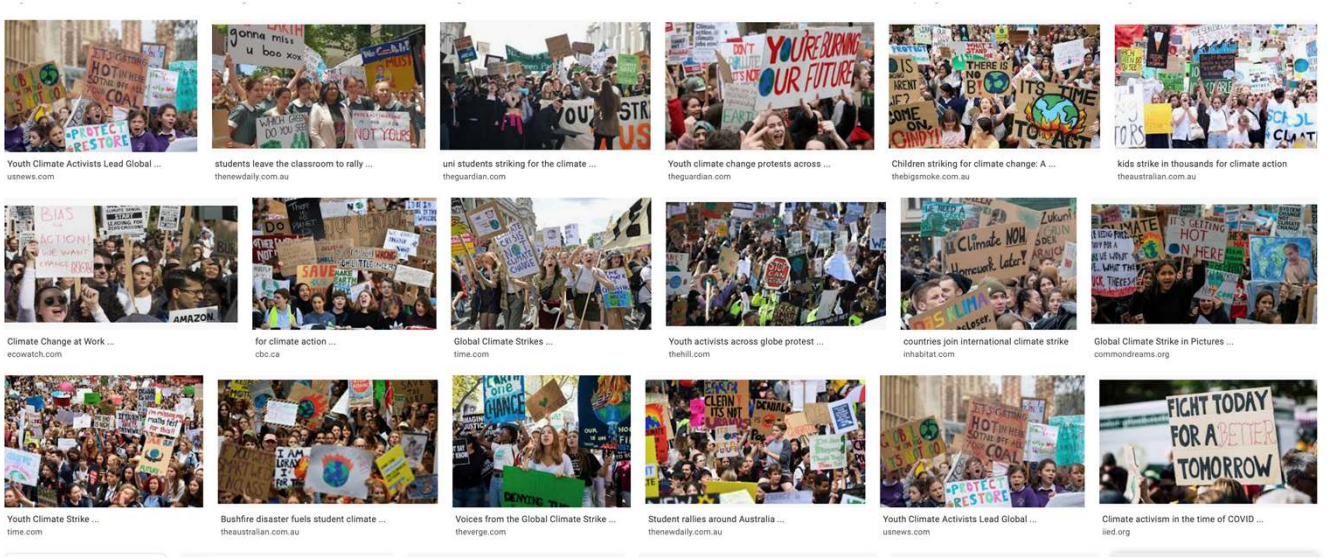
University of St Andrews | FOUNDED 1413 |

Net Zero by 2035


There is
No Planet B


Youth Climate Activists Lead Global ...
usnews.com
students leave the classroom to rally ...
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theguardian.com
Youth climate change protests across ...
theguardian.com
Children striking for climate change: A ...
thebigsmoke.com.au
kids strike in thousands for climate action
theaustralian.com.au
Climate Change at Work ...
ecowatch.com
for climate action ...
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Global Climate Strikes ...
time.com
Youth activists across globe protest ...
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usnews.com
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THE TIME IS NOW

Why Net Zero

Net Zero Target

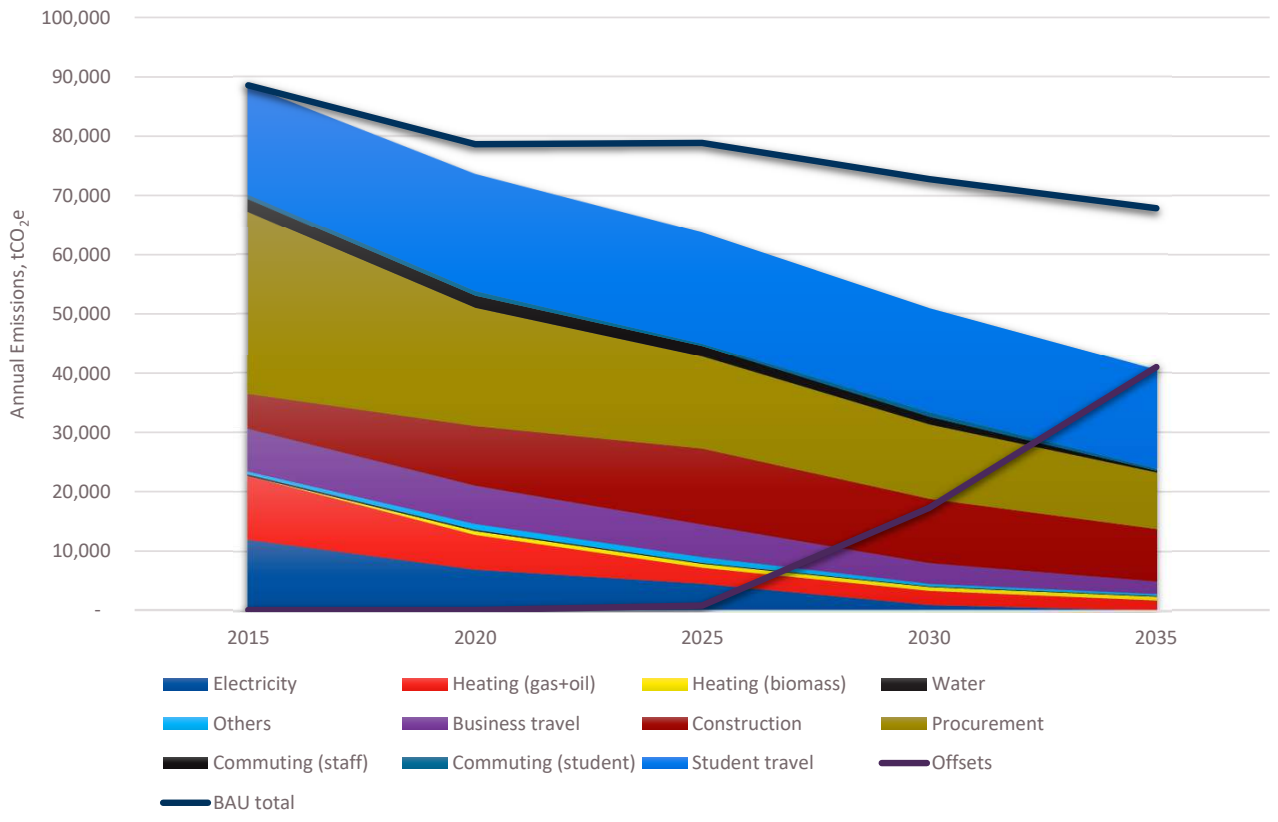
Includes the majority of our operational impacts

Direct and indirect emissions

Some have been historically reported, enhanced reporting scope estimated from best current information

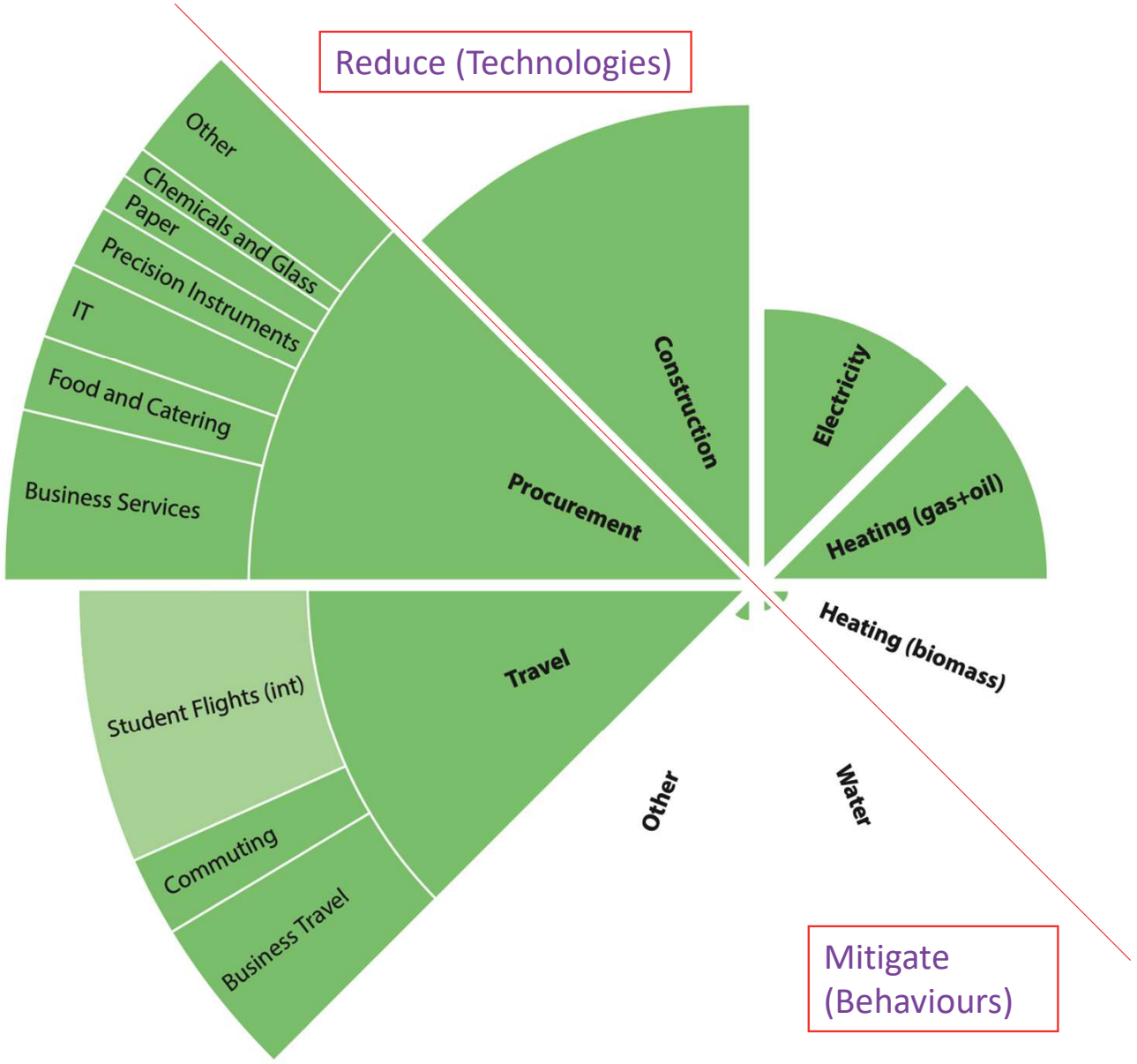
Our trajectory planned and to date is shown right,

Includes BAU and anticipated offsets required to achieve net zero 2035

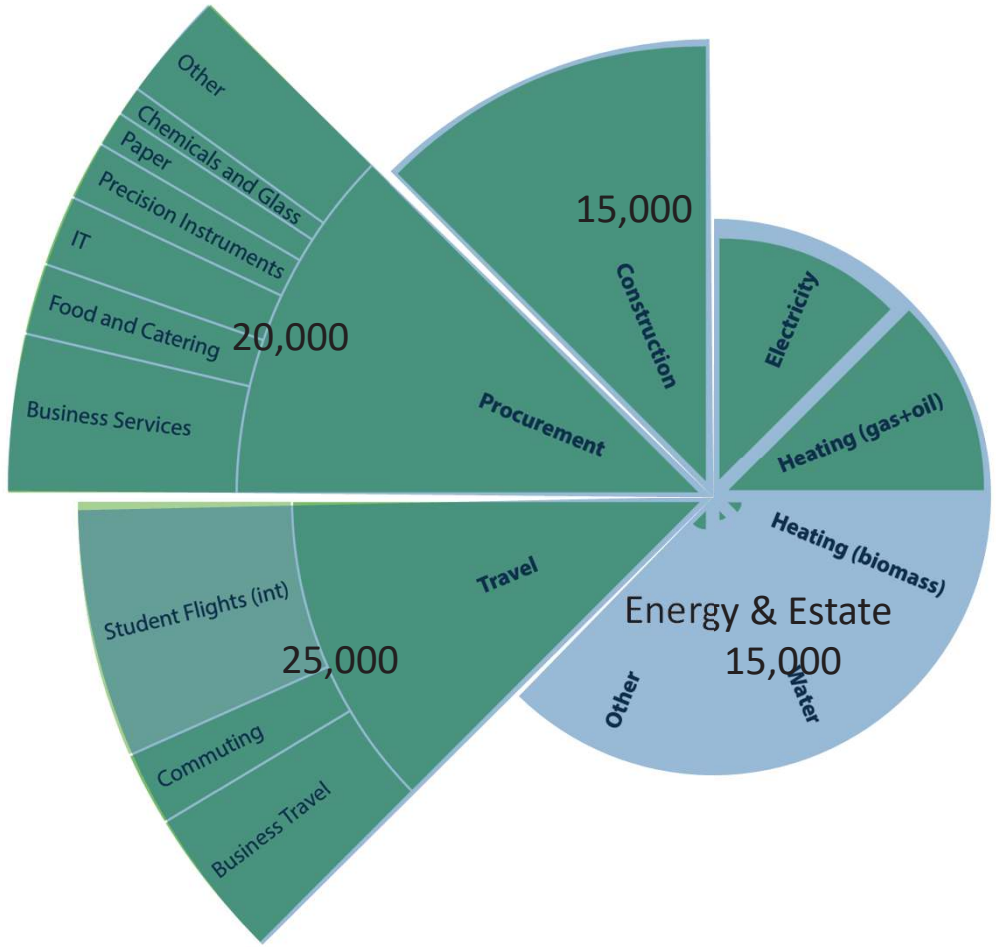


Where is our Carbon?

Total Carbon: 73,876 tCO2e
Carbon from Energy (15/16 ktCO2)



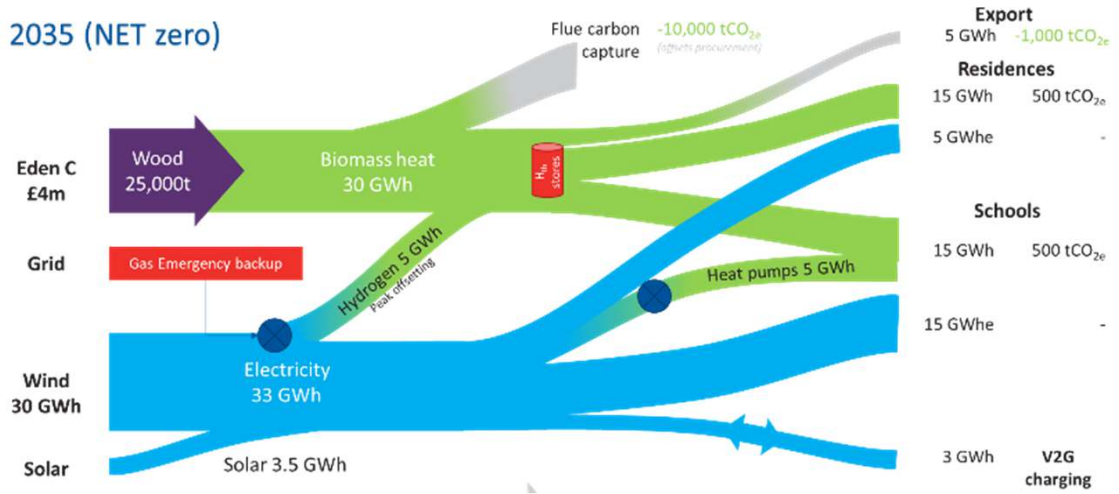
Split into ‘solvable’ problems



Roadmap: Energy and Estate

- **SCOPE:** Emissions from our estate: Includes, electricity, gas (and fuel oil), biomass, waste, water, and fleet fuel
- **COSTS:** Currently our annual bill for these services is circa £8m, investment in net-zero could reduce this by 50%
  (£30m saving between now and 2035)
- **DATA:** generally well understood, more meters proposed to increase detail
- **PROJECTS:** building fabric improvements and smart sensors (demand reduction), heat decarbonization, district heating extensions, and renewables (clean energy), coupled with investment in energy innovation and storage (Eden campus)
- **CHALLENGES:** new build (additional space requirements) will increase our consumption, but can also provide opportunities if planned sustainably

Current GHG emissions	**15,000 tCO_{2e}**
Proposed target (next 5 years)	-7,000 tCO_2e
Reduction required for net zero carbon (2035)	-12,000 tCO_2e



Roadmap: Staff Travel

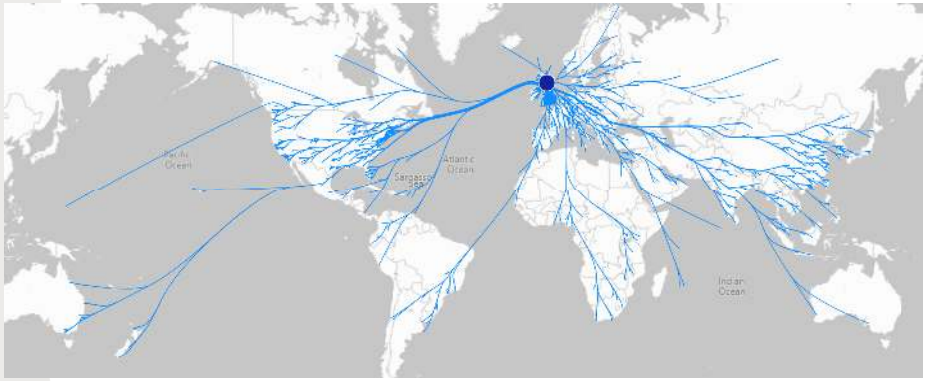
- **SCOPE:** Emissions from our business travel and staff commuting
  **data adjusted for a typical pre-pandemic year*
- **COSTS:** Currently our annual bill for this travel is £3.5m, reducing travel mileage will also directly reduce costs
- **DATA:** quality will increase if booked through formal channels and sharing data back with schools to improve carbon decision making, apps could assist with personal carbon foot-printing and commuting data
- **PROJECTS:** providing digital alternatives to business travel, supporting lower carbon travel, electric vehicle uptake and local active travel networks
- **CHALLENGES:** business travel may increase dramatically following on pandemic, potential overlap between University carbon and personal decision making

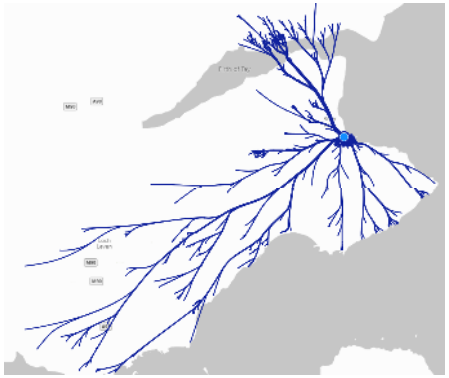
Current GHG emissions*	**8,500 tCO_{2e}**
Proposed target (next 5 years)	-1,500 tCO_2e
Reduction required for net zero carbon (2035)	-5,500 tCO_2e

Roadmap: Student travel

- **SCOPE:** Emissions resulting from student commuting during term-time and return trip from non-term-time address
- **DATA:** Improvements could be made on data accuracy with engagement on students on specific routes and modes of travel
- **PROJECTS:** Reductions will be seen as air travel decarbonises between now and 2035, potential to encourage students to opt for low-carbon travel (where options exist) or offset via St Andrews forest
- **CHALLENGES:** Understanding the balance and linking impacts with the St Andrews forest project

Current GHG emissions	**20,000 tCO_{2e}**
Proposed target (next 5 years)	-1,000 tCO_2e
Reduction required for net zero carbon (2035)	-5,000 tCO_2e





Roadmap: Construction

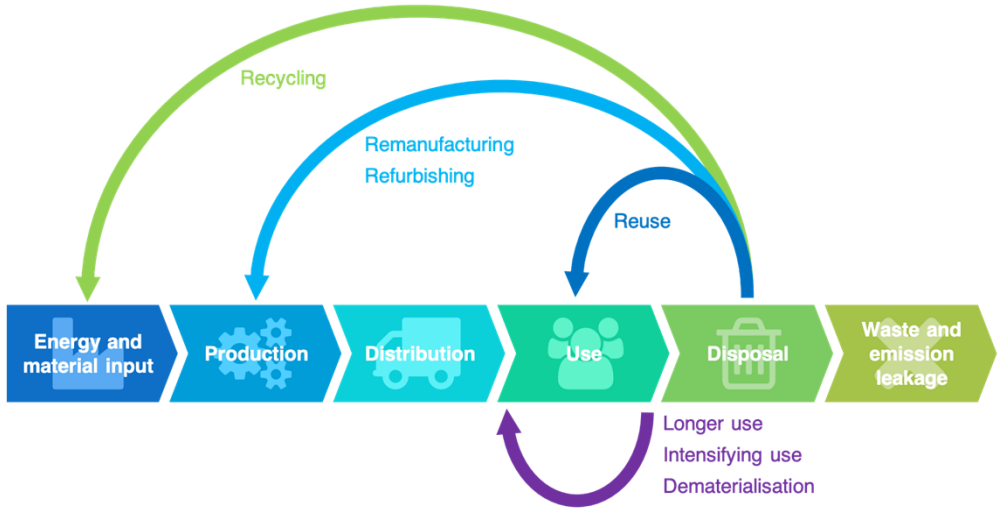
- **SCOPE:** Emissions from new build and refurbishment projects, in response to University space requirements
- **COSTS:** Our capital plan includes £400m investment over the next 10 years on construction, demolition and refurbishment projects
- **DATA:** we currently estimate carbon based on spend, to make better carbon decisions we need to work with our suppliers to record consumption data
- **PROJECTS:** main focus of next 5 years is improving data and working with larger suppliers to develop robust methods. However, tier 1 contractors (our larger projects) we can challenge now to reduce embodied carbon
- **CHALLENGES:** Potential cost and approval implications to lower carbon materials and methods if not included at RIBA 0

Current GHG emissions	**15,000 tCO_{2e}**
Proposed target (next 5 years)	-2,500 tCO_2e
Reduction required for net zero carbon (2035)	-6,000 tCO_2e

Roadmap: Procurement

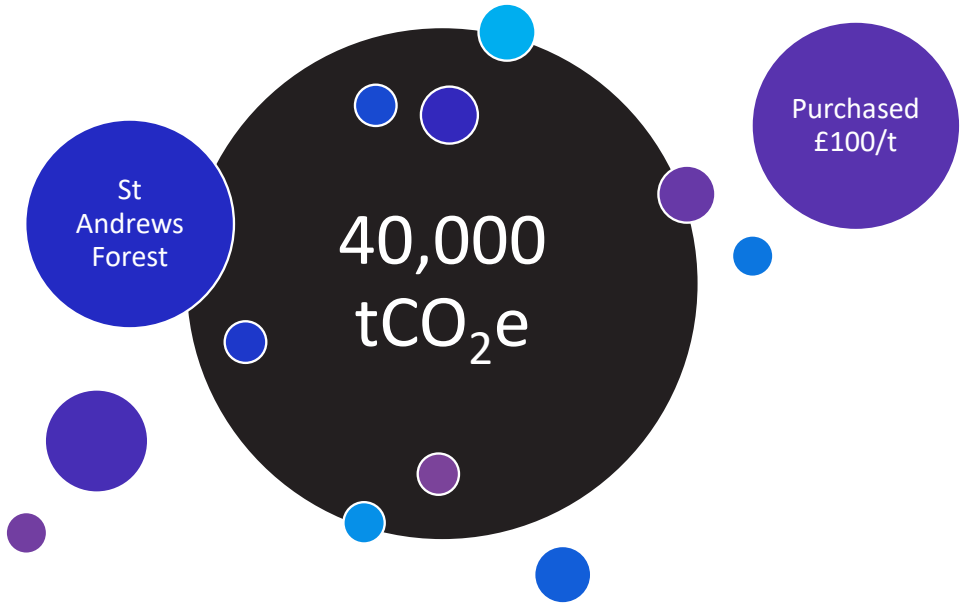
- **SCOPE:** Emissions embodied in the goods and services we buy as an institution
- **COSTS:** Per annum this includes over £60m of stuff (varying from complex science equipment to paper for our printers)
- **DATA:** whilst we understand areas of greatest impact and types of product and service procured, we estimate based on spend, which does not account for specific suppliers
- **PROJECTS:** Development of carbon accounting tool to standardise reporting now and act as a backbone for supplier specific data later. Immediate returns can also be made by reducing purchases by reducing our demand and introducing circular approaches (reuse and sharing)
- **CHALLENGES:** high level of estimation at current, our biggest challenge is standardising data and reporting to measure reductions, which will need to interface with many of our existing systems

Current GHG emissions	**20,000 tCO_{2e}**
Proposed target (next 5 years)	-5,000 tCO_2e
Reduction required for net zero carbon (2035)	-10,000 tCO_2e

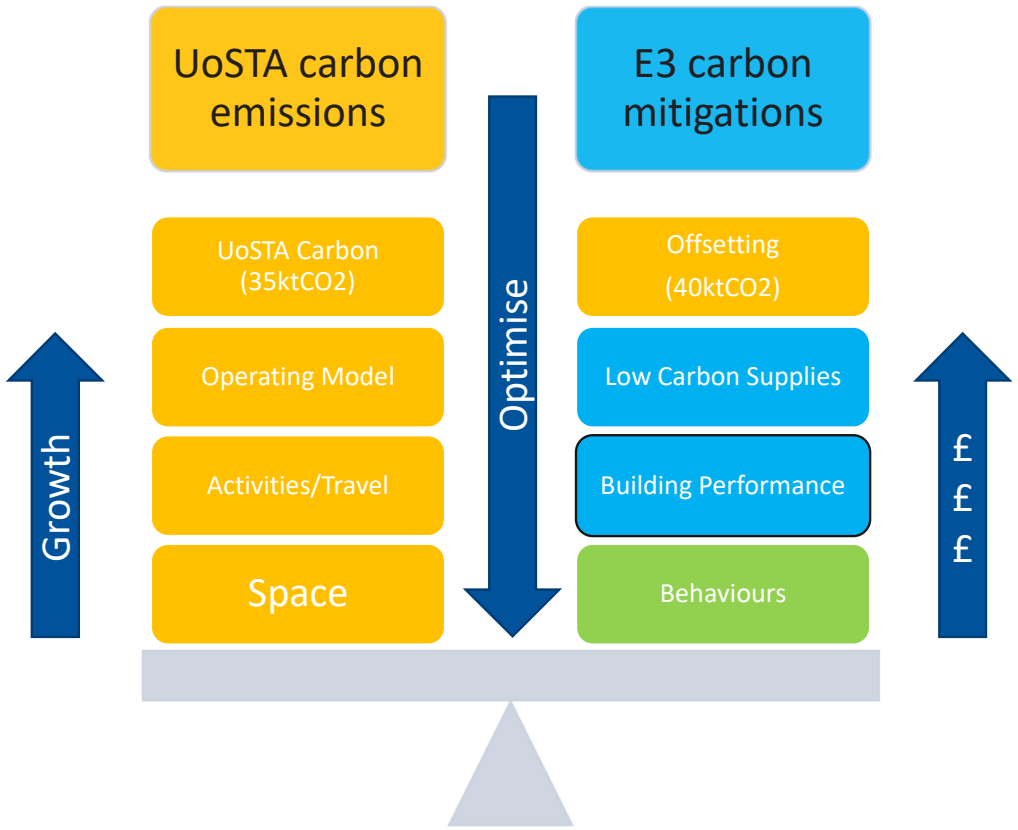


Roadmap: Offsets

- **SCOPE:** Offsets required to achieve net zero carbon
- **COSTS:** Per annum this is forecast at £100/t – the cost of not decarbonising
- **DATA:** offsets will need to be recorded for St Andrews projects or be procured from an accredited scheme
- **PROJECTS:** Work in progress!
- **CHALLENGES:** others with net zero targets will likely increase the demand for market procured offsets as we near 2035 – continual review of £100/t and our balance between reduction and offset will be required



Carbon Balance – Net Zero



Fabric upgrades £400 / tCO_{2e}	Benefit (~50 years)
Plant upgrades £200 / tCO_{2e}	Benefit (~10 years)
Low-carbon energy £300 / tCO_{2e}	Benefit (~20 years)
Offset £100 / tCO_{2e}	Annual cost
Behaviours (OA/Optimise) Free/-Ve	Free to -Ve

Project Register

Repository for collating ideas and recording potential impact, where;

- Project: 90% likely
- Concept: 60% likely
- Idea: 20% likely

Charts on right, summarise our planned portfolio of projects against overall and emission targets

We can also use these to track revenue cost impacts as part of whole-lifecycle thinking