



University of
St Andrews

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Energy

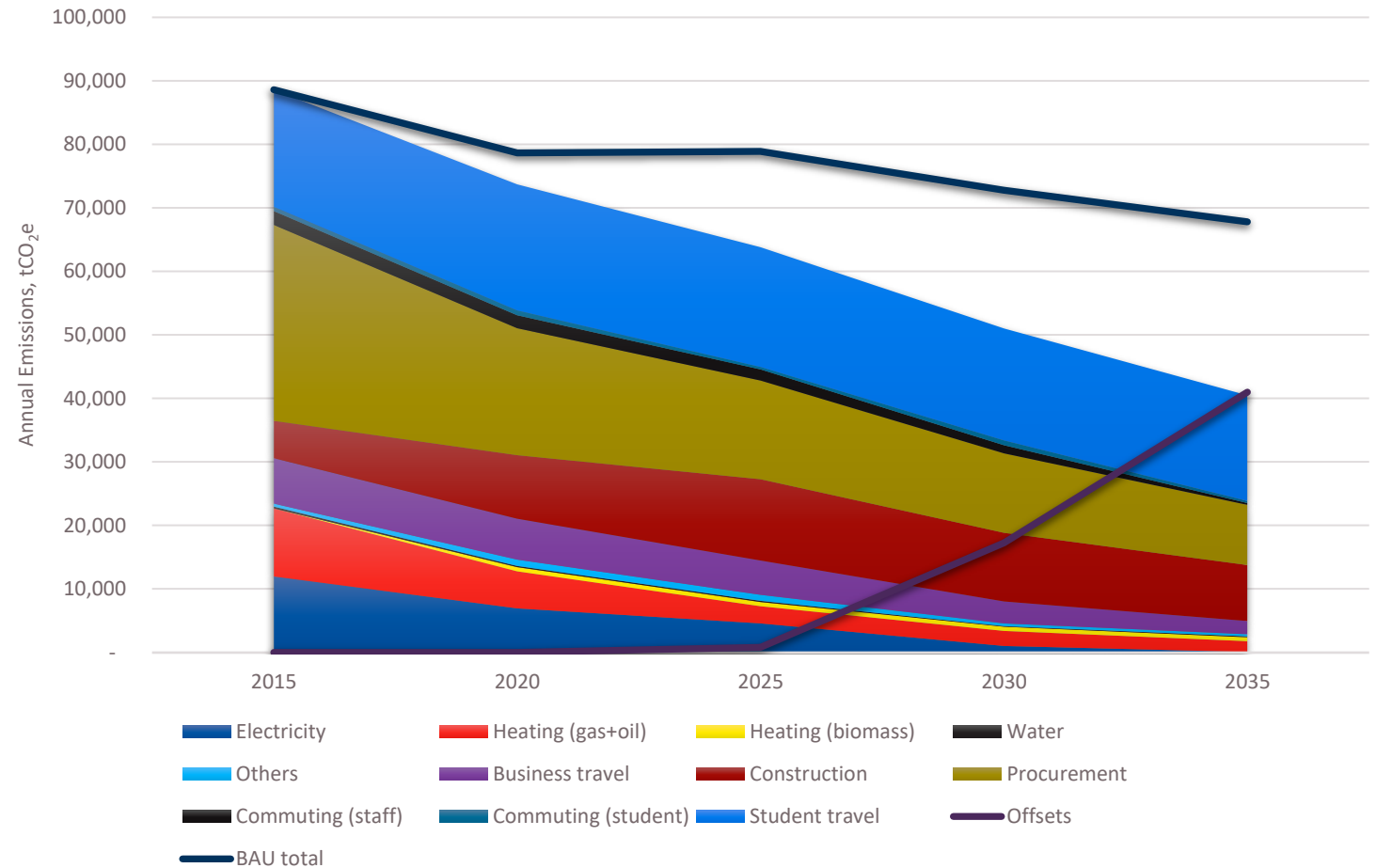
Net Zero Target

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

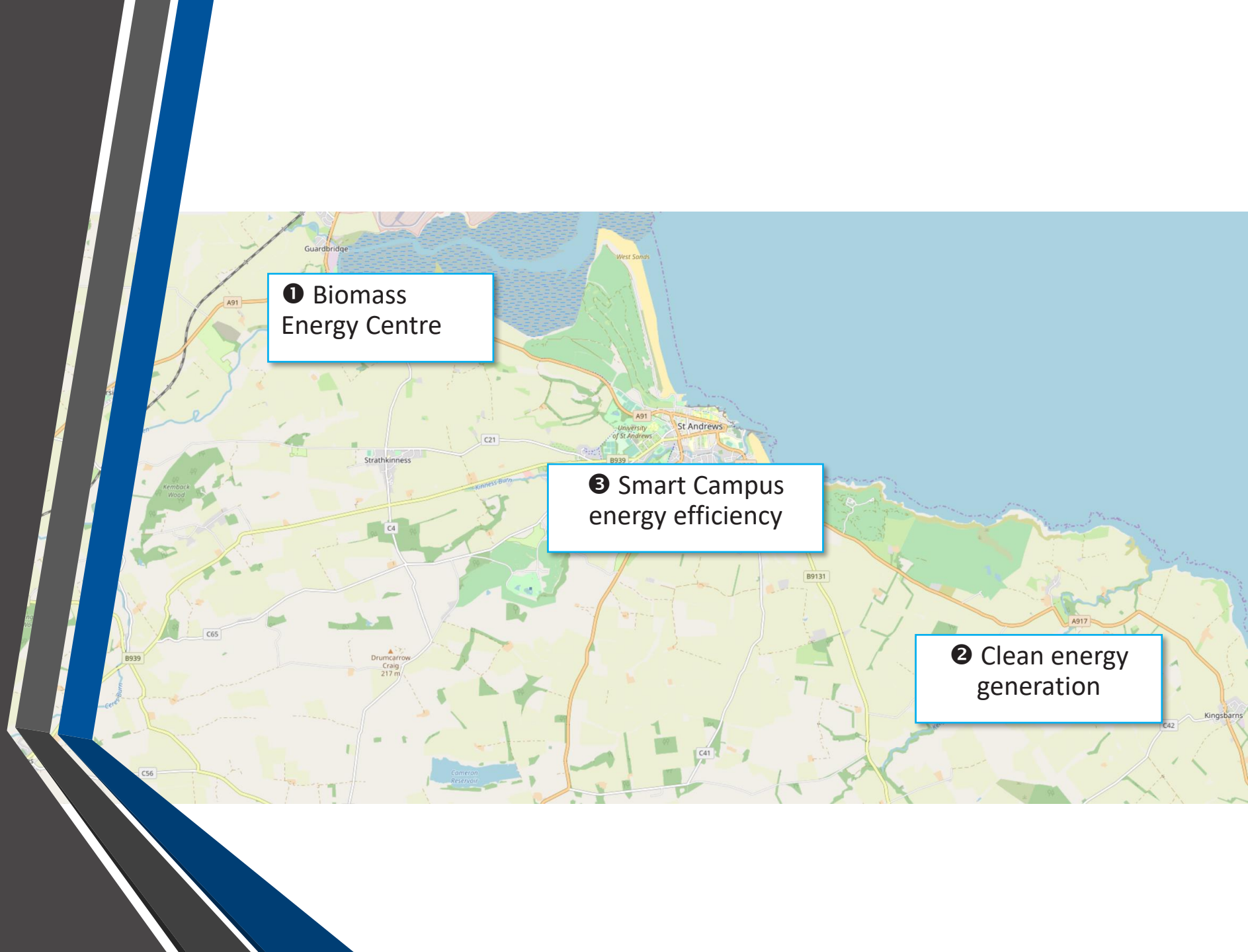
Our trajectory planned and to date is shown right, along with our business as usual (BAU) and anticipated offsets required to achieve net zero 2035

We have formed an Environmental Sustainability Board to steer this transition, part of which the E3 group (Estate, Energy and Environment) will masterplan our approach to **Energy**

This builds on past work outlined over the following slides, and future strategy is presented thereafter



Energy Projects



1 Biomass
Energy Centre

3 Smart Campus
energy efficiency

2 Clean energy
generation



① Eden Campus Biomass Energy Centre

- Operational since January 2017
- Gas savings represent over 5,000 tCO₂e per annum
- 23km of pipework connecting 45 of our plant rooms
- At its heart is a 6MW boiler which burns woodchip, sourced from SFC certified forests within Scotland (<50 miles of the plant)
- Situated on our Eden Campus site which is currently being developed to include energy innovation centres



② Clean Energy Generation

1.2MW solar farm currently under construction (on reclaimed land at Eden Campus), with wider deployment of rooftop solar planned

Planning permission resubmitted this year for Kenly Windfarm (6 nos 2MW turbines), which combined with solar plans would meet the University's forecast electricity demand

Radar mitigation issues from nearby military base remain a risk to the wind project

③ Smart Campus

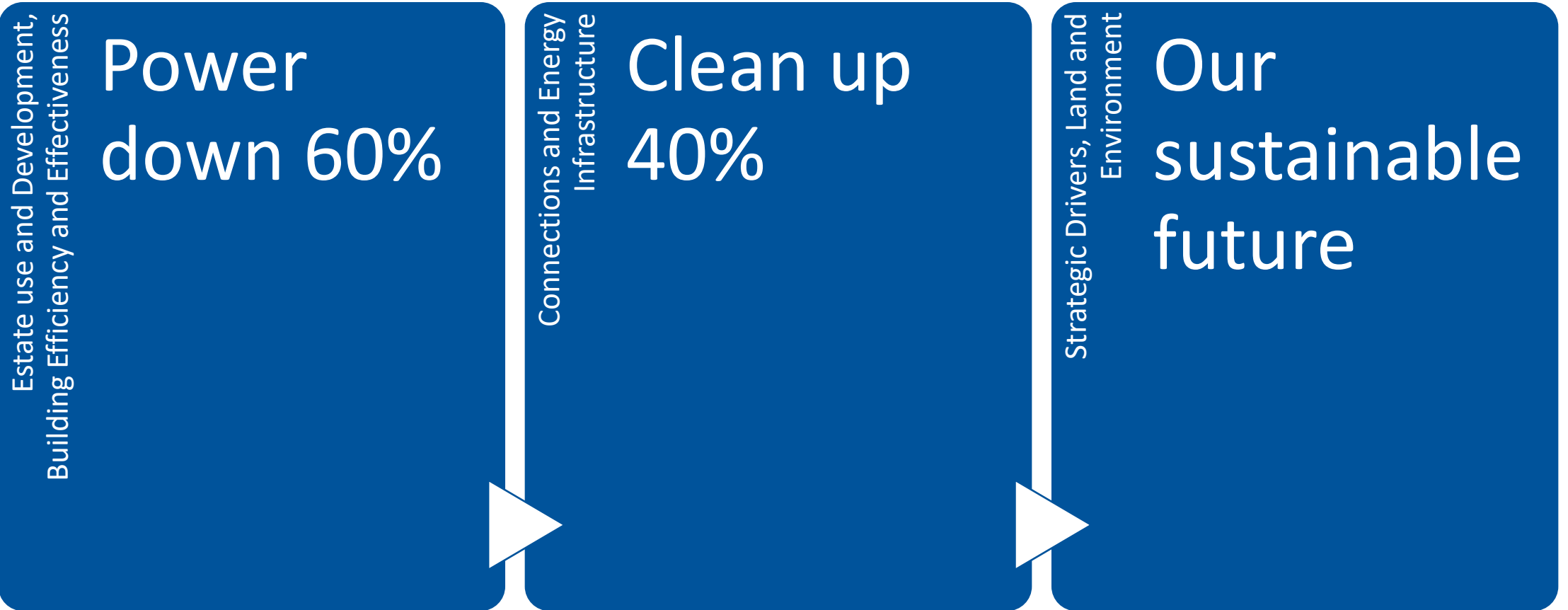
Commenced with £4.5m investment including 'Old Town' district heating network (CHP)

Completed in combination with smart plant room upgrades (sensors, pumps, fans & valves)

Trial installations currently underway on window & fabric upgrade technologies in historic buildings

Aim is to achieve low-embodied and life-cycle carbon building upgrade standard as part of E3 intent

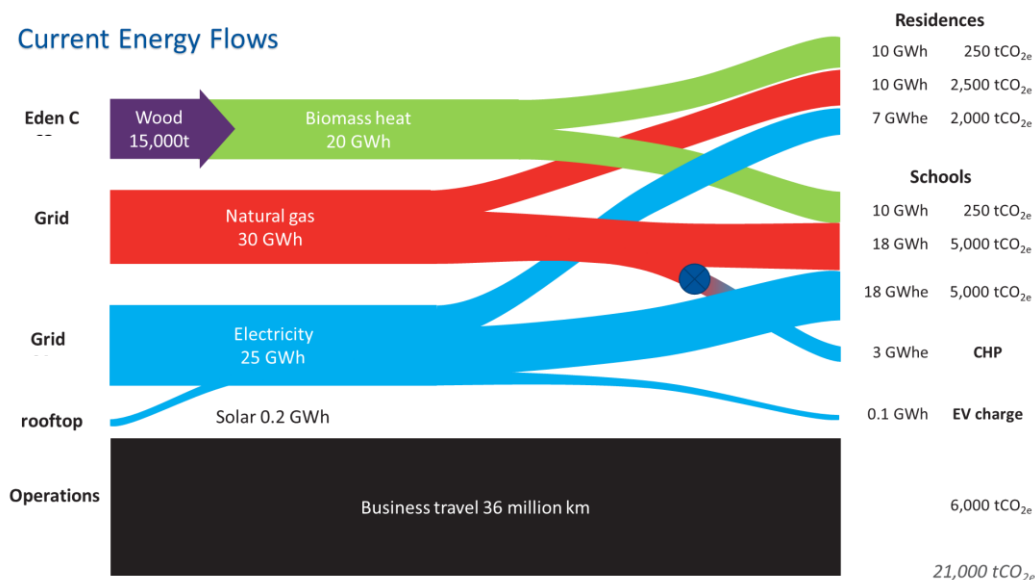
E3 carbon reduction - Intent



Forecast Energy Flows

- Currently our energy flows are very linear – energy (usually from grid) supplies heat and power to our schools and residences
- As we move towards 2035, our strategy is to shift away from natural gas (only using as a backup), resultantly our electric demand will increase
- Biomass usage will increase with hydrogen, thermal stores and V2G utilised to help balance low-carbon supply with building demands
- Any shortfall in deployment will be required to be met by offsets now our net zero target is in place

Current Energy Flows



2035 (NET zero)

