Net Zero Target Development

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SLR Consulting Group

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global **environmental** and **advisory** solutions

The Presenter

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Graeme has over 15 years experience in the areas of carbon management and carbon reporting. He has worked with organisations across a range of sectors, ensuring compliance with mandatory carbon reporting schemes and developing carbon targets, and carbon management strategies.

What we'll cover today

1

Background to Net Zero Targets and Science Based Targets

2

Know where you are starting from - set baseline year

3

Know your emissions - Scope 1, Scope 2 and Scope 3

4

How can you improve? – Reduce your emissions: Scope 1 and 2

5

How can you improve? – Reduce your emissions: Scope 3

6

Target calculation and selection

BACKGROUND

International Targets

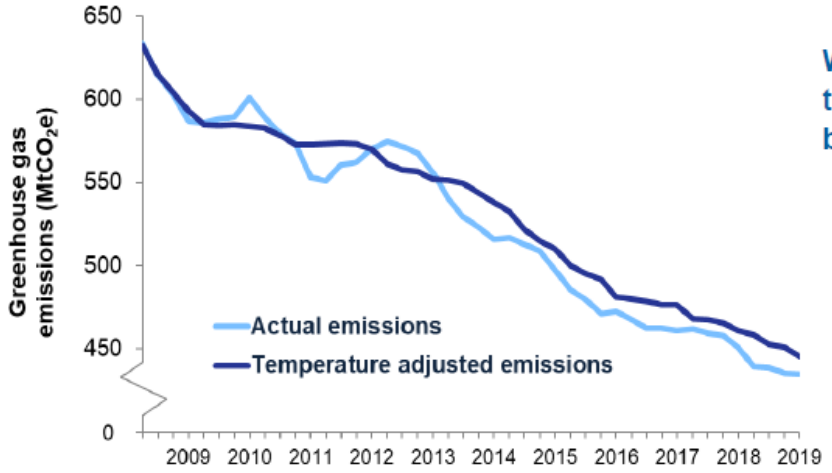
Various targets have been set both internationally and at the UK level:

- Kyoto Protocol 2005 - (UK 12.5% reduction in first target period 2008-2012 from 1990 baseline)
- Paris Climate Agreement 2016 - limit global warming to well below 2°C and pursuing efforts to limit it to 1.5°C
- EU - to be climate-neutral by 2050 (net-zero greenhouse gas emissions)
- US Net Zero by 2050
- China Net Zero by 2060
- UK - All greenhouse gas emissions to 'Net-zero' by 2050
  - The Climate Change Act 2008 (2050 Target Amendment) Order 2019

United Nations Climate Change

UK Performance

- 2018 emissions - 43% reduction from 1990 levels (from UK ONS)
- UK has met first two carbon budgets
- New Target to be Net-Zero by 2050



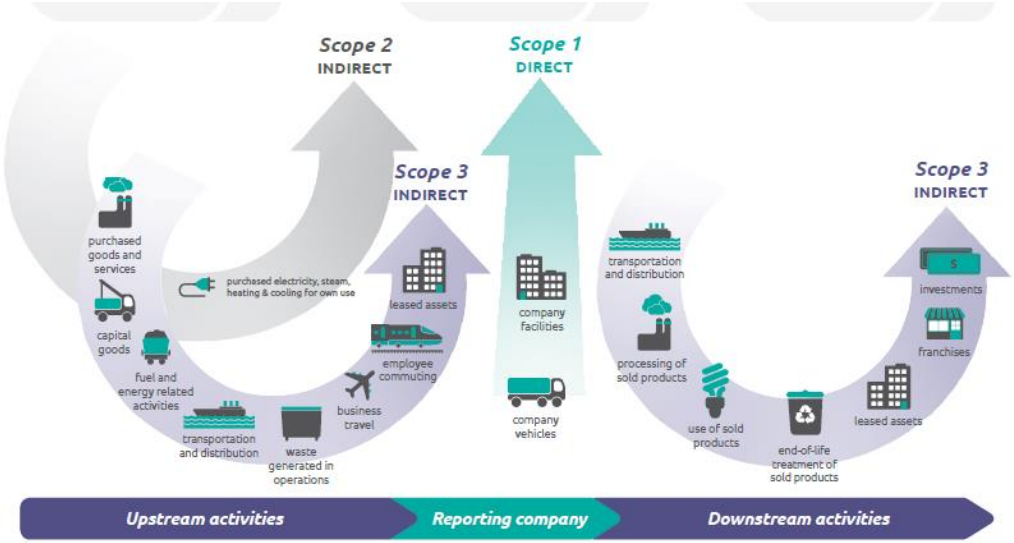
While actual emissions fell by 3.6% temperature adjusted emissions fell by 3.4% between 2018 and 2019

2019 annual average temperature warmer than long term average by **0.5°C**

What are the Scopes of Emissions?

- Under GHG Protocol Methodology – GHG emissions categorised by Scope
  - Scope 1 – Direct e.g. Natural gas, diesel, Refrigerant gases
  - Scope 2 – Indirect from purchased energy e.g. electricity, heat
  - Scope 3 – Indirect (all other) e.g. from waste, water, commuting etc.

Image from GHG Protocol Corporate Reporting Standard



What is a Net Zero?

What is it?

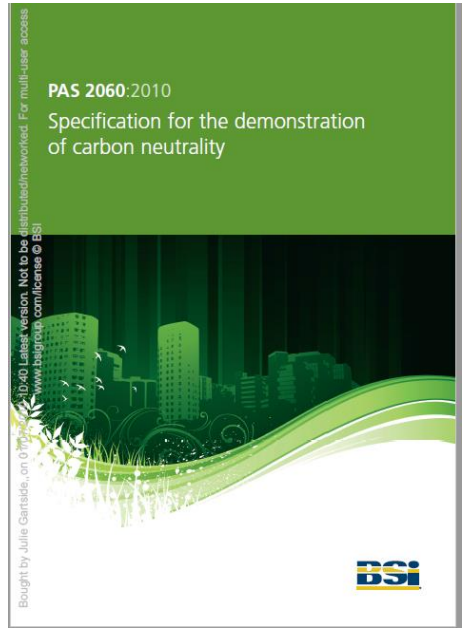
- *'Carbon neutrality, refers to achieving net zero carbon dioxide emissions by balancing carbon emissions with carbon removal (often through carbon offsetting) or simply eliminating carbon emissions altogether'*

Requirements

- Based on the **PAS 2060** – 'Specification for the Demonstration of Carbon Neutrality' – an entity must have **measured, achieved reductions in carbon footprint and off-set remaining emissions**

How does this differ from Net Zero?

- *To achieve Net Zero implication is that any offsets involve **carbon removal** e.g. sequestration through tree planting*
- *rather than **carbon avoidance** e.g. introduction of renewable technologies replacing fossil fuels)*



Science Based Targets (SBT)

What is it?

- The Science Based Targets initiative (SBTi) is a collaboration between CDP, the United Nations Global Compact (UNGC), World Resources Institute (WRI), and the World Wide Fund for Nature (WWF).
- Targets are considered "science-based" if they are in line with what the latest climate science says is necessary to meet the goals of the Paris Agreement – to limit global warming to below 1.5°C
- This requires an 80% reduction in GHG emissions by 2050 (from 1990 baseline)

Requirements

Specific methodologies can be applied to the target:

- **'Absolute emissions contraction'** - This equates to at least
  - a **2.5%** absolute reduction per year for well-below **2°C** alignment
  - or a **4.2%** absolute reduction per year for **1.5°C** alignment

SBTi Net Zero Target

- SBTi state that ‘science-based Net Zero requires companies to achieve deep decarbonization of **90-95%** before 2050’
- At that point, a company must **neutralise** any limited residual emissions that are not yet possible to cut.
- Residual emissions must be neutralised through **carbon removals**

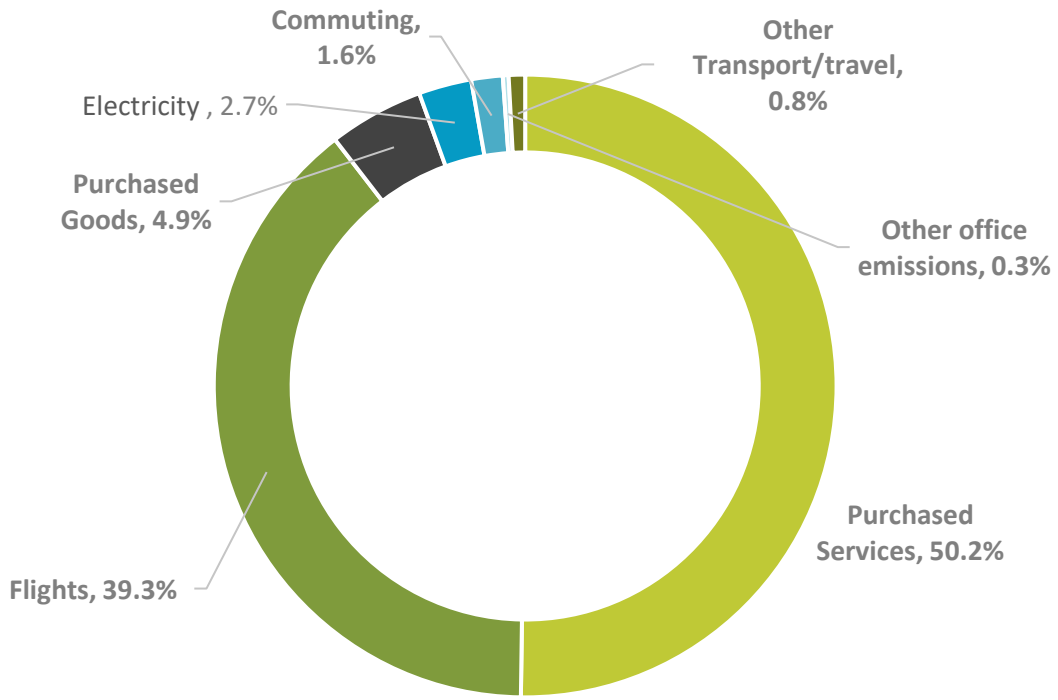
TARGET SETTING PROCESS

KNOW WHERE YOU ARE STARTING FROM

Set baseline year

Baseline Year

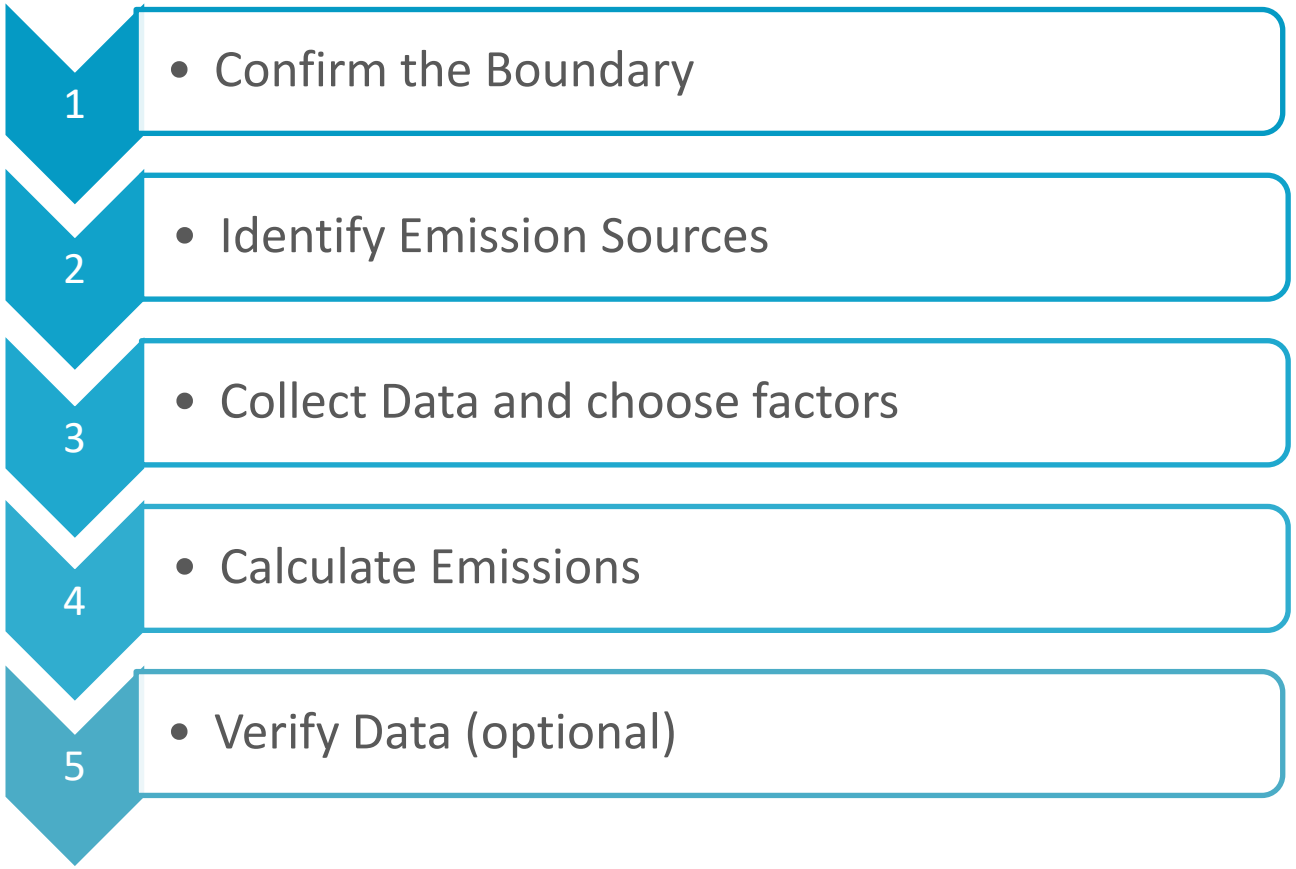
- Choose representative year for normal operation
  - 2020 and 2021 impacted by COVID. Could have reduced emissions, impact of social distancing and bubbling measures.
  - Comparable operations. Try and avoid large scale restructuring
  - Peer and competitor comparison
  - Most companies choose calendar year as baseline
    - Government using 1990 baseline
    - Competitor analysis, most using year between 2016 – 2019 as representative
    - For SBTi must not be more than 2-years before submission
  - May also depend on available data



KNOW YOUR EMISSIONS

Calculate your emissions

Calculating a Carbon Footprint



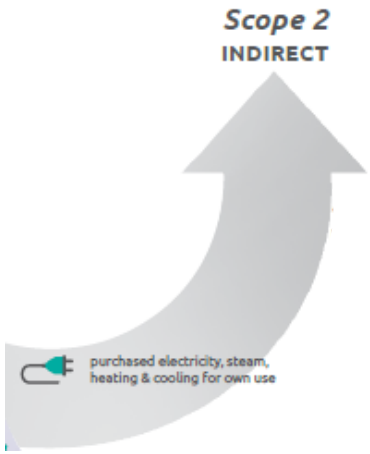
Scope 1 Emissions

- What to include
  - Direct energy consumption – gas, propane, oil, biomass
  - Direct transport emissions – where fuel is paid for directly
  - Direct process emissions
  - Direct fugitive emissions – refrigerant gas losses

- Things to consider
  - Make sure you understand the units of measure
  - Use verifiable data sources
  - Same baseline period for all emission sources
  - Use recognised conversion factors to convert to CO_2 equivalent

Scope 2 Emissions

- Grid electricity
  - UK grid decarbonisation – emission factors change every year
  - May have certified renewable electricity
- Other imported secondary energy
  - Private wire or 3rd party CHP
  - Imported heat or steam

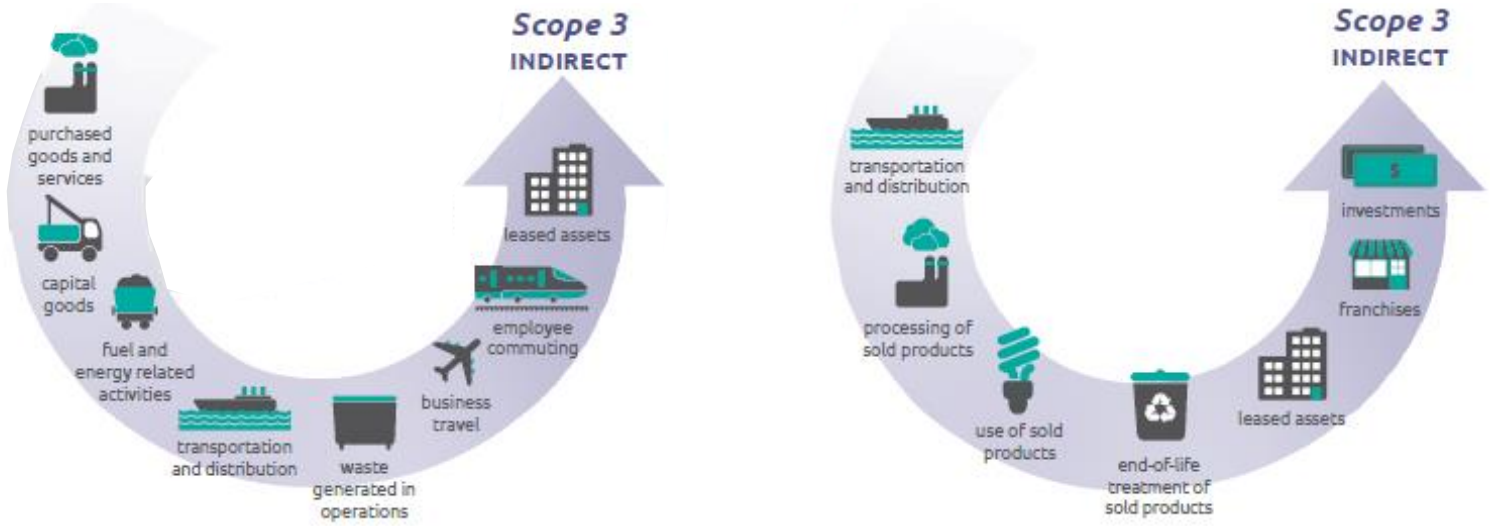


Reporting of 'Green' Electricity

- The GHG Protocol allows companies to reflect how the electricity supplied to their organisation was generated. There are two ways in which to report electricity:
  - **Location based:** electricity is generated in a country and it is converted into carbon emissions using that country's national grid emission factor
  - **Market based:** the electricity is converted into carbon emissions using the carbon emission factors supplied by their energy provider. Hence if an organisation is supplied with 100% certified renewable/'green' electricity then it will have a carbon emission factor of zero
- For transparency a Dual Reporting Methodology is recommended
- On-site generated renewable electricity can be classified as low/zero-carbon

Scope 3 Emissions

- Boundary definition will impact Scope 3 calculation
  - ‘Cradle-to-gate’, ‘cradle-to-grave’
- Initial estimates using Value Chain Analysis, then more detail in significant areas
- SBTi mandatory to report Scope 3 if >40% of total footprint.



‘Upstream’ Scope 3

1	Purchased Goods and Services	Extraction, production, and transportation of goods and services purchased
2	Capital Goods e.g. Plant, buildings, vehicles	Extraction, production, and transportation of capital goods purchased
3	Other fuel and energy related emissions	e.g. Extraction, production, and transportation of fuels and energy, T&D losses
4	Upstream transportation and distribution	Transportation and distribution of products and services purchased (non-owned vehicles)
5	Waste generated	Disposal and treatment of waste
6	Business travel	Transportation of employees for business-related activities (non-owned vehicles), can include hotel stays
7	Employee Commuting	Transportation of employees between homes and workplace
8	Upstream leased assets	Operation of assets leased by the reporting company (lessee)

‘Downstream’ Scope 3

9	Downstream transportation and distribution	Transportation and distribution of products sold (in non-owned vehicles)
10	Processing of sold products	Processing of intermediate products sold
11	Use of sold products	e.g. energy consumed by the product during expected life-time (Scopes 1 and 2 emissions)
12	End-of-life treatment of sold products	Emissions that occur during disposal or treatment of sold products
13	Downstream leased assets	Operation of assets owned by the reporting company (lessor)
14	Franchises	Operation of franchises (Scope 1 and 2)
15	Investments	Operation of investments (including equity and debt investments and project finance)

Value Chain Mapping

Companies should map the value chain as a first step toward identifying the Scope 3 activities that are included in the inventory…may exclude Scope 3 activities from the inventory, provided that any exclusion is disclosed and justified'

Undertake initial estimates of the size of the emissions by category. Potentially exclude:

- Categories that are **irrelevant**
- Emission sources estimated to be **insignificant**
- Emissions where the ability to collect data and influence GHG reductions is limited
- Lack of data means you are unable to estimate/calculate emissions

HOWEVER *- 'Should not exclude any activity that is expected to contribute* ***significantly*** *to the company's total'*

Scope 3 Conversion Factors

Need to select conversion factors:

- **Defra/BEIS** provide factors for e.g. water use, waste disposal, material use; glass, paper, electrical items, plastics https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021
- **GHG protocol third part databases –** GHG provide a list of databases, some free some available for a fee https://ghgprotocol.org/life-cycle-databases
- **GHG Protocol/WRI Scope 3 evaluator tool** provides a high level estimate for; operation of facilities, purchases, logistics, travel, leased assets and investments) – uses primarily financial data, accepted by SBTi https://ghgprotocol.org/scope-3-evaluator
- **Industry standards/Research Institutions** – Internet searches

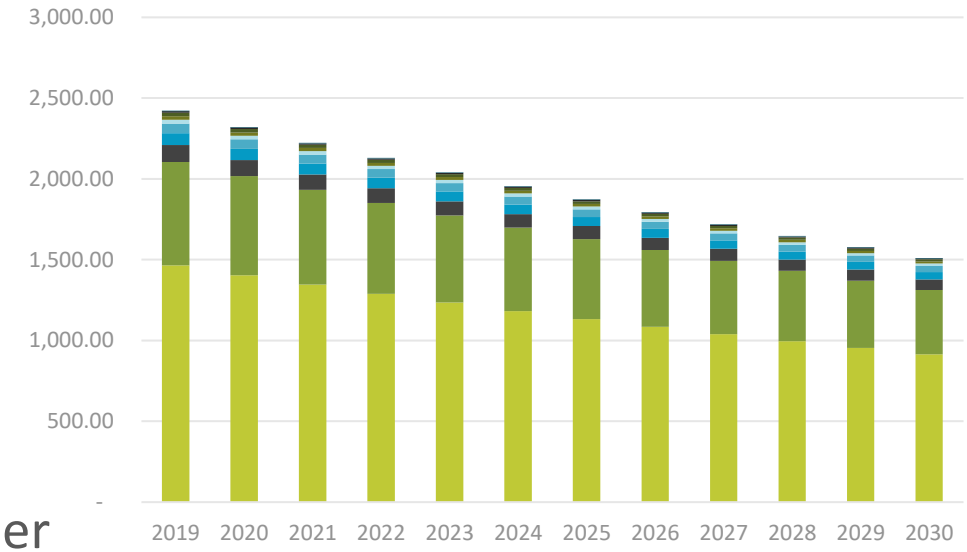
Always state the source in your conversion factors in your GHG report

HOW CAN YOU IMPROVE?

Reduce your direct emissions, Scope 1 and 2

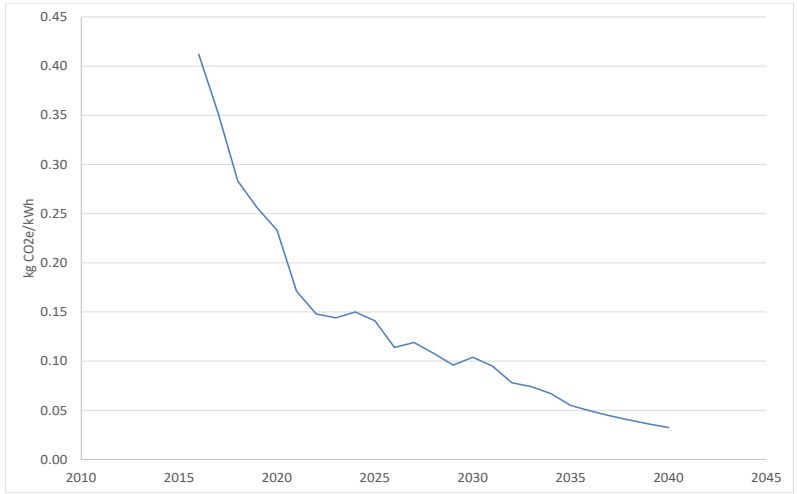
Identify energy/carbon reduction measures

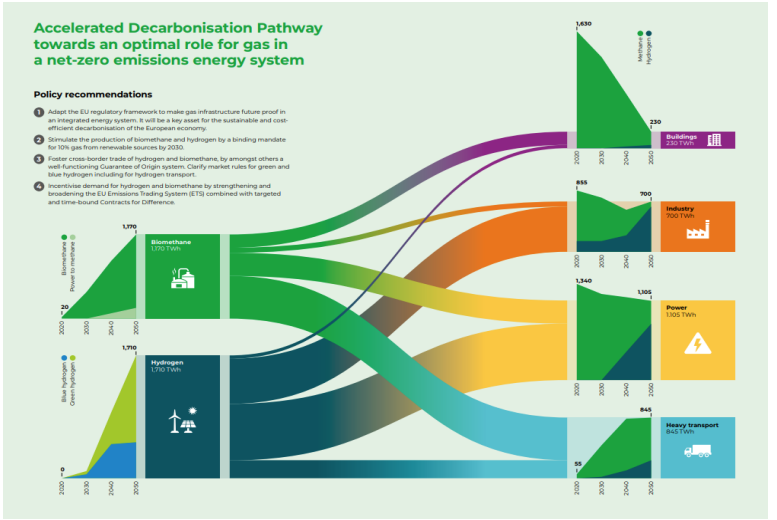
- Quantify known mitigation measures
  - Identify Energy/carbon reduction measures
    - Make the best use of ESOS, ISO 50001
  - F-gas compliance
    - Reducing F-gas losses
  - Quantify benefits and costs for every measure
  - Determine which are acceptable to consider further



Cleaner Energy Use

- Electricity grid decarbonisation
- Proposed gas grid decarbonisation
- Green electricity tariff, green gas tariff
  - Look to secure Renewable Energy Guarantees of Origin or REGO Certificates
- Renewable energy and energy from waste



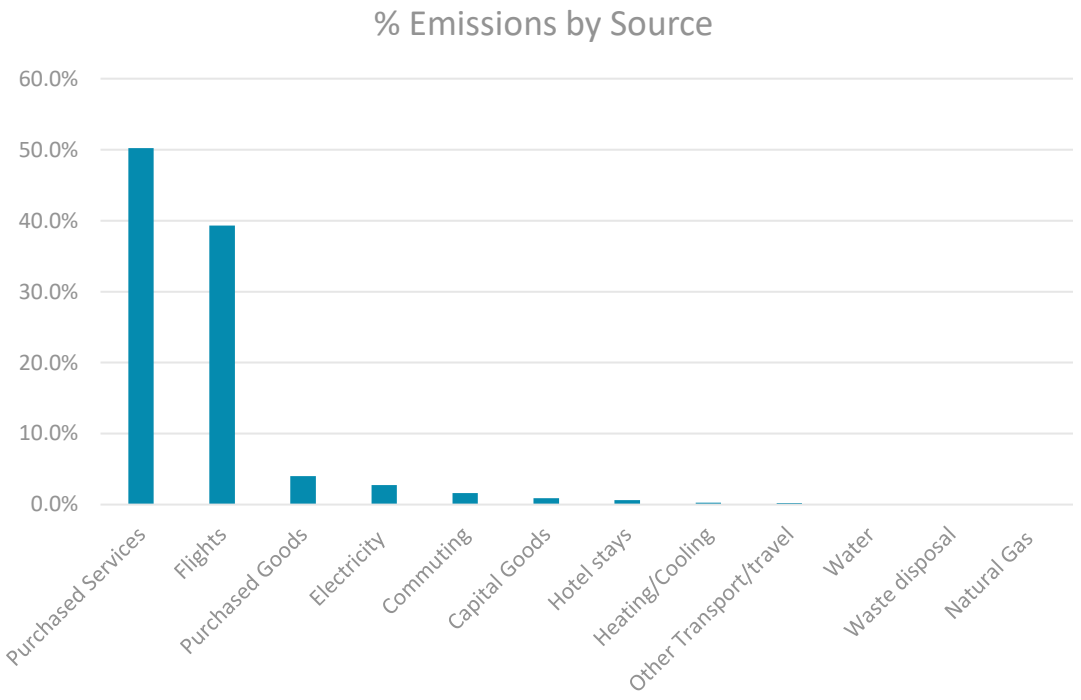


HOW CAN YOU IMPROVE?

Reduce your indirect direct emissions, Scope 3

Scope 3 Reductions

- These emissions can be partially outside of your control
- The first step is to understand where Scope 3 emissions are and how they could be influenced
- Some concrete measures to reduce
  - Change raw material sourcing
  - Reduce process waste, waste segregation, encourage energy from waste
  - Packaging changes impact upstream supply chain and downstream disposal
  - Distribution logistics impacts 3rd party haulage and warehousing
- Speak to your suppliers and customers
  - They may already be reducing for you

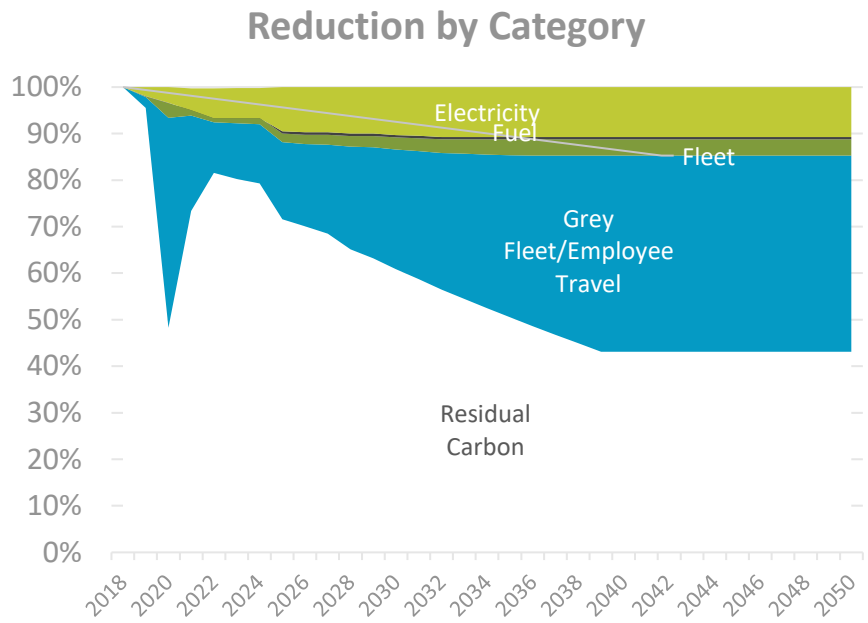


TARGET CALCULATION AND SELECTION

Develop the Target and set Target Year

Develop the Target

- Confirm Target Boundary
  - E.g. Global operations/UK only/Scopes 1,2,3
- Confirm Baseline Year and Target Year
  - Agree with senior managers
- Include measures outside your control
  - Grid decarbonisation/electrification of vehicles etc
- Include impact of business changes (expansion/contraction)
- Select Mitigation Measures
  - Identify actions to be implemented and when
- Calculate
  - Predicted change in carbon per year and develop trajectory
- Target Scope 3
  - Estimate impacts of potential actions
  - Potentially include now or set future ambitions
  - Engage with suppliers
- Off-Setting
  - Calculate residual emissions and potential cost to off-set
  - Develop off-setting strategy
- Review Target
  - Review and update/amend the target and strategy at least annually



OFF-SETTING

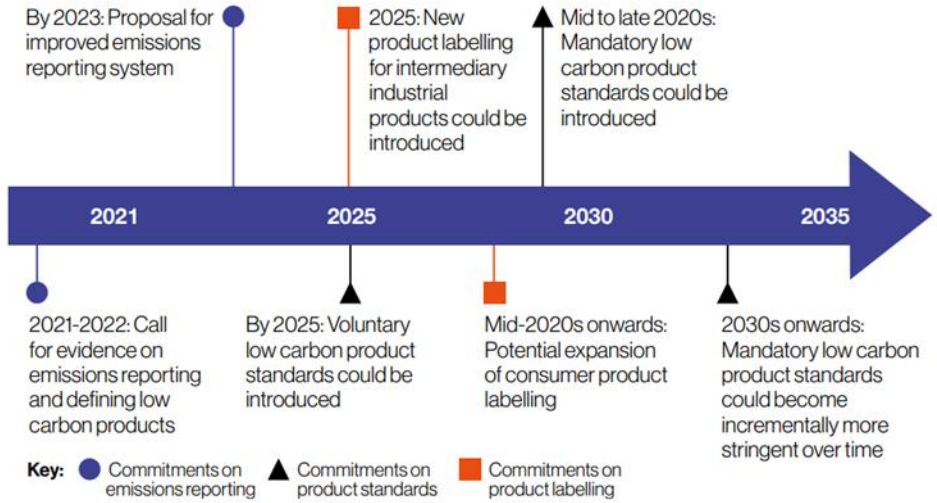
Off-setting selection criteria

Offsets should meet the following principles:

- Represent genuine, additional GHG emission reductions
- Meet the criteria of additionality, permanence, leakage and double counting
- Be verified by an independent third party verifier
- Be issued after the emission reduction project has occurred
- Credits to be retired within 12 months from the date of the declaration of achievement
- Be supported by publicly available project documentation
- Be stored and retired in an independent and credible registry e.g.
  - Kyoto Complaint Off-sets – Certified Emission Reductions (CERs)
  - EU Allowances
  - Voluntary Emission Reductions (VERs) e.g. Gold Standard, Voluntary Carbon Standard
- To achieve true **Net Zero** – off-sets should relate to carbon removals (defined as 'Neutralisation activities' by CDP/SBTi)

Benefits

- Reduce environmental impact of the organisation
- Provides a process/methodology to monitor and reduce emissions
- Identify emission and cost reduction opportunities
- Can generate positive publicity for shareholders/customers
- Meet customer demands
- UK Gov requirement for tenders PPN/0621 (must have a Net Zero 2050 target in place)
- Future-proof against legislation
- However – must be open regarding scope of Neutrality!



12th February

BP pledges net zero but critics were quick to point something out

INDEPENDENT PREMIUM

Just how credible is BP's carbon neutral promise?

FURTHER INFORMATION

ADDITIONAL INFORMATION

PAS2060

https://www.bsigroup.com/en-GB/PAS-2060-Carbon-Neutrality/

GHG Protocol

https://ghgprotocol.org/

Science Based Targets

https://sciencebasedtargets.org/

QUESTIONS?

Thankyou

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