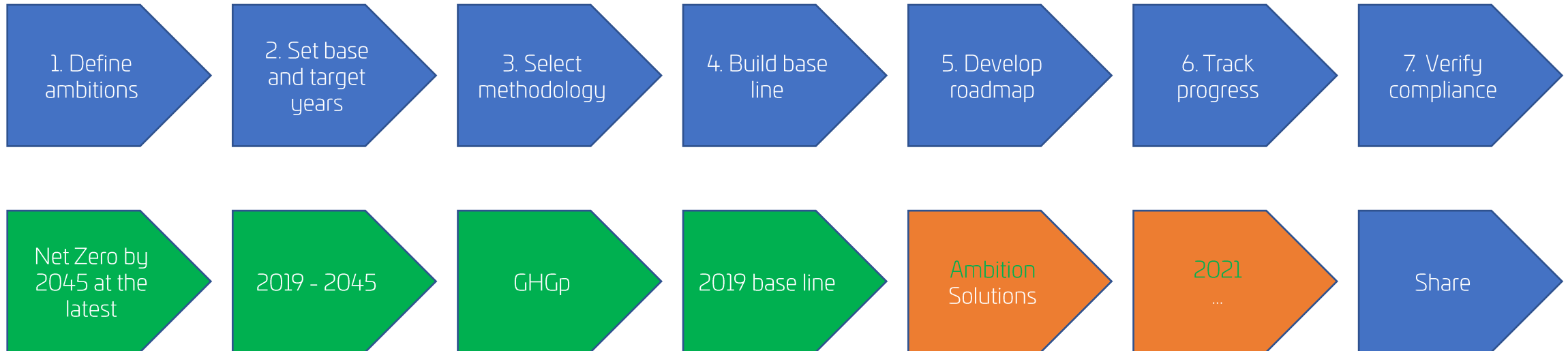
Roadmap

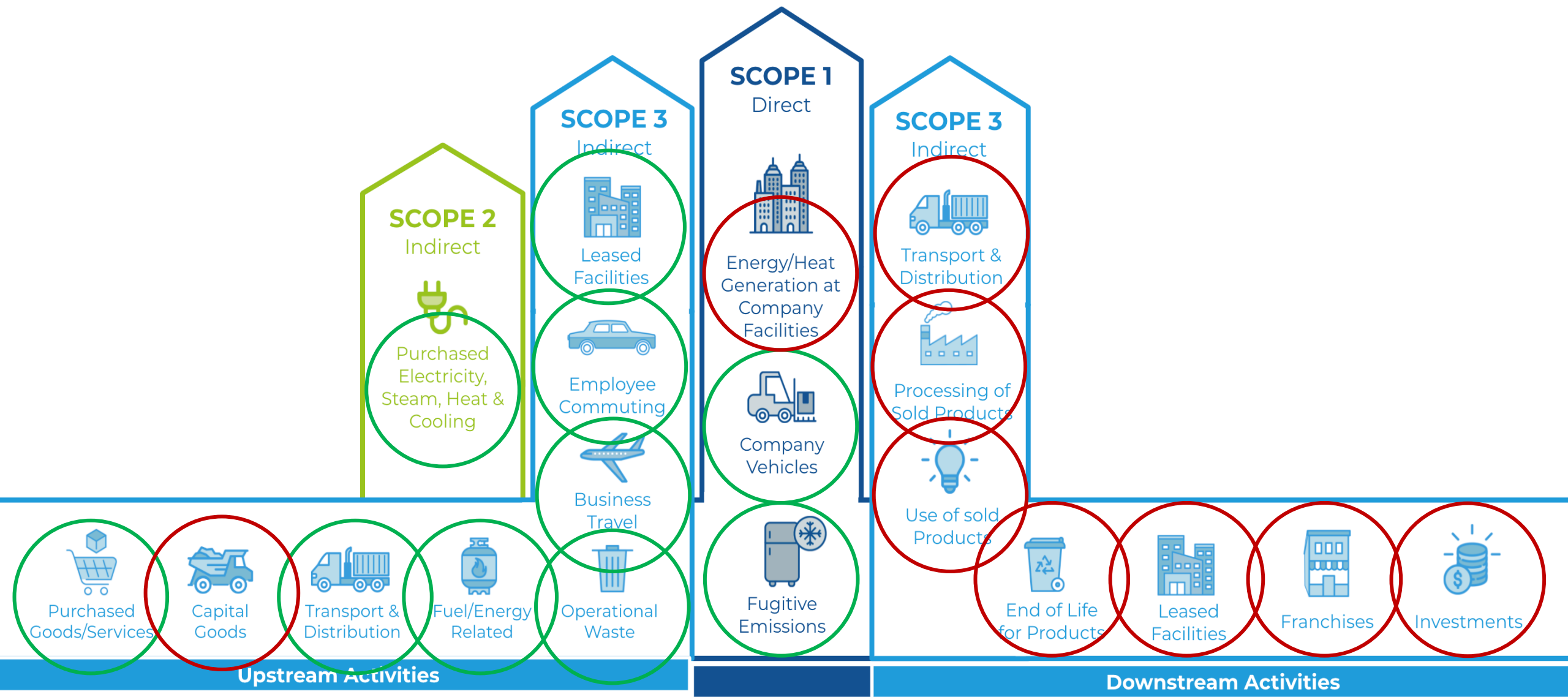
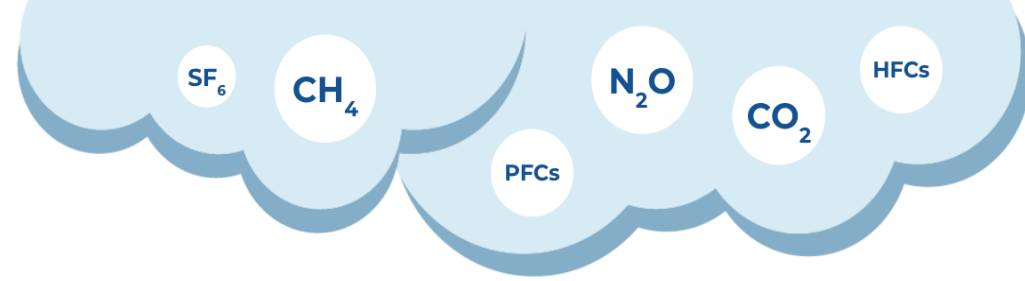


Progress to date

Roadmap

Scottish Engineering - Net Zero by 2045 at the latest





Scope 1 & 2 (tCO₂e)



GREENHOUSE
GAS PROTOCOL



Scope	Activity Type	Year		
		2019	2020	2021
Scope 1	Stationary combustion	n/a		n/a
	Mobile combustion	15.36		4.57
	Fugitive emissions from air-conditioning	0.00		0.00
	Other fugitive or process emissions	n/a		n/a
	Scope 1 - Total	15.36	0.00	4.57
Scope 2	Purchased electricity - location based	25.42		7.88
	Purchased electricity - market based	n/a		n/a
	Purchased heat and steam	n/a		n/a
	Scope 2 - Location based + heat and steam	25.42	0.00	7.88
	Scope 2 - market based + heat and steam	n/a		n/a
Scope 1+2		40.79		12.45

Scope 3 (tCO₂e)



GREENHOUSE
GAS PROTOCOL



		Year		
Scope	Activity Type	2019	2020	2021
Scope 3				
Cat. 1	Purchased goods and services	66.02		69.44
Cat. 2	Capital goods	n/a		n/a
Cat. 3	Fuel-and energy-related activities (not included in scope 1 or scope 2)	4.00		2.23
Cat. 4	Upstream transportation and distribution	Cat. 1		Cat. 1
Cat. 5	Waste generated in operations	Cat. 1		Cat. 1
Cat. 6	Business travel	4.45		0.86
Cat. 7	Employee commuting	4.94		0.87
Cat. 8	Upstream leased assets	Cat. 1		Cat. 1
Cat. 9	Downstream transportation and distribution	n/a		n/a
Cat. 10	Processing of sold products	n/a		n/a
Cat. 11	Use of sold products	n/a		n/a
Cat. 12	End-of-life treatment of sold products	n/a		n/a
Cat. 13	Downstream leased assets	n/a		n/a
Cat. 14	Franchises	n/a		n/a
Cat. 15	Investments	n/a		n/a
	Scope 3 - Total	79.41		73.40
Scope 1+2+3		120.20		85.85

GHG Emissions (tCO₂e)

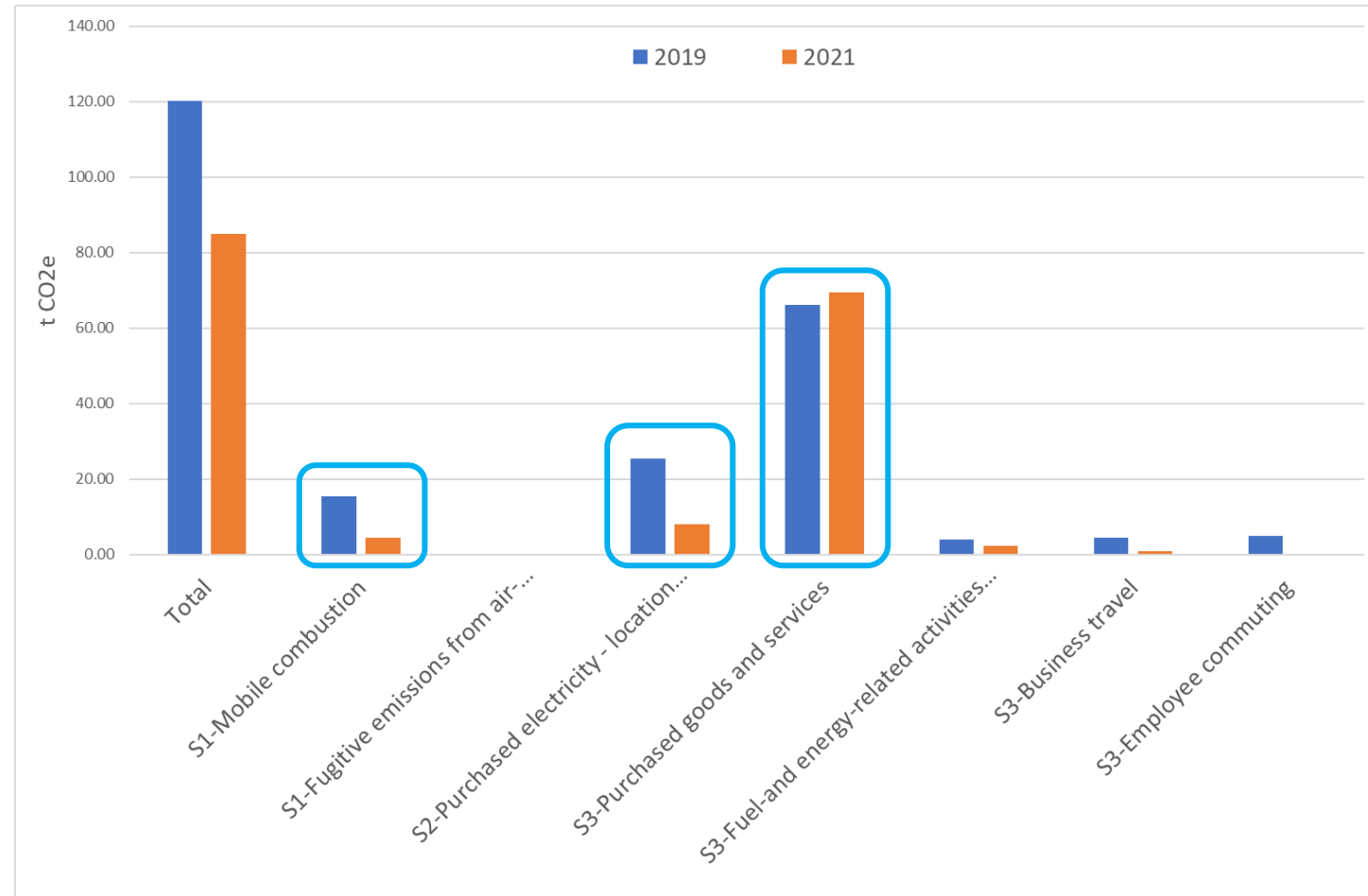
2019 to 2021

Emissions:

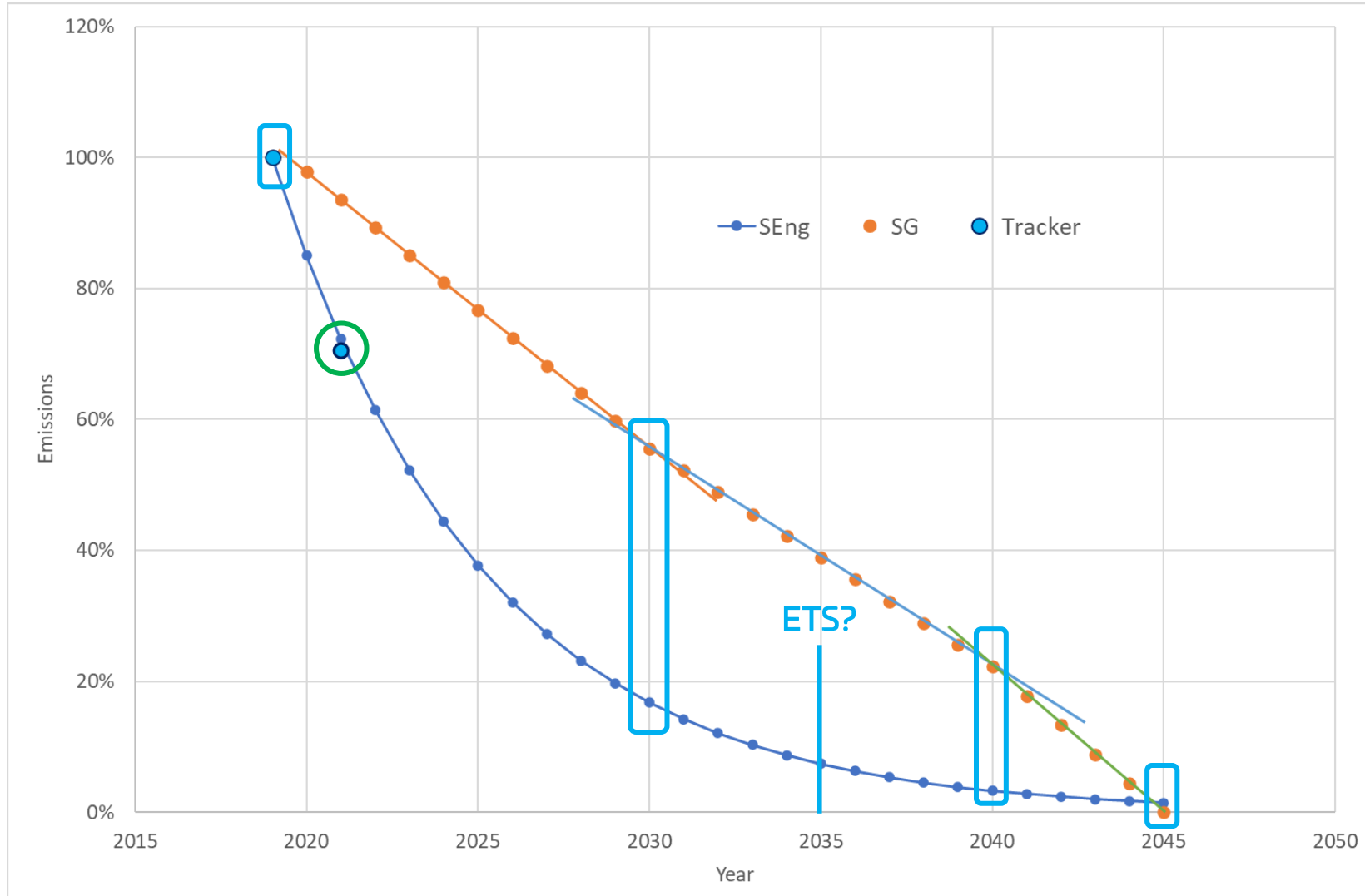
- 2019 – 120 tCO₂e
- 2021 – 86 tCO₂e

Main contributors:

- > Scope 1: Mobile combustion
- > Scope 2: Purchased electricity
- > Scope 3: Purchased goods and service



Roadmap tracker



year	SEng (%)	SEng (tCO2e)	SG
2019	100%	120	100%
2020	85%	102	98%
2021	72%	87	94%
2022	61%	74	89%
2023	52%	63	85%
2024	44%	53	81%
2025	38%	45	77%
2026	32%	39	72%
2027	27%	33	68%
2028	23%	28	64%
2029	20%	24	60%
2030	17%	20	56%
2031	14%	17	52%
2032	12%	15	49%
2033	10%	12	46%
2034	9%	10	42%
2035	7%	9	39%
2036	6%	8	36%
2037	5%	6	32%
2038	5%	5	29%
2039	4%	5	26%
2040	3%	4	22%
2041	3%	3	18%
2042	2%	3	13%
2043	2%	2	9%
2044	2%	2	4%
2045	1%	2	0%

Net Zero programme

Influence



To date:

- > Webinars: 9 were delivered
- > Organisations: 182 were reached
- > Individuals: 570 showed interest
- > One-to-one: 145 were delivered
- > Library: over 300 reports related to Net Zero, CESAP, CCP, standards and their implementation

Today:

- > Webinar: Getting Started
- > Thank you to Samantha Jamieson and Diamond Power

Next:

- > Webinars: Developing a Roadmap
- > August: welcoming Ian MacLachlan and Aggreko
- > September: welcoming Rebecca Rainbow and Texo



We are here to help and we can help



Thank you



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