



National
Trust

National Trust

Renewable Energy Programme

Sian Phillips

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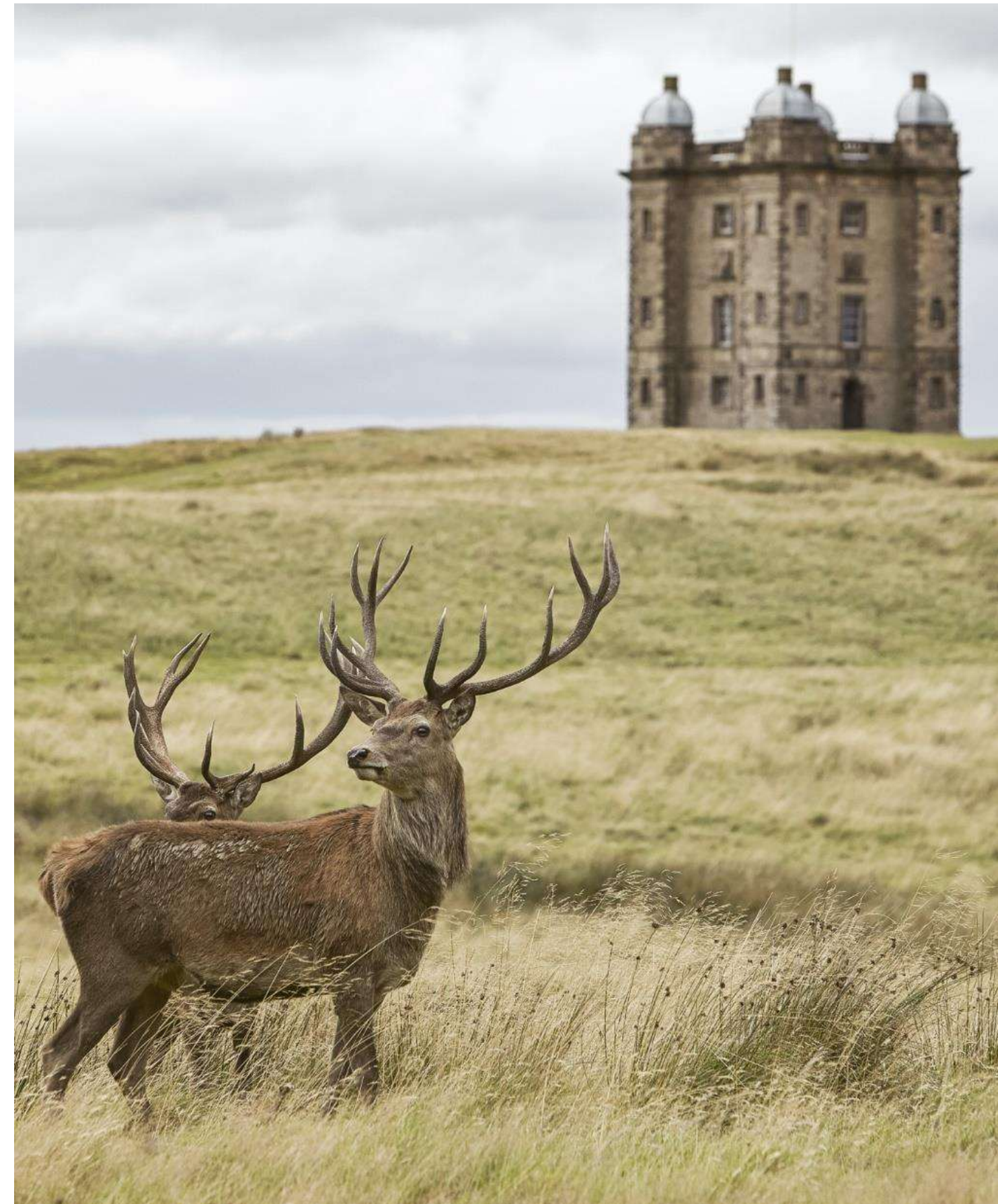
Introduction to the National Trust

- We work to preserve and protect historic places and nature - for everyone, for ever
- The National Trust owns and cares for one of the largest, most varied and most significant collections of built structures anywhere in Europe (28,500 buildings)

250,000 hectares of land
780 miles of coastline
33,200 hectares woodland
Over 500 properties including
300 historic houses and 21 castles
4,194 listed buildings &
structures

56 villages
11 lighthouses & 77 dovecotes
39 pubs and inns
1800 farms

11,950 staff
46,000 volunteers
~6 million members



Carbon

Climate Change is our No.1 risk to the places we care for.

A strategic priority is carbon reduction.

We have publicly committed to reducing our emissions and our reliance on fossil fuels by 2030.



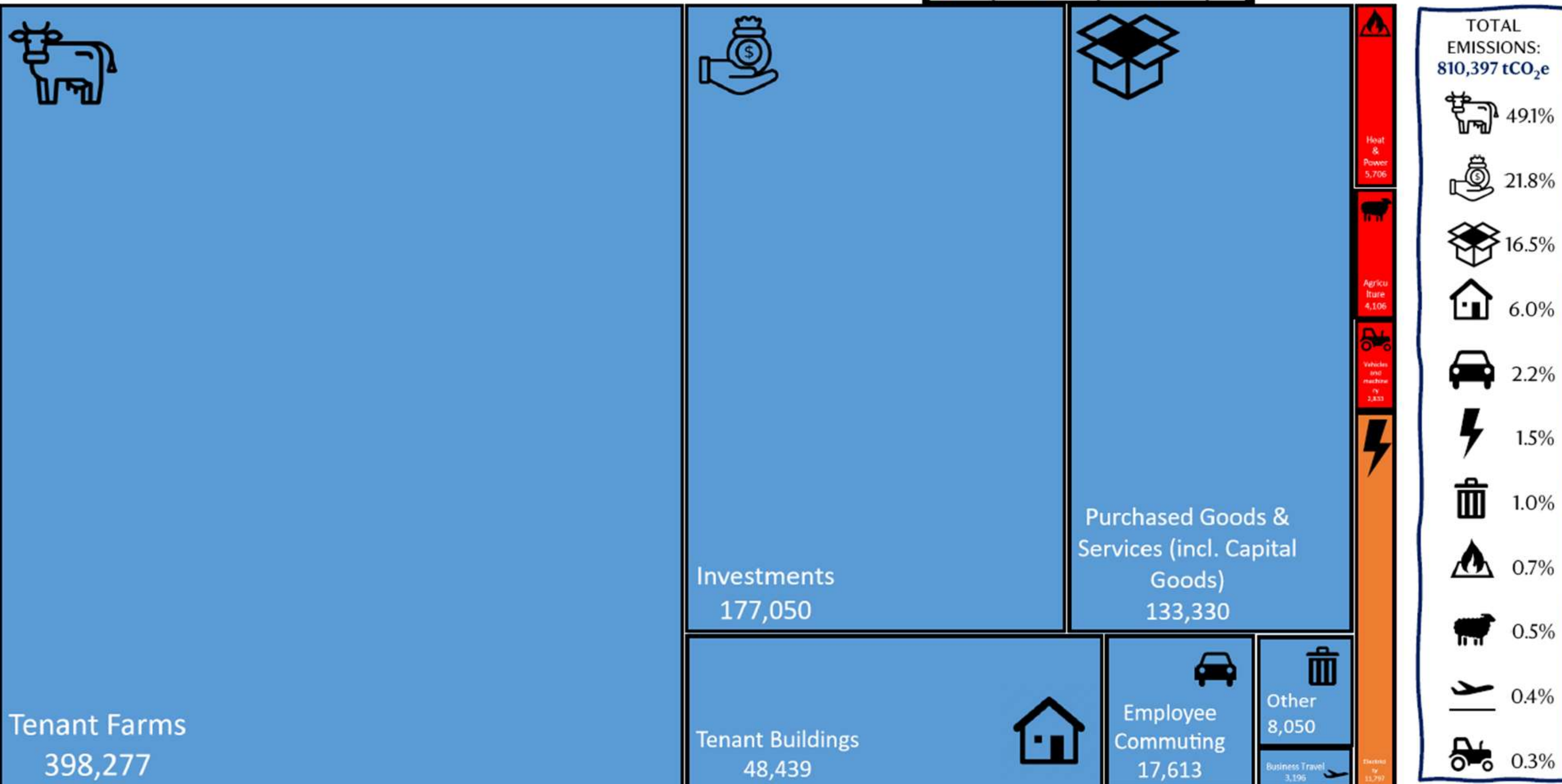


National Trust Baseline (2019/20) GHG Emissions Inventory (tCO₂e)

Want to know our latest emissions and change against this baseline? Check out the live Carbon Dashboard on NT Analytics!

■ Scope 1 ■ Scope 2 ■ Scope 3

[View Land CO₂ Flux and Out of Scope Emissions](#)





Reducing our emissions

- Transitioning to renewable power sources (solar, wind, hydro).
- Retrofitting buildings for energy efficiency (insulation, secondary/ double glazing, thermal improvements, LED lighting, passive screening).
- Installing low carbon heating solutions (heat pumps, biomass, electric).
- Electrifying vehicle fleets and installing EV charging points.
- Eliminating oil and gas boilers, where possible.
- Implementing sustainable land management practices (reforestation, wetland restoration, de-stocking, correct stocking).
- Minimising waste and increasing recycling and composting efforts.
- Enhancing water efficiency systems (low-flow fixtures, rainwater harvesting).
- Promoting active travel options (walking, cycling infrastructure).
- Sustainable materials for construction and repairs.
- Offsetting emissions when direct removal not possible.
- Monitoring and optimising using smarter data systems.
- Implementing behaviour change programs for staff, volunteers and visitors.



Renewable Energy Programme (No 1).

In 2013, NT Board of Trustees agreed a £35.5m project delivery programme.

3 KPIs:

- Reduce oil consumption to <10%
- To generate 50% of our energy from renewable sources
- Achieve an aggregated 6% IRR (helped by the Feed in Tariff)
 - 4 Core Central Programme Members
 - 15 Regional Project Managers (Centrally Managed)

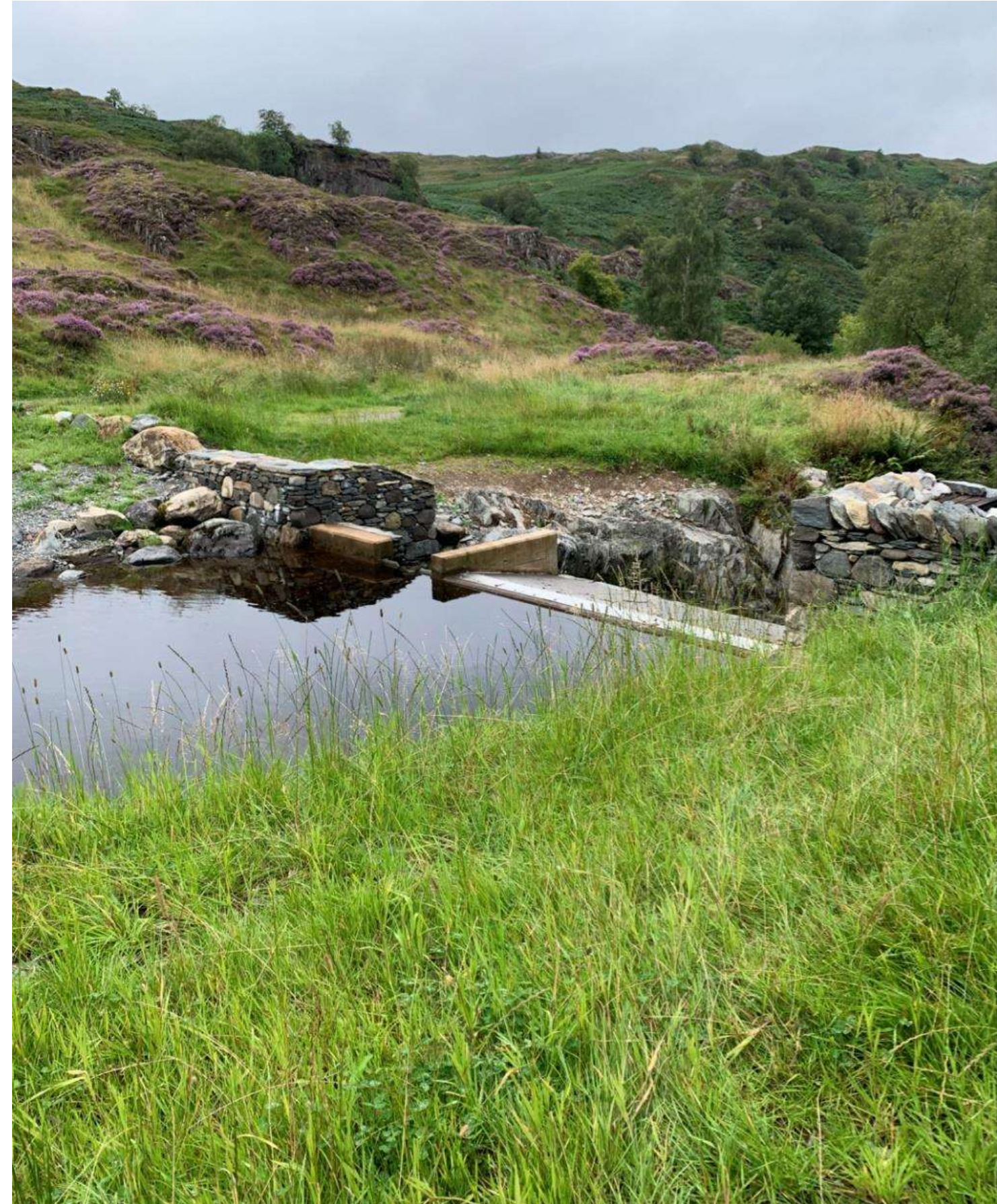
Renewable Energy Projects

- **Delivered in Phase 1:**
 - 4 Solar PV projects
 - 17 Hydropower projects
 - 34 Biomass projects
 - 74 Heat pumps
- Removed over 1 million litres of oil used for heating
- Generates ~23 GWh per annum or ~50% of NT energy needs.





Types of Projects



Rural Estate

Hydropower

- 17 built/ refurbished
- Installed capacity 3MW
- Annual generation 10GWh
- 4,000 tonnes of CO₂e saved per annum
- Between £2m-£4m in revenue per annum



Rural Estate

Hydropower

- Run of river projects
- Weir with fish/eel pass
- Penstock (& restoration)
- Powerhouse
- Access



Rural Estate

Solar PV

- Wimpole, Cambridgeshire
- 2 Ground mounted Solar projects
- 7 Roof mounted projects
- 400kW is our largest array



In Hand Estate

Refurbishment of historic hydropower systems

- Castle Drogo
- Introduced in 1927
- Refurbished in 2017
- 55kW (224 MWh)



In hand Estate

Solar PV

- Roof mounted systems
- Balancing environmental constraints with heritage
- Reducing electricity importation from National Grid network



In Hand Estate

Heating Projects

- 115 projects
 - 37 Biomass
 - 78 Heat pumps
- Annual generation 24GWh





Renewable Energy Programme – future

- Net Zero by 2030
- £65 million programme
- Saving approximately 5,700 tonnes of CO₂e per annum
- A further 110 projects
- Combination:
 - Ground mount solar PV
 - Heat pumps
 - Biomass
 - Hydro
 - Wind?



Any questions?

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