

# Broads Authority

27 September 2019

Agenda item number 8

## Response to climate emergency

Report by Management Team and CANAPE Project Manager

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### Summary

This report proposes that the Broads Authority formally recognises the existence of a climate emergency, and commits to reducing its CO<sub>2</sub> emissions to zero by 2040. It also proposes engaging with its constituent local authorities, businesses, residents and other stakeholders to explore reducing CO<sub>2</sub> emissions from within the Broads Executive Area.

### Recommendation

That the Broads Authority:

- (1) Recognises a climate emergency and adopts the Statement in Appendix 1.
- (2) Pledges to work towards making the Authority 'carbon neutral' by 2030, with a further objective of reducing all carbon emissions to zero by 2040.
- (3) Establishes a baseline for CO<sub>2</sub> emissions using a common methodology with the National Park Authorities, and develops an Action Plan and monitoring system.
- (4) Works with its constituent local authorities to reduce emissions from domestic, travel and other sources in the Broads and across the two counties.
- (5) Works with farmers, land managers, the National Farmers Union and Defra to influence land management practices to maintain and build organic matter and carbon in soil, to improve biodiversity and to store water to protect against flooding and drought.
- (6) Works with boating and tourism organisations to continue promoting and developing environmentally friendly boating and sustainable tourism.

# Contents

1.	National and regional context	2
2.	Broads Authority and Broads context	3
3.	Report scope and terminology	3
4.	Reducing carbon emissions in the Broads	4
	Baseline and monitoring	4
	Land and land use sector	5
	Tourism and recreation sectors	5
	Other sectors	6
5.	Setting targets for the Broads Authority	6
	Proposed targets	6
	Implications of zero carbon target	6
	Carbon credits	7
6.	Financial implications	8
	Appendix 1	9
	Climate Emergency Statement – Broads Authority	9
	Appendix 2	10
	Existing carbon-reducing activity by the Broads Authority	10

## 1. National and regional context

- 1.1. On 1 May this year, the House of Commons passed a motion declaring a [Climate Emergency](#). The introductory text of this motion was: “That this House declares an environment and climate emergency following the finding of the Inter-governmental Panel on Climate Change that to avoid a more than 1.5°C rise in global warming, global emissions would need to fall by around 45 per cent from 2010 levels by 2030, reaching net zero by around 2050”.
- 1.2. On 2 May, the [Committee on Climate Change](#) (CCC) called on the Government to set a new target of net zero emissions by 2050, going beyond the 80% reduction target set in the Climate Change Act 2008. The Prime Minister accepted this [climate change recommendation](#) on 12 June. To meet this new target, the UK would need to reduce its net emissions by 3.3% a year for the next 30 years.
- 1.3. It should be noted that the CCC recommendation is not necessarily a final target. The target set in 2003 was for a 60% reduction by 2050, and in 2008 the target was reset

at 80%. It is therefore possible that more ambitious national targets will continue to be set. Other countries are already doing this including Finland, which has committed to being carbon neutral by 2035 and Norway, which has set the same target by 2030.

- 1.4. Locally, Suffolk County Council voted to declare a climate emergency on 22 March, setting itself the target to be carbon neutral by 2030. At the same time, it set the aspiration of making the County of Suffolk carbon neutral by 2030.
- 1.5. Norfolk County Council passed a motion on 15 April recognising the serious impact of climate change, and requesting that all key decisions be considered in light of the environmental impact and alignment to the Intergovernmental Panel for Climate Change (IPCC) guidance.
- 1.6. The National Farmers Union has set the ambitious goal of reaching net zero greenhouse gas emissions across the whole of agriculture in England and Wales by 2040, as their contribution to the UK net zero target.

## 2. Broads Authority and Broads context

- 2.1 In 2010, the University of East Anglia prepared a [carbon audit and reduction report for the Broads and the Broads Authority](#). It estimated the Authority's emissions at 1,876 tCO<sub>2</sub> e per year. This was around 0.4% of CO<sub>2</sub> emissions for the Broads Executive Area as a whole, which was estimated at nearly 500,000 tCO<sub>2</sub> e per year, including the tourism, recreation and land use sectors.
- 2.2 At the time of the audit, most of the UK National Park Authorities (NPAs) were collaborating on climate change matters, but much of this work stopped when the National Park Grant was cut substantially over the period 2011/12 to 2014/15. Within its resource capacity, and through winning external funding, the Broads Authority has continued to take forward recommended actions from the carbon audit report. At a corporate level it has focused in particular on travel use, utilities, paper use and bulk procurement of timber and aggregate, and more widely it has promoted sustainable tourism and carbon storage in land use, as outlined in section 4 and Appendix 2 of this report.
- 2.3 With the climate emergency being raised nationally with the public and government, most NPAs in the UK are now joining with local authorities in recognising the climate emergency and making a renewed commitment to reducing carbon emissions.

## 3. Report scope and terminology

- 3.1. This report addresses the Broads Authority's proposed response to the climate emergency. It relates only to **mitigation**, and does not cover climate change adaptation. Mitigation measures are about reducing and curbing greenhouse gas emissions, while **adaptation** measures are based on reducing vulnerability to the effects of climate change.

- 3.2. This report should be seen alongside the [Broads Climate Adaptation Plan \(2016\)](#), which looks at the likely impacts of climate change and sea level rise on the special features of the Broads and suggests adaptive measures, much of which is taken forward through the [Broadland Futures Initiative](#) and other project work.
- 3.3. The report proposes carbon reduction targets for the Authority and for the Broads. It highlights the importance of the Broads ecosystems in mitigating climate change, due to their large carbon stores and capacity to act as a carbon sink. We propose to address this key aspect further at a future Authority meeting.
- 3.4. Other environmental concerns such as plastic litter are also outside the scope of this report.
- 3.5. The term **CO<sub>2</sub> emissions** is used interchangeably with **greenhouse gas emissions**. The main greenhouse gases are Carbon Dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), and Nitrous Oxide (N<sub>2</sub>O). Methane has 34 times the impact of Carbon Dioxide per kilogram released, and Nitrous Oxide has 298 times the impact of Carbon Dioxide per kilogram released (Figures from IPCC 5<sup>th</sup> Assessment Report). Greenhouse gas emissions are usually reported as Carbon Dioxide equivalent, expressing all emissions. In this report, references to Carbon Dioxide, CO<sub>2</sub> or carbon are used to represent all greenhouse gas emissions, unless stated otherwise.
- 3.6. **Carbon neutral** refers to achieving net zero emissions of greenhouse gases by balancing a measured amount of greenhouse gases released with an equivalent amount sequestered (stored long-term) or offset, or buying enough carbon credits to make up the difference. For example, a building with solar panels that would provide renewable energy to the grid equal to the energy it uses from the grid, would be considered carbon neutral. **Carbon offsetting** is a compensatory measure made by an individual or company, usually through sponsoring action that increases CO<sub>2</sub> absorption, such as tree planting.
- 3.7. **Zero carbon** occurs when no carbon is emitted, and so nothing needs to be stored or offset. For example, a household or commercial building that is off-grid, running entirely on solar power and using no fossil fuels, can label its energy zero carbon.

## 4. Reducing carbon emissions in the Broads

### Baseline and monitoring

- 4.1. The 2010 carbon audit estimated overall emissions from within the Broads Area at 491,000 tonnes of CO<sub>2</sub>. Of this, 131,000 tonnes were categorised as 'connected with the Broads', covering land use, tourism and recreation. 360,000 tonnes were categorised as 'not connected with the Broads', covering activity such as domestic heating, transport emissions and the Cantley sugar factory. With the Broads Authority directly responsible for only 1,900 tonnes of CO<sub>2</sub> (0.4%), it is important to consider how to reduce carbon emissions in the Broads as a whole.

- 4.2. We recommend creating an up-to-date CO<sub>2</sub> emissions baseline for the Broads area using a methodology shared with the National Parks and based on a method applied in the Lake District by Lancaster University. The initial cost estimate is around £5,000, and this could be done in this financial year through existing budgets.
- 4.3. To monitor progress, we would need to make an ongoing budget commitment to repeat the exercise in future years.

#### Land and land use sector

- 4.4. The Authority works closely with partner organisations to influence land management and promote best practice. This includes managing fen sites for landowners, supporting reed cutters, using grazing animals and the fen harvester. The Authority also supports major projects such as the work led by the IDB and RSPB to raise water levels in the Halvergate Marshes.
- 4.5. Maintaining water quality and quantity in the Broads are obviously critical. Recent literature received via the [CANAPE EU Interreg project](#) shows that allowing a hectare of peat fen suffer from a year of low water levels may lead to a CO<sub>2</sub> emission of 11 tonnes.
- 4.6. Farmers and land managers are key stakeholders and, through co-hosting the Broadland Catchment Partnership, the Authority works collaboratively at a catchment level to promote climate mitigation methods on agricultural holdings. This includes actions to increase cover crop production and to reduce nitrate input and losses, in line with Defra's [Clean Air Strategy \(2019\)](#) and [Mitigation Method User Guide \(2011\)](#). Nitrate applied to land can be lost to the atmosphere and end up in waterways, resulting in methane and nitrous oxide emissions, both significant greenhouse gases. A range of methods can reduce these losses, including cover crops that can also take up carbon. This is an area the Authority needs to retain as a priority if it is to influence land use and the reduction of CO<sub>2</sub> emissions in one of the most important sectors.

#### Tourism and recreation sectors

- 4.7. The Broads has a strong track record in sustainable tourism, including multiple initiatives through the [Sustainable Tourism in Estuary Parks](#) (STEP) Interreg project, but the 2010 carbon audit shows the tourism and recreation sectors as key sources of carbon emissions.
- 4.8. One area of focus is travel by tourists to and from the Broads, particularly air travel. As an example, a return flight to the UK from Australia creates 5.5 tonnes of CO<sub>2</sub>. Reducing or offsetting these emissions could include promoting cycling, bus and train use to access the Broads, and encouraging overseas visitors to purchase carbon credits to support projects within the Broads and offset their flight emissions.
- 4.9. The Authority operates the Electric Eel at How Hill, the Liana at Wroxham and Ra, the UK's first solar powered public boat, at Whitlingham. It has installed a network of electric charging points to support electric powered boats and used the Sustainable

Development Fund to support initiatives such as the EcoBoat project. Electrically powered small private boats and day boats have been operating well in areas where the tidal influence is low, but the larger hire craft are still mostly diesel powered. The Authority's recent visit to the Seaworks Exhibition confirmed that, while hybrid engines are available, there is a significant cost increase for the technology when compared to standard diesel engines. A medium-term objective could be working with boat builders, boat owners and the wider boating community to help develop methods to decarbonise boating.

Other sectors

- 4.10. The other key sectors highlighted in the 2010 carbon audit report include industry and commerce, domestic sources and transport.
- 4.11. As CO<sub>2</sub> emissions from the Broads contribute to emissions in Norfolk and Suffolk, ongoing collaboration with Norfolk County Council and Suffolk County Council will be beneficial. This would align the Authority with the commitments made by the councils as outlined in paragraphs 1.4 and 1.5 of this report.

## 5. Setting targets for the Broads Authority

Proposed targets

- 5.1. While its own CO<sub>2</sub> emissions are small within the Broads as a whole, the Authority should set an example for the wider area and adopt a 'do as we do' approach.
- 5.2. With a statutory duty to conserve the environment there is a strong argument that the Authority should aim to match the most ambitious carbon reduction targets set by UK local authorities. On this basis, the following targets are proposed:
  - (i) To aim for a **carbon neutral target by 2030**, with emissions reduced as far as possible and the remainder offset by purchasing carbon credits. The initial objective would be to reduce emissions by at least 50% by 2030. This is not a long-term proposition, as carbon emissions have to continue falling to zero by 2050 and the price of carbon credits (currently approximately £10-20 per tonne) is expected to rise.
  - (ii) To aim for a **zero carbon target by 2040**. By this date, the Authority should not need to purchase carbon credits.

Implications of zero carbon target

- 5.3. To meet a 2040 zero carbon target, we would have to reduce our carbon emissions by half between 2020 and 2030. While some carbon savings will arise naturally as the national electricity grid decarbonises and vehicles and equipment become more efficient, the target will mean further changes to the way we operate.
- 5.4. A typical example is our purchase of long-life equipment such as cars, excavators and vessels. We will need to make sure the infrastructure is in place to support electric

and alternative fuel equipment. Based on our standard practice to retain pool cars for 10 years, the last purchase of a petrol or diesel vehicle could be in 2030. For smaller, readily available vehicles such as the pool cars we are already able to purchase electric vehicles, but fully electric 4x4 vehicles equivalent to the Toyota Hilux are not yet on the market.

- 5.5. For items such as ranger launches and construction work equipment that would still be in use in 2040, new purchases would need to be zero carbon or have the ability to be retrofitted to zero carbon. We could also agree to changing such equipment before the retention period as alternative technologies become available.
- 5.6. As outlined above we already act to mitigate climate change, from large-scale projects such as CANAPE, which has a clear focus on reducing emissions arising due to poor management of peatlands, to corporate actions such as electric pool vehicles and green energy in our buildings. The Authority's Management Team is proposing the following further carbon reduction measures with immediate effect:
  - (i) Undertake an energy audit of all Authority buildings and take actions to further reduce energy consumption;
  - (ii) Commit to purchasing all-electric vehicles except where towing capacity or 4-wheel drive demands make this impractical;
  - (iii) Install additional car charging points at Authority sites;
  - (iv) Identify suitable locations to install solar and other micro-generation devices at Authority buildings and land; and
  - (v) Review procurement practices to give additional focus to environmental criteria while still achieving good value for money.

#### Carbon credits

- 5.7. Carbon credits work by offsetting the CO<sub>2</sub> produced by an organisation or individual. The seller commits to actions such as planting trees to remove CO<sub>2</sub> from the atmosphere or rewetting fens to prevent a future release of CO<sub>2</sub>.
- 5.8. It may be possible to use projects in the Broads to offset the Authority's emissions, which would also create benefits locally.
- 5.9. A method of measuring emissions savings of projects was developed through the CANAPE project. This could be used to calculate the carbon benefits of projects in the Broads, although the methodology is not certified by third party assurance that would be accepted by the carbon credit markets.
- 5.10. UK based carbon credits are available through schemes such as the [IUCN Peatland Code](#). Alternatively, it may be possible to work with the IUCN UK Peatland Project to certify the amount of carbon reduction from Broads Restoration projects.

## 6. Financial implications

- 6.1. The immediate actions to reduce the Authority emissions can be funded in the 2019/20 budget by reallocating savings within existing budgets, as can the dedication of two days of an officer's time to take this forward and the £5,000 for carbon audit work with the National Parks.
- 6.2 Further expenditure is likely to be necessary as projects are developed and officers will report back on progress and the financial implications at future meetings.

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Date of report: 11 September 2019

[Broads Plan](#) objectives: 10.1 and 10.2

Appendix 1 – Climate Emergency Statement – Broads Authority

Appendix 2 - Existing carbon-reducing activity by the Broads Authority



# Appendix 1

## Climate Emergency Statement – Broads Authority

Humans have already caused irreversible climate change, the impacts of which are being felt around the world. The consequences of global temperature rising above 1.5°C are so severe that preventing this from happening must be humanity's number one priority.

The Intergovernmental Panel on Climate Change's [Special Report on Global Warming of 1.5°C](#) told us that limiting global warming to 1.5°C may still be possible with ambitious action from national authorities, civil society, the private sector and local communities. It is imperative that all countries work together to reduce our carbon equivalent emissions from the current 6.5 tonnes per person per year to less than 2 tonnes as soon as possible.

Individuals cannot be expected to make this reduction on their own. All government bodies (national, regional and local) have a duty to limit the negative impacts of climate breakdown, and local governments that recognise this should not wait for their national governments to change their policies.

Therefore, this Authority resolves to:

- (1) Recognise a climate emergency
- (2) Pledge to work towards making the Authority 'Carbon neutral' by 2030, with a further objective of reducing all carbon emissions to zero by 2040.
- (3) Establish a baseline for CO<sub>2</sub> emissions using a common methodology with the National Park Authorities and develop an Action Plan and monitoring system.
- (4) Work with its constituent local authorities to reduce emissions from domestic, travel and other sources in the Broads and across the two counties.
- (5) Work with farmers, land managers, the National Farmers Union and Defra to influence land management practices to maintain and build organic matter and carbon in soil, to improve biodiversity and to store water to protect against flooding and drought.
- (6) Work with boating organisations and tourism organisations to continue promoting and developing environmentally friendly boating and sustainable tourism.

## Appendix 2

### Existing carbon-reducing activity by the Broads Authority

The Authority has ongoing carbon cutting initiatives. In 2010, following the carbon audit, we agreed to focus on four main areas for reducing emissions:

#### **(a) Travel - seeking to reduce mileage by vehicles**

We moved to a pool car system and have purchased vehicles with low CO<sub>2</sub> emissions. In its first 18 months since its purchase in 2017, our electric Renault Zoe has saved 2 tonnes of CO<sub>2</sub> compared to a similarly sized diesel vehicle. An electric van will complement this in the autumn. These vehicles also help to reduce air pollution.

#### **(b) Utilities, especially electricity and water usage**

We decided to buy our electricity from a Green Energy Tariff (guaranteeing 100% renewable electricity) if it is no more than 10% more expensive than buying through a non-green tariff. So far, it has always been possible to purchase electricity through a Green Tariff. This covers all electricity used at sites other than Yare House, including the provision of electricity through electric charging points for boats.

#### **(c) Paper, as a resource used throughout the organisation**

We moved to a paperless arrangement for our committee agenda papers in 2014, saving more than 100,000 pieces of A4 paper a year. We also centralised our printing facilities, saving on electricity and paper use.

#### **(c) Bulk procurement in terms of timber and aggregate**

Our procurement process for bulk materials used in our construction and maintenance activities revolves around the three-way relationship between the need for the product, the choice of material, and the relative sustainability of the material choices over the product's life cycle. Examples include recycled plastic or treated timber for countryside furniture, tropical greenheart timber or steel for marker posts, and crushed concrete or granite for path surfacing. Through testing the process for timber procurement, we decided that all sawn timber should come from suppliers who could guarantee stocks of [Programme for the Endorsement of Forest Certification](#) accredited timber. Through negotiation with a preferred local supplier, we secured a sustainable sourcing route.

In addition to these 4 key areas, the following projects have been implemented;

- An officer group met regularly from 2009 to 2016 to promote in-house green activities and messages, including some of the projects highlighted below.
- The Broads has large areas of fen and wet woodland. These habitats store substantial amounts of carbon when properly managed, and support other ecosystem services such as water cycling and clean air. The alluvial soils of the remaining area of the Broadland river floodplain are also rich in carbon. We work to preserve and manage

Authority-owned and managed fens in order to achieve SSSI condition for biodiversity. We also provide good practice advice and support to land managers.

- We encourage sustainable boating and operates electric/solar boats at three locations. We provide electric charging points at yacht stations and other locations around the Broads to promote and support electric powered boating. In practice, these are used mainly to power electric appliances on moored boats moored, in place of boaters running their engines to provide power. The electricity taken from the National Grid has a lower carbon footprint than charging a battery via a boat engine. This results in a net carbon saving for the Broads area, even if it increases the Authority's own emissions. As our electricity is purchased through a Green Energy tariff, the carbon footprint of these posts is marginal.
- The Authority is leading the international CANAPE project, which has a clear focus on reducing emissions arising due to poor management of peatlands. This project is supporting the reedbed restoration work at Hickling Broad, which will create a long-term carbon sink. It is also promoting sustainable products that can be manufactured in the Broads, including charcoal and reed soil improver. As a final objective, it is raising awareness of the importance of peatlands for carbon storage, and what the public can do to help protect them, such as buying peat-free compost. We will have an enhanced capacity to assess the carbon impact of restoration projects through our work with CANAPE partners and the relationships being built through the project. We will also have evidence-based data to consider the net benefits and trade-offs of different land management practices.
- At the time of the 2010 carbon audit, we recognised that tourism and recreation were significant generators of emissions and worked closely with the industry to produce a Sustainable Tourism Strategy for the Broads. The Sustainable Tourism in Estuary Parks (STEP) Interreg project created multiple projects, including a Green Business label.
- The Broads Local Plan contains policies linked to climate change, including:
  - Policy SP3 places a general requirement on developers to consider how to make their development low carbon
  - Policy DM10 requires that development on peat should be considered in context of its environmental impact, and any peat removal should seek to ensure that the peat is disposed of in a way that keeps it wet and retains its carbon.
  - DM15 Supports renewable energy development
- Our staff run voluntary green initiatives, including food waste for composting and recycling bottle tops, paper and cardboard, batteries and crisp packets.