University of St Andrews

Sustainable Places

Heads of Planning Conference

10 June 2022

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Estate Vision

We will build and maintain an estate that is innovative, enduring and contributes to the qualitative attributes of the wider town. By ensuring our estate is flexible, efficient, future-proofed to adapt to changing work and study patterns, we will create an environment where staff and students can produce their best work. We will continue to reduce our waste and energy impacts to maintain our trajectory towards carbon neutrality befitting of our role as a world leading university.

The University Context

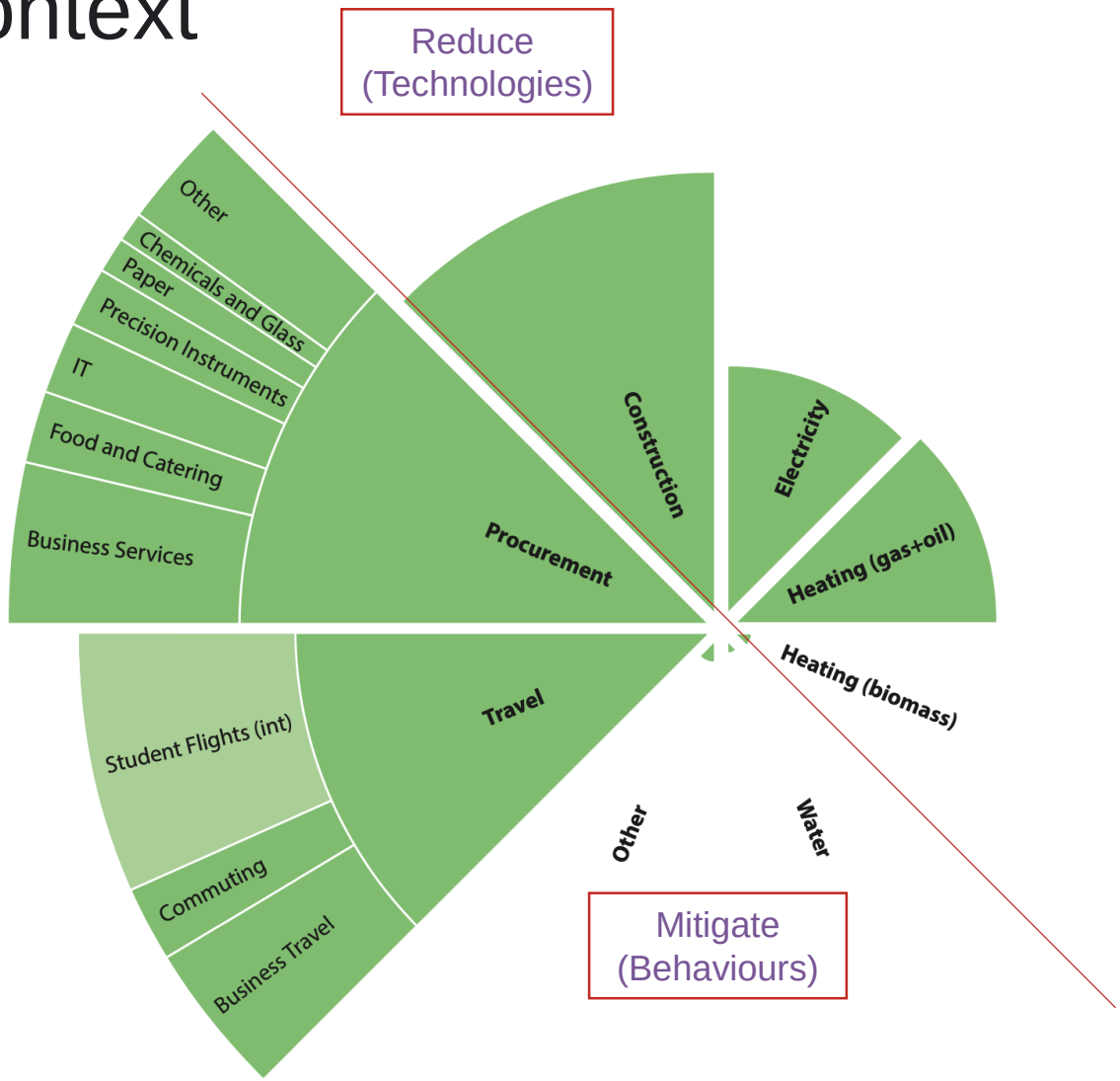
University of St Andrews
Brick Built

- Our heritage is part of our USP and Brand
- We exist in the physical world (and online)
- Our product is knowledge
- We are socially responsible
- We are global leaders
- Our byproducts are our responsibility (but so is our value)

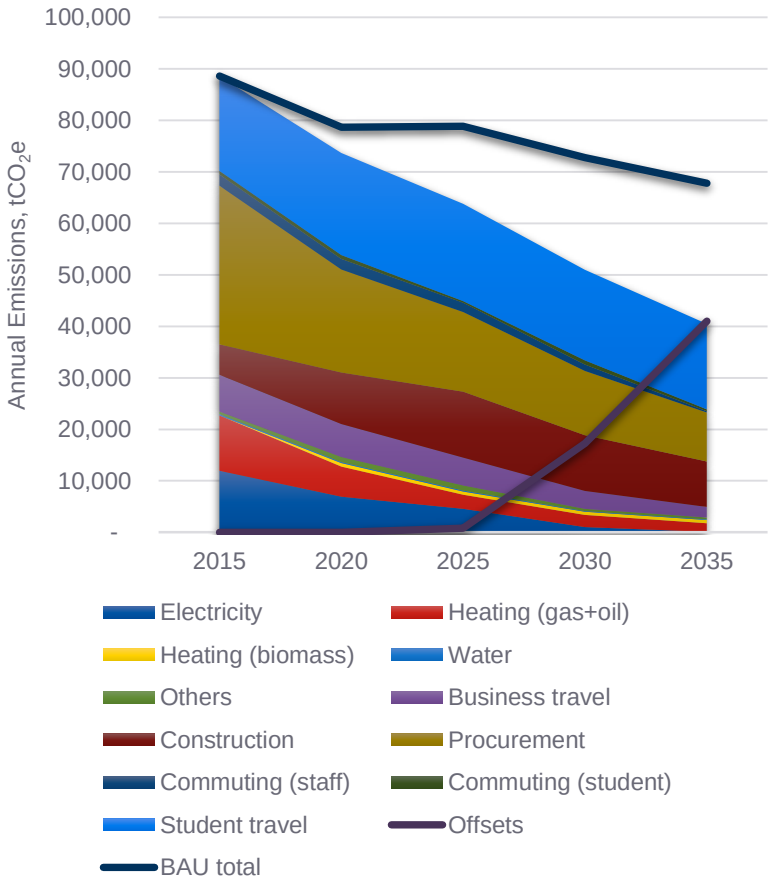
The University Context

Where is our Carbon?

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



The University Context



Developing our Roadmap – Carbon Management Plan

Net Zero Target

We have set ourselves the ambitious target of becoming net-zero for our environmental impacts, this includes all our carbon emissions (direct and indirect)

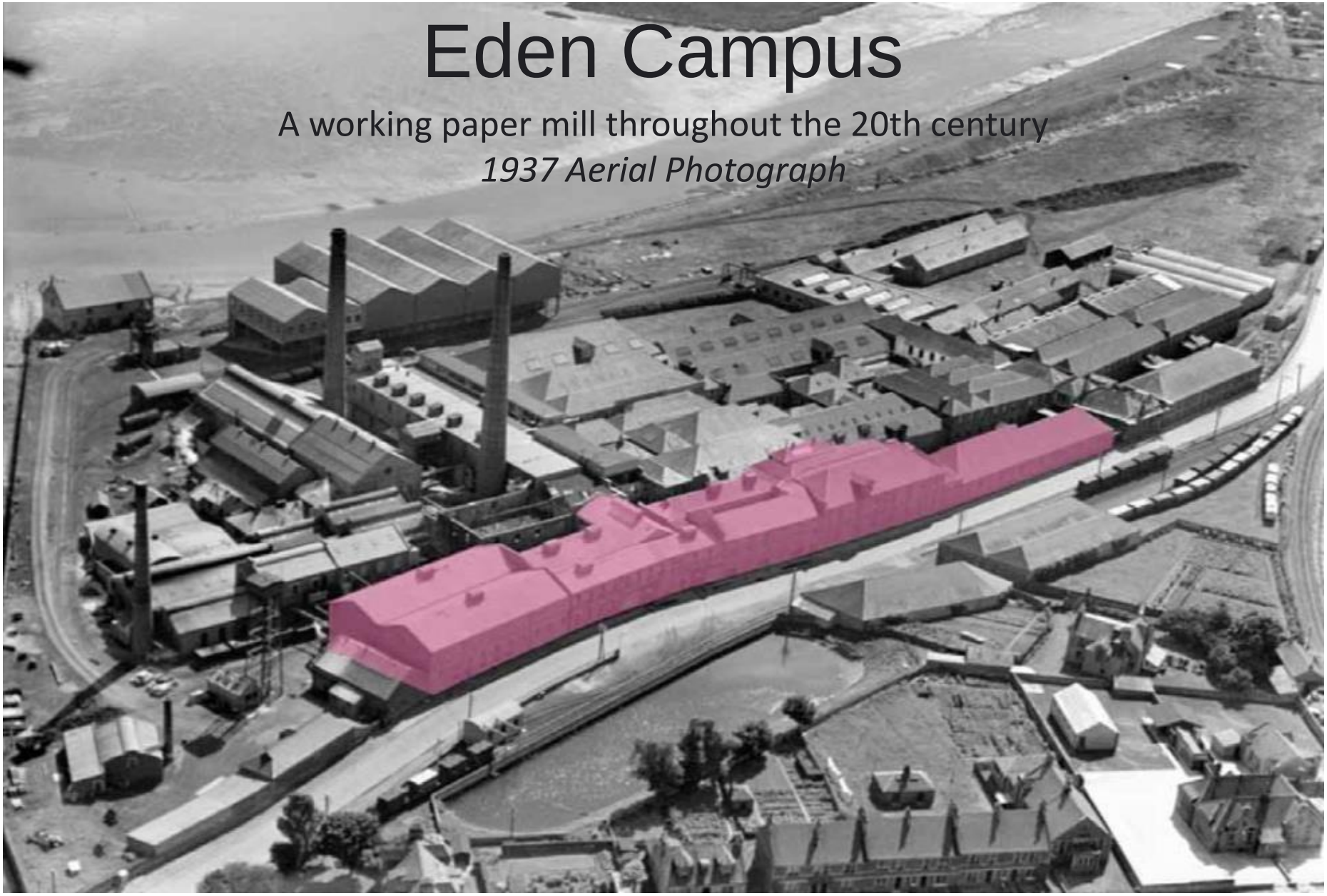
Our trajectory planned and to date is shown right, along with our business as usual (BAU) and anticipated offsets required to achieve net zero 2035

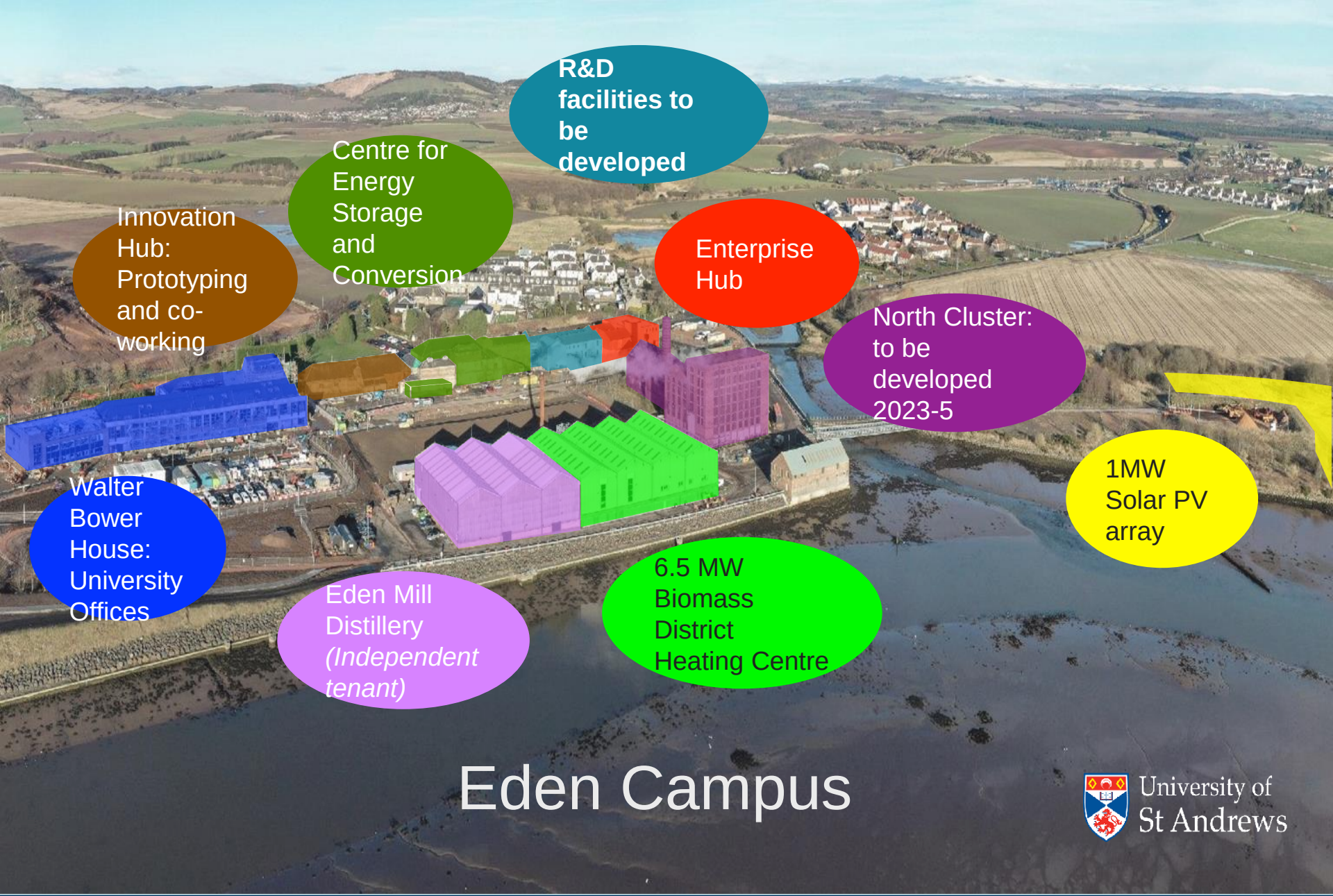
What have we done?

Eden Campus

A working paper mill throughout the 20th century

1937 Aerial Photograph

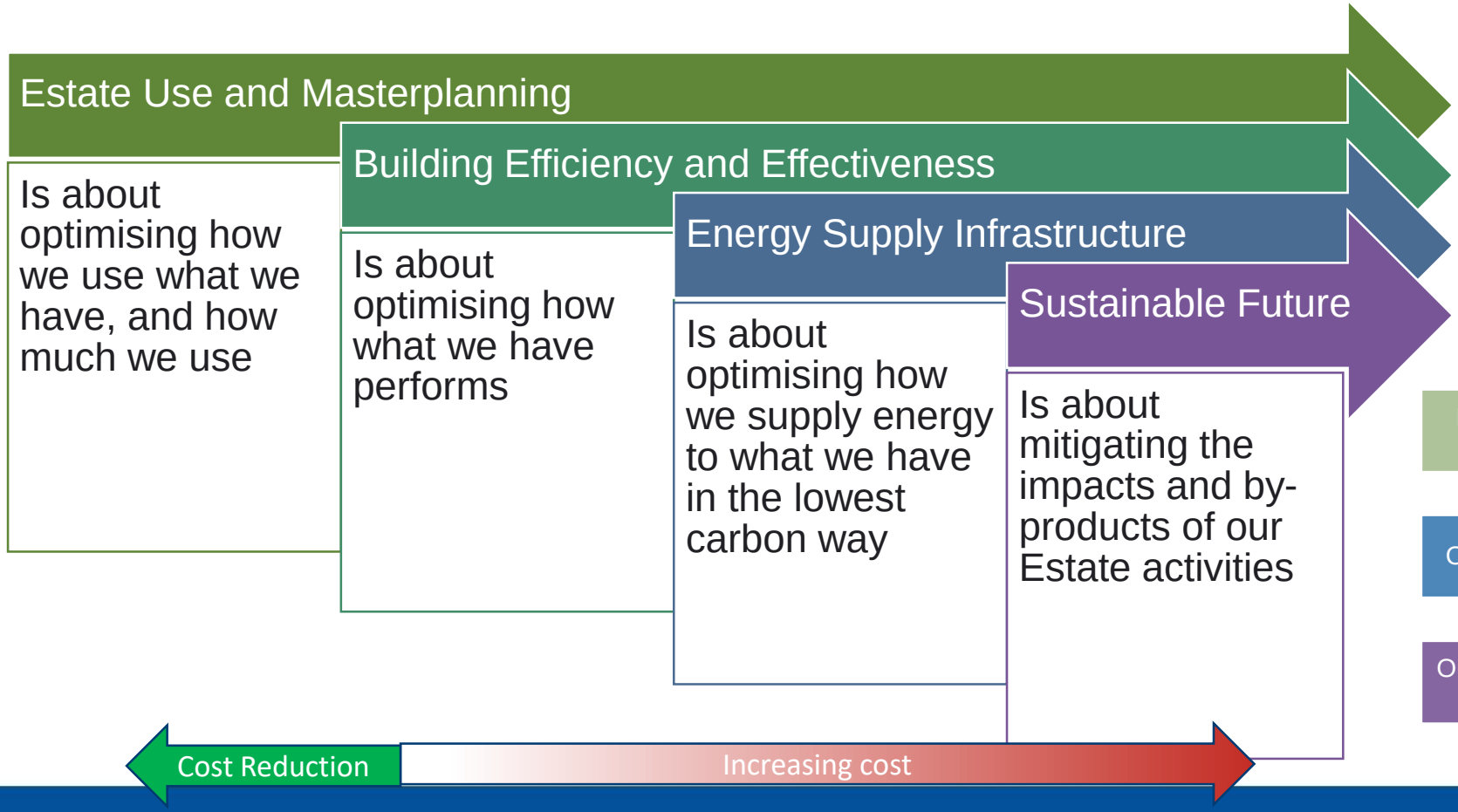




Eden Campus

University of St Andrews

What are we doing: Ways, Means, Ends



Power Down 60%

Clean Up 40%

Our Sustainable Future

What are we doing: Construction

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: Construction

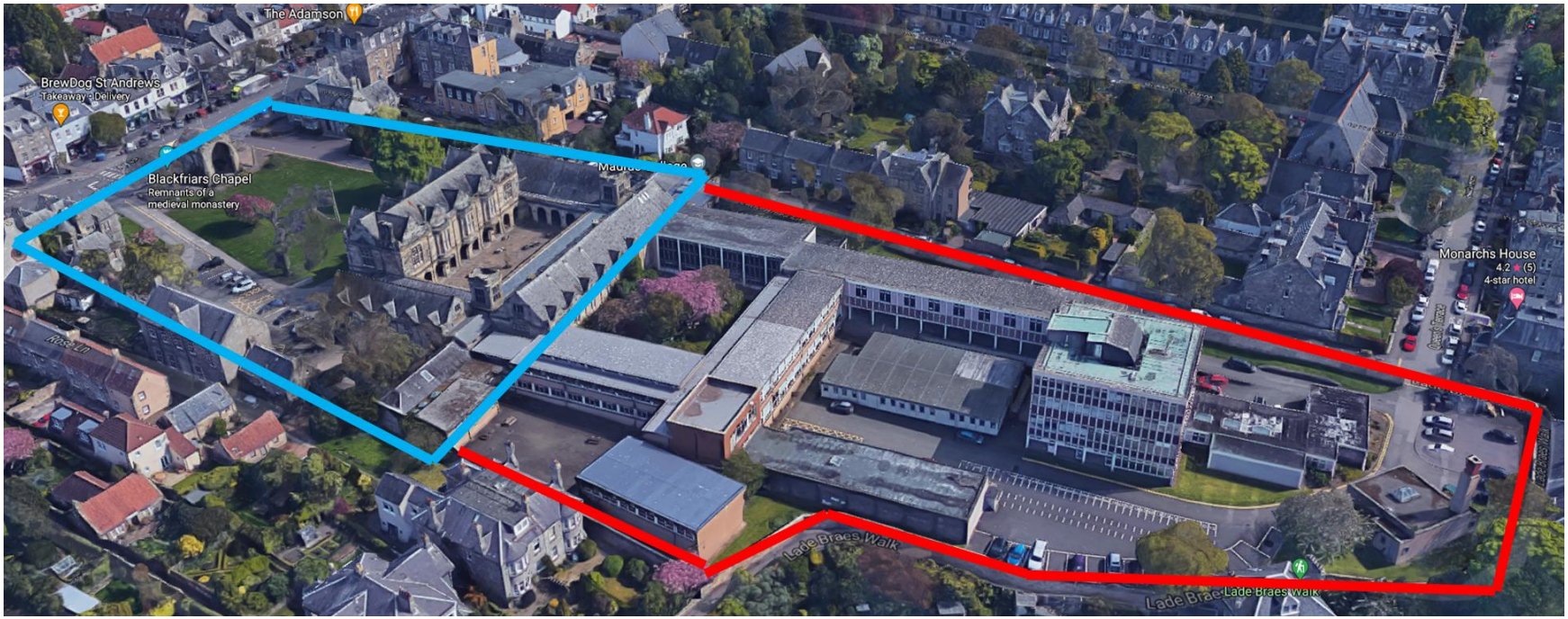
- **SCOPE:** Emissions from new build and refurbishment projects, in response to University space requirements
- **COSTS:** Our capital plan includes £400m investment over the next 10 years on construction, demolition and refurbishment projects
- **DATA:** we currently estimate carbon based on spend, 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

What are we doing: Smart

- Sensors –> Data –> Insight –> Action/Response/Decision
- Buildings as a sensor platform
- Sensors can provide rich data:
  - Temperature/Light/Air Quality
  - Occupancy Level (how many)
  - Vibration/Heat/Leaks
  - Faults/Alerts/Alarms
  - A sense of state/status
- Real Time/Slow Time
- If THIS (condition), then do THAT (action)

North Haugh

What are we doing: Developments



What are we doing: Developments

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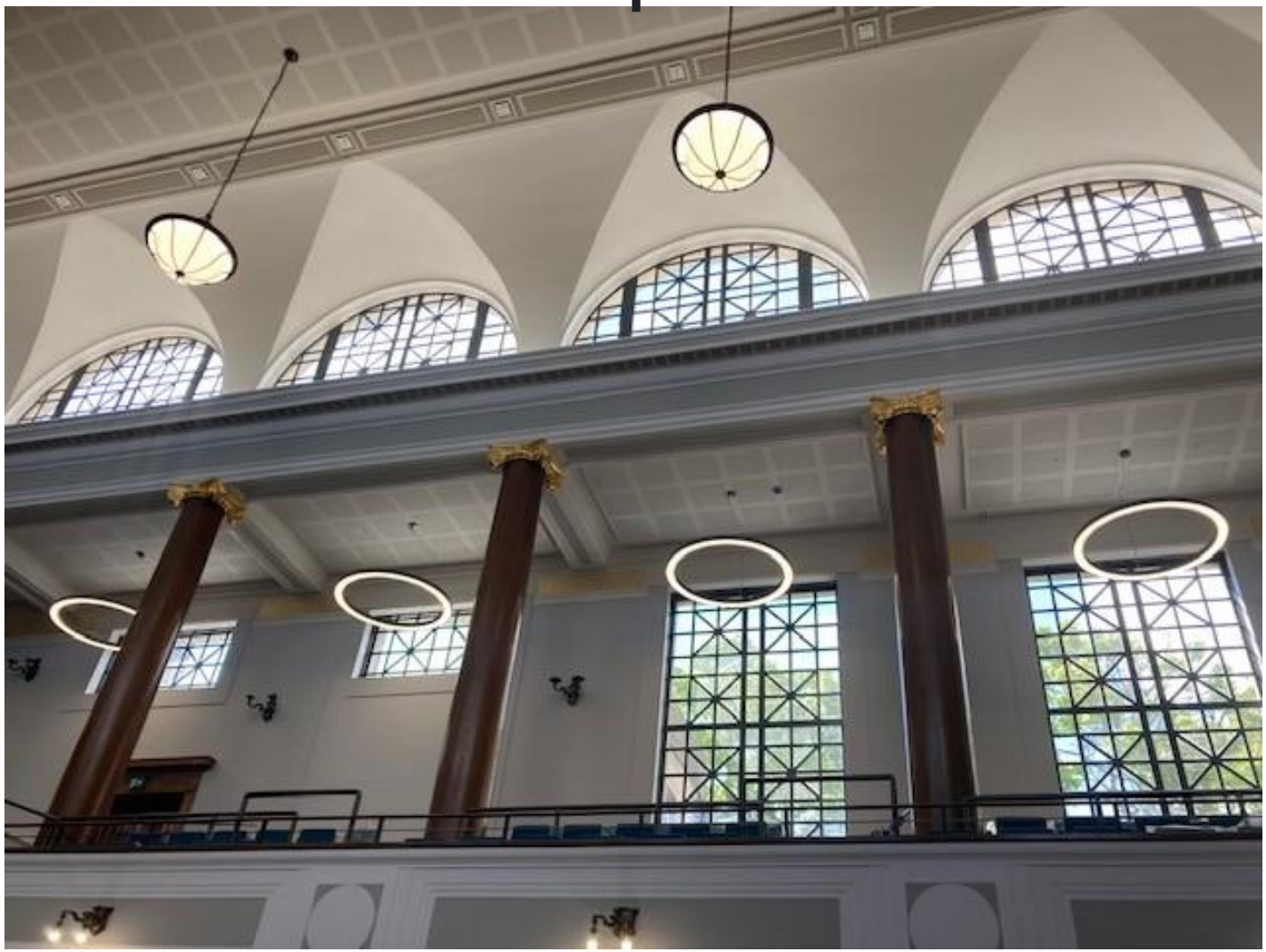
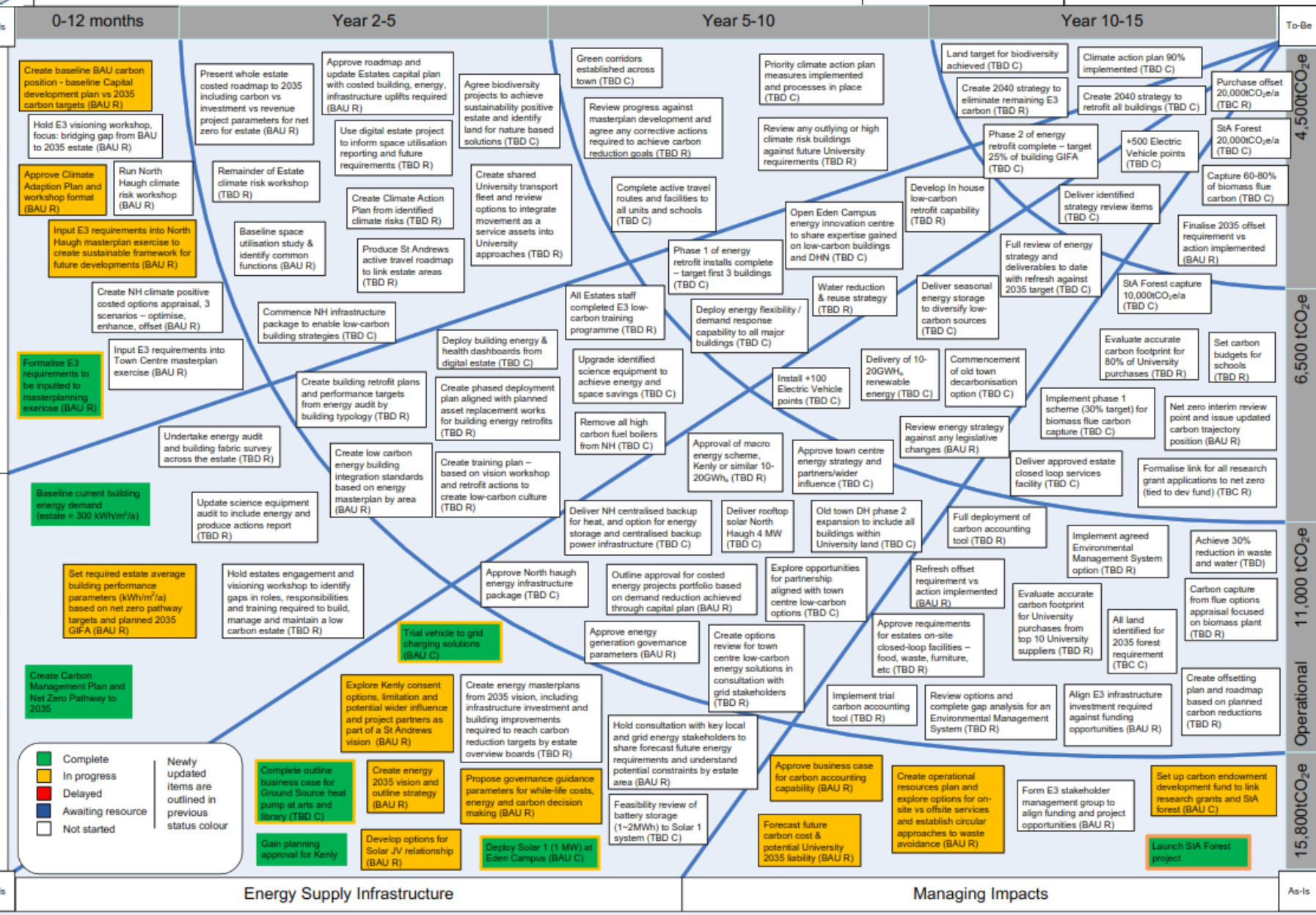


What's Next…

University of St Andrews: E3 Action Plan 2021- 2035

Version: 1.6

Date: 02 February 2022



Challenges

- Post-covid
- Net-zero
- H&S/Compliance
- Inflation/Skills/Labour
- Infrastructure
- Nature of our Estate

Opportunities

Partnership Working:

- Local Authorities
- Utility Companies
- Large Organisations

The Goal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www.st-andrews.ac.uk