

# Fenland reservoir consultation response

Deadline 21 Dec 2022



<https://www.fensreservoir.co.uk/provide-feedback/feedback-form/>

## **1. Do you have any comments about the pink area we have identified or the effects of us using it?**

We support the principle of creating a fenland reservoir, but are concerned about the massive carbon emissions involved in construction and operation. Your site selection report summarises these as 430kT CO<sub>2</sub>e during construction and 30kTCO<sub>2</sub>e pa thereafter. To put this into proportion, Cambridge City's entire annual carbon emissions for the year 2020 were 513kT CO<sub>2</sub>e. Fenlands emissions from land-use (mostly peat loss/degradation) and agriculture for the year 2020 were 1086 kTCO<sub>2</sub>.

## **2. Are there ways you think we can improve or reduce any of these effects?**

Take great care to minimise carbon emissions while excavating the reservoir. This includes minimising the distances over which material is moved, the vehicle fuels used, minimising the use of concrete, and taking care to keep any excavated peat wet and compacted to reduce the serious emissions created as peat dries out and oxidises.

To reduce the operational carbon emissions, we suggest you install floating solar panels over some of the reservoir.

Although care is needed in waterproofing floating solar panels, the performance of the panels is improved by the cooling provided by the water. The panels also help reduce evaporative losses during heatwaves, while providing power.

This has already been done by Thames Water & BP, near London, <https://www.lightsourcebp.com/uk/projects/queen-elizabeth-ii-reservoir-solar-project/> There are huge installations in China up to 320MW, and over 1km<sup>2</sup>. <https://www.pv-magazine.com/2022/01/03/worlds-largest-floating-pv-plant-goes-online-in-china/>

We estimate that to offset the 30kT pa of operational carbon emissions would require PV panels on roughly 1km<sup>2</sup>, or 20% of the area of the reservoir.

## **3. Do you have any comments about the grey area we have identified or the effects of us using it?**

We would like to see the habitat improvements in the grey areas include wetlands designed to maximise the rate of peat accumulation, thus helping sequester as much carbon as possible (while providing nice biodiversity habitats).

## **4. Are there ways you think we can improve or reduce any of these effects?**

We would like to see the habitat improvements in the grey areas include wetlands designed to maximise the rate of peat accumulation, thus helping sequester as much carbon as possible each year, (while providing nice biodiversity habitats). This should include monitoring, so carbon sequestration performance can be monitored and reported. The maximum rate of peat accumulation that we're aware of is equivalent to 6.2kT/km<sup>2</sup> pa (in California) so it probably won't

be feasible to fully negate the operational carbon emissions. Nevertheless, it would be useful to have a demonstration project for what can be achieved on lowland peat in the UK

**6. As part of this consultation we have provided a very early concept design for the reservoir to help stimulate thought and discussion. This will be developed further as the project progresses taking into account your feedback, so we are keen to understand your initial views. Do you have any comments on the early concept design at this stage?**

We suggest crinkly edges to the reservoir, and for islands to be left in places. These can create a diversity of areas: eg little bays where it's safe to swim and for kids to play, and interesting places for exploring on foot, bike or by canoe, and other areas that are a bit inaccessible and designed to create nice wildlife habitats.

**7. Below are some of the features we could potentially include as we develop the proposals for the reservoir. Are there any you have a preference for? (Tick all that apply)**

Wildlife enhancement and conservation (such as for birds and other species)  
Ecological enhancements (such as wetland areas and woodlands)  
Recreational water sports (such as sailing, angling and wind surfing)  
Education facilities (such as nature trails, visitor centres)  
Social and recreational facilities (such as picnic areas, playgrounds)  
Landscape enhancements (such as tree planting)  
Green infrastructure (including cycle paths, EV charging and renewables)  
Creating a recognised visitor destination for local people and tourists  
Local enterprise and economic opportunities  
Water for wider sector uses (such as agriculture and commercial use)  
Other