



21st ANNUAL CONFERENCE
 28-30 MARCH 2017
 GLOBAL GOALS:
 LOCAL ACTION



HEADLINE SPONSOR
 CarbonCredentials

The Long Road to Carbon Neutrality



Headline Sponsor



Content



- University of St Andrews - a brief introduction
- St Andrews biomass district heating scheme



University of
St Andrews

VITAL
ENERGi



University of St Andrews

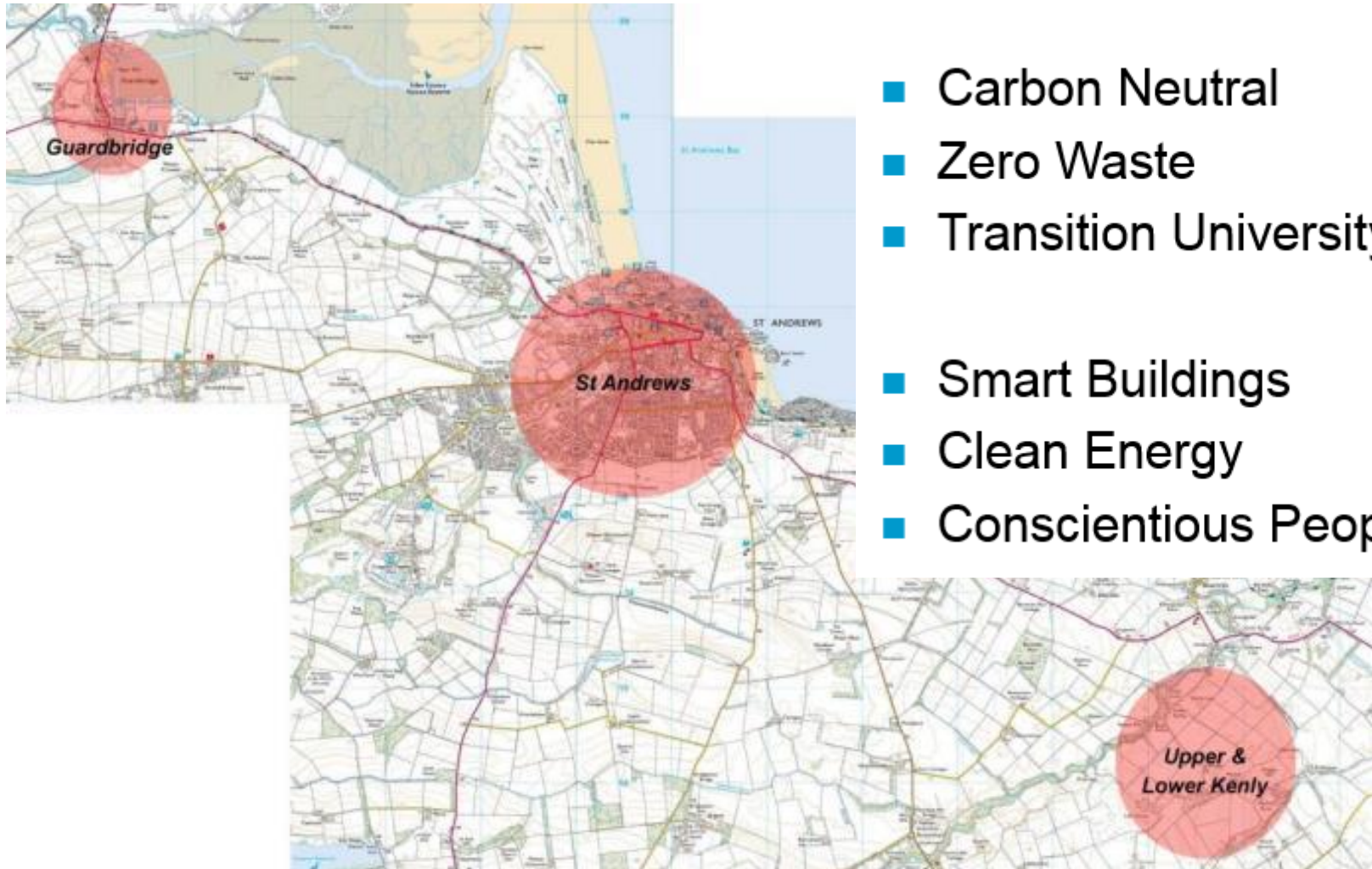
– a brief introduction



- A University since 1413
- 8,500 students FTE
- 2,300 staff
- 149 Buildings
- Gross area of all buildings is 253,000m²
- 210 acres excluding farmland
- Oldest building is St Leonard's Chapel (1413)



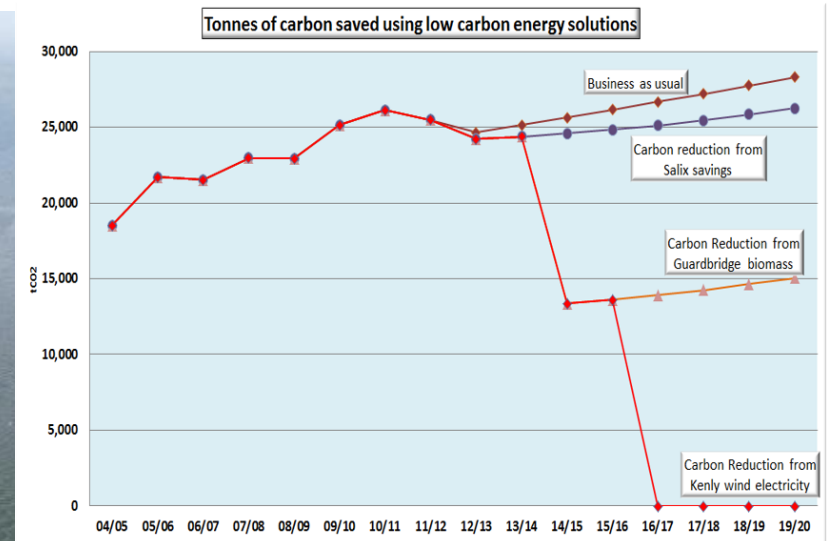
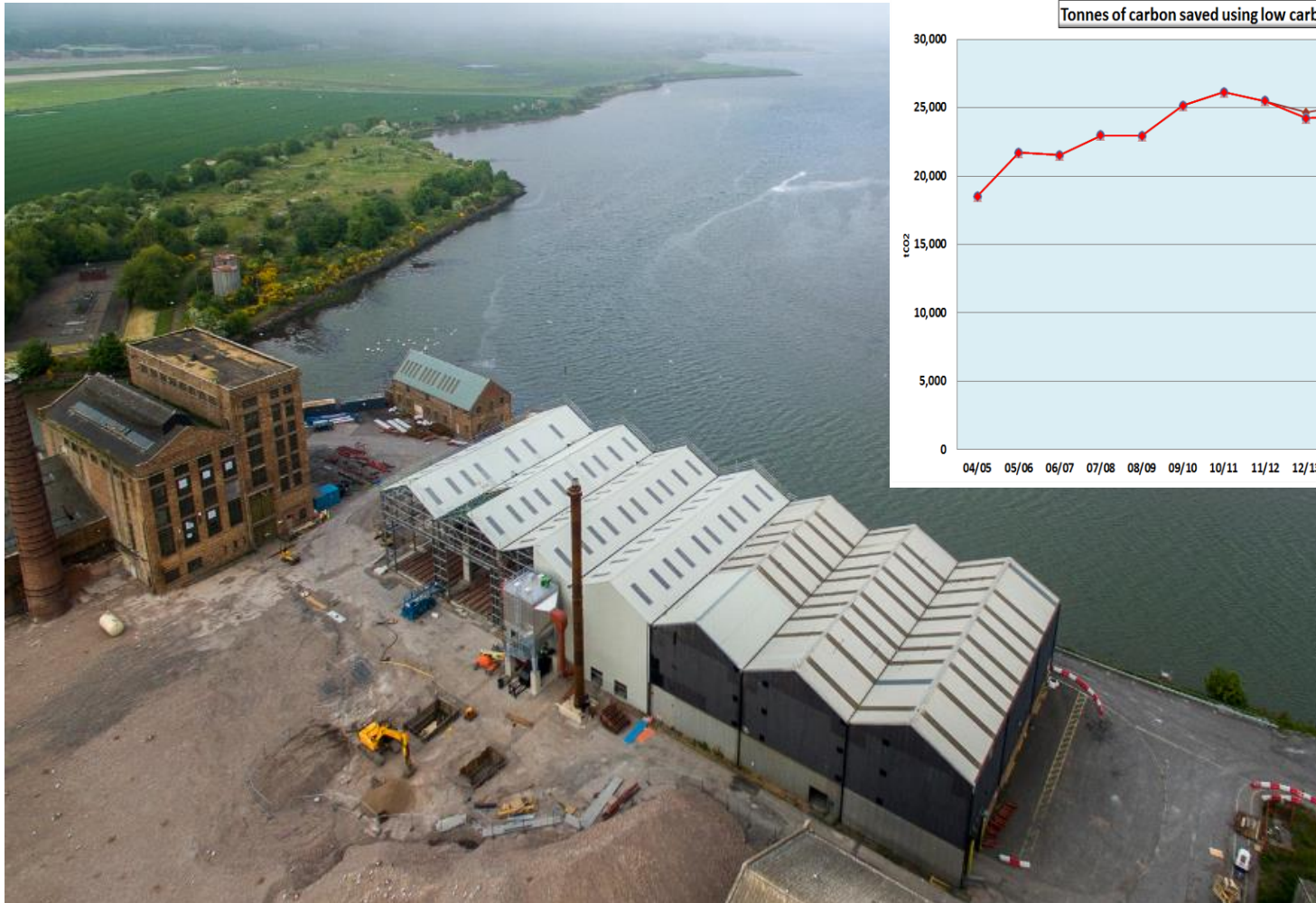
University of St Andrews Sustainability



- Carbon Neutral
- Zero Waste
- Transition University

- Smart Buildings
- Clean Energy
- Conscientious People

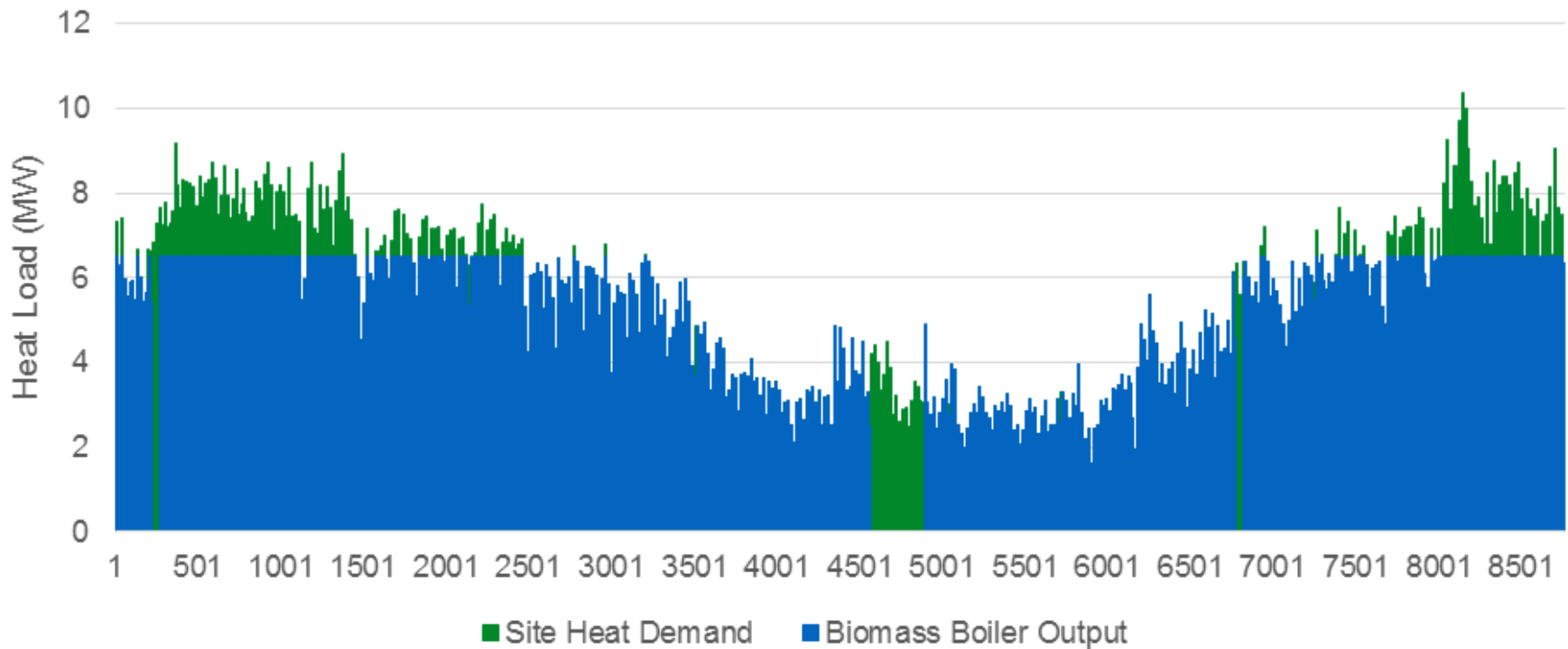
University of St Andrews Carbon Reduction



University of St Andrews Carbon Reduction Effectiveness



Annual Demand



University of St Andrews Project Summary



23km of district heating
pipework, connecting 41
campus plant rooms

University of St Andrews Innovation



- > **Insulation qualities**
 - > 0.027 W/m K @ 50 C
 - > Made use of industry leading insulation products (Series 3)
 - > Zero ODP & GWP
- > **Band Jointing method**
 - > Maintains insulation quality
 - > Maintains vapour barrier across joints
 - > Warranty for 50 years
- > **Pre-formed fittings**
- > **Leak Detection**



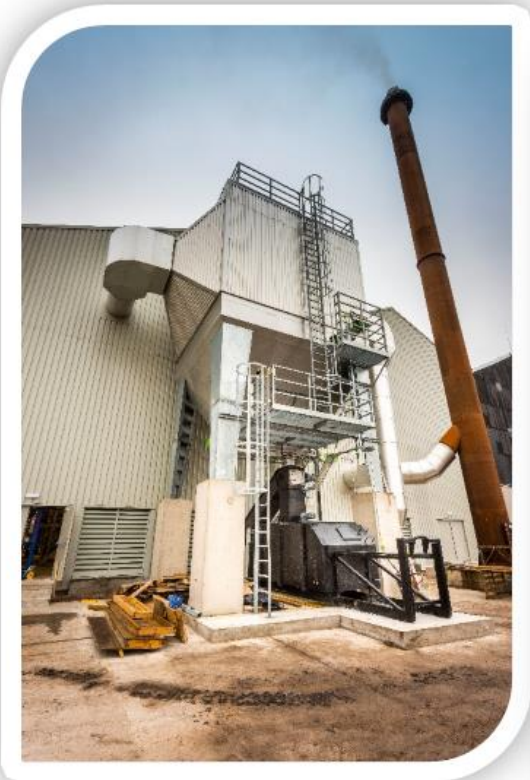
University of St Andrews Innovation



The entire energy centre was designed around providing future learning and education.

We constructed a classroom and viewing platform to allow safe access around the energy centre and fuel store.

University of St Andrews Environmental Considerations



- > Electrostatic precipitator
- > Reduces particulate emissions
- > Fly ash and grate ash collected separately

University of St Andrews Environmental Considerations



- > Re-use of existing brownfield site
- > Renovation of existing building for energy centre

University of St Andrews Environmental Considerations



- > Ecology Report – breeding seasons, replanting
- > BRE Greenprint Exemplar accreditation
- > Considerate constructors scheme (Noise, dust, etc.)

University of St Andrews Environmental Considerations



> Guardbridge Guarantee

> Resilience

> Cost certainty – bulk buy of round wood

> Engagement, Engagement, Engagement!

University of St Andrews Environmental Considerations



Key Factors

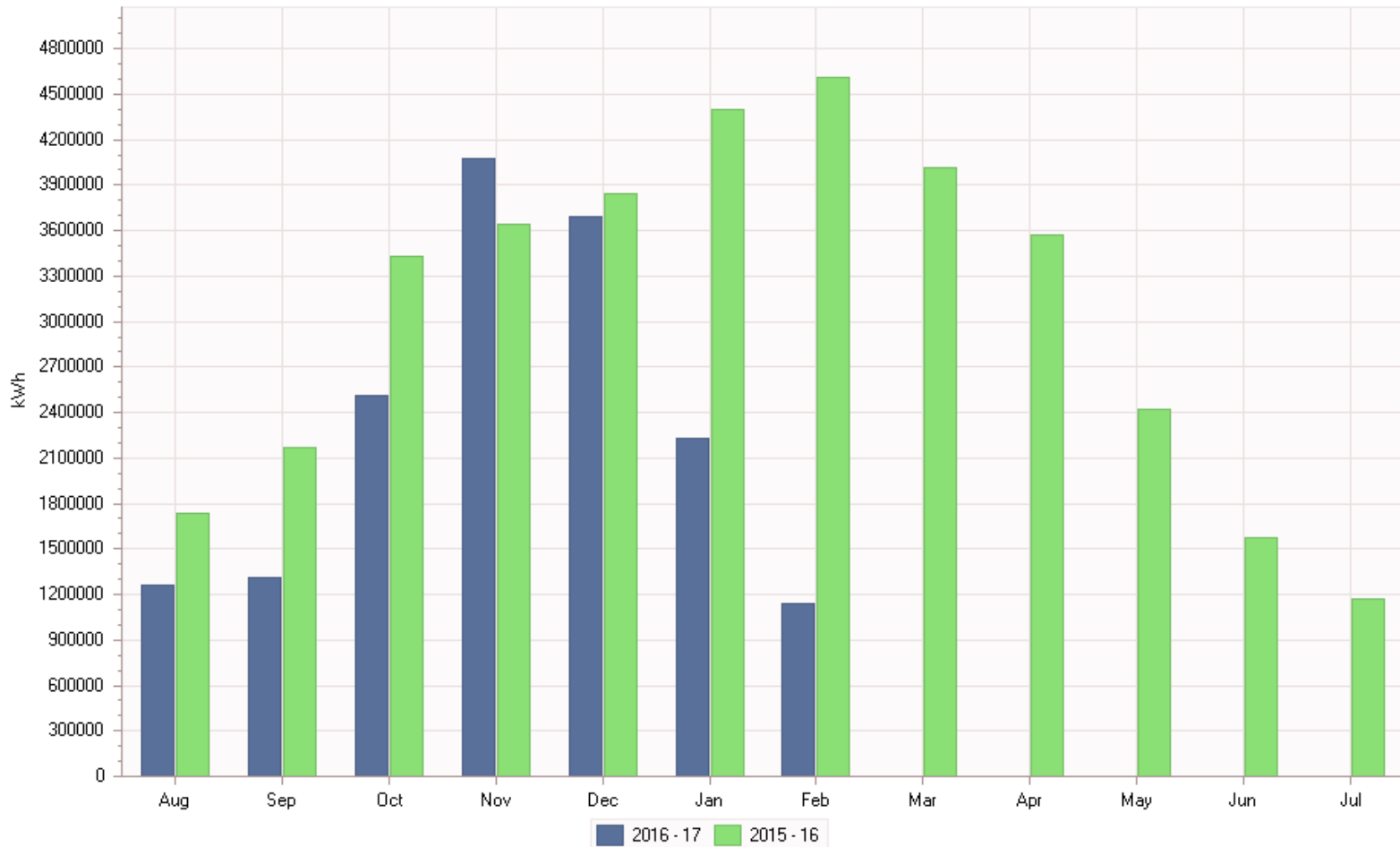
- > Sheer scale - one of the largest biomass boiler installations in the UK
- > One of the longest DH interconnecting pipelines in the UK
- > Connecting to live and operational buildings ensuring no loss of service
- > Currently providing almost all heating and hot water demands for 41 buildings on the University Campus

University of St Andrews Operations



University of St Andrews

Gas reduction due to biomass



University of St Andrews Staff Engagement



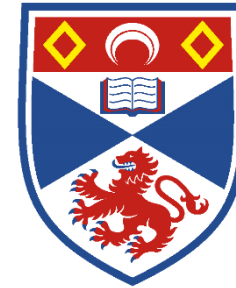
University of St Andrews Contact Details



David Stutchfield

Sustainability Manager

ds51@st-andrews.ac.uk



University of
St Andrews

Mike Cooke

Regional Director

mike.cooke@vitalenergi.co.uk

VITAL
ENERGi