Case Studies:

Impact of Renewable Energy Infrastructure on Landscapes in the South West: the role of the landscape architect

25th April 2008

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LI's Position Statement on Climate Change:

'*The Landscape Institute is fully committed to the maximisation of renewable energy capacity as an essential aspect of climate change mitigation, whilst ensuring simultaneously the robust protection and enhancement of landscape character and condition*'

'*The expertise that Landscape Architects have in landscape and visual impact assessment ensures that proposals for the development of renewable energy generation, including bioenergy, can be properly considered...*'

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Case Studies

- Case Study 1: Accommodating wind turbine development in Cornwall
- Case Study 2: Accommodating energy crops in Devon
- Case Study 3: Accommodating a tidal barrage in the Severn Estuary

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Case study 1: Accommodating wind turbine development in Cornwall

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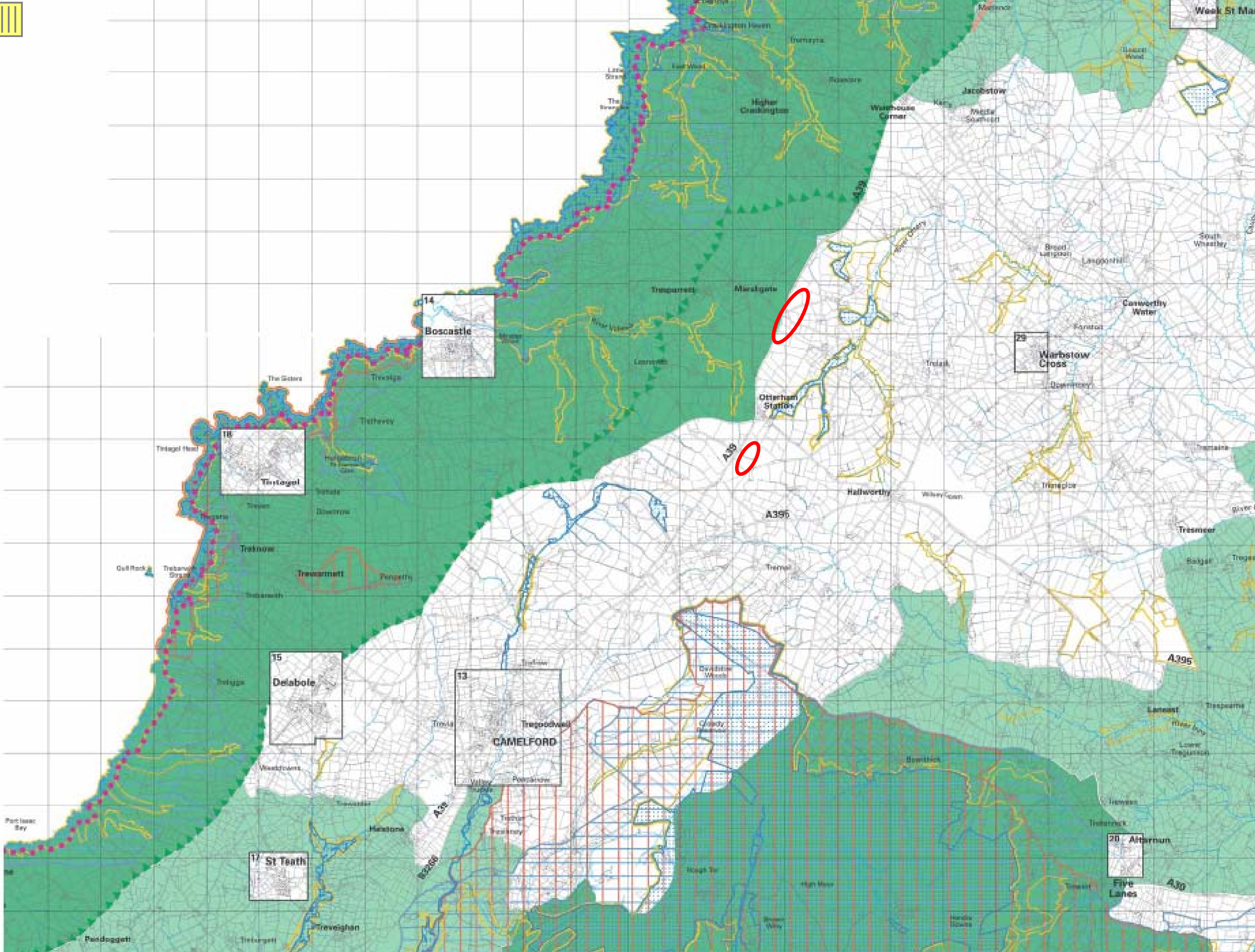

Week St Ma
Jacobstow
Higher Crackington
Wainhouse Corner
A39
Trespearne
Marshgate
14
Boscastle
Canworthy Water
29
Warbstow Cross
Otterham Station
A39
Hallworthy
A395
The Sisters
Trevalga
Trethevey
18
Tintagel
Tintagel Head
Treknow
Trewarmett
Tremail
Tresmeer
15
Delabole
13
CAMELFORD
Tregoodwell
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A395
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Helstone
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Altarnun
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St Teath
Port Isaac Bay
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Pendoggett
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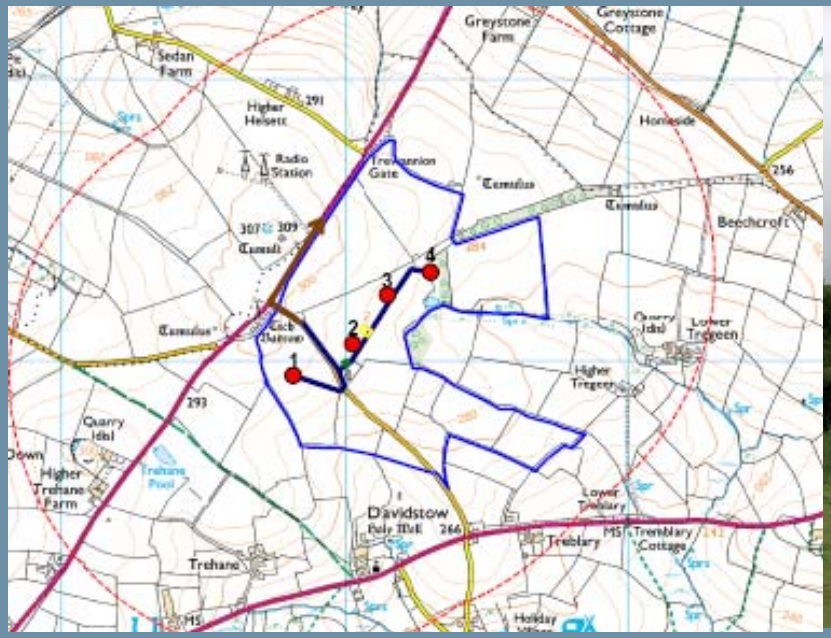

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Case study 1: key issues

- Impact of each scheme on the Cornwall AONB
- Cumulative impact
- For the LPA: to weigh up the contribution the turbines make to reduction of greenhouse gas emissions vs landscape impact

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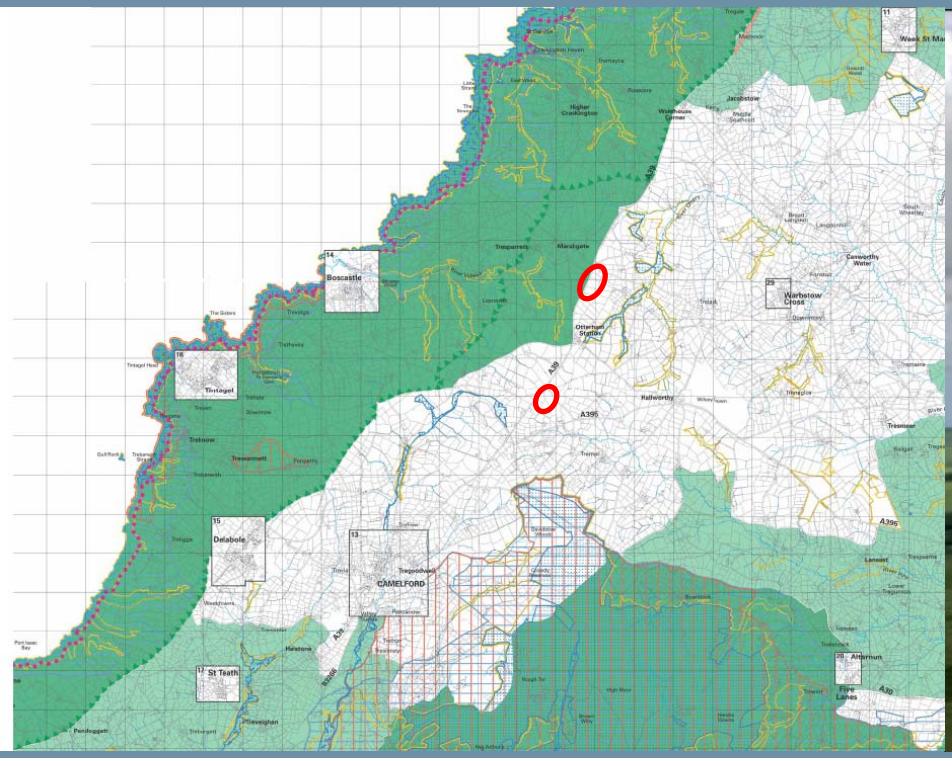

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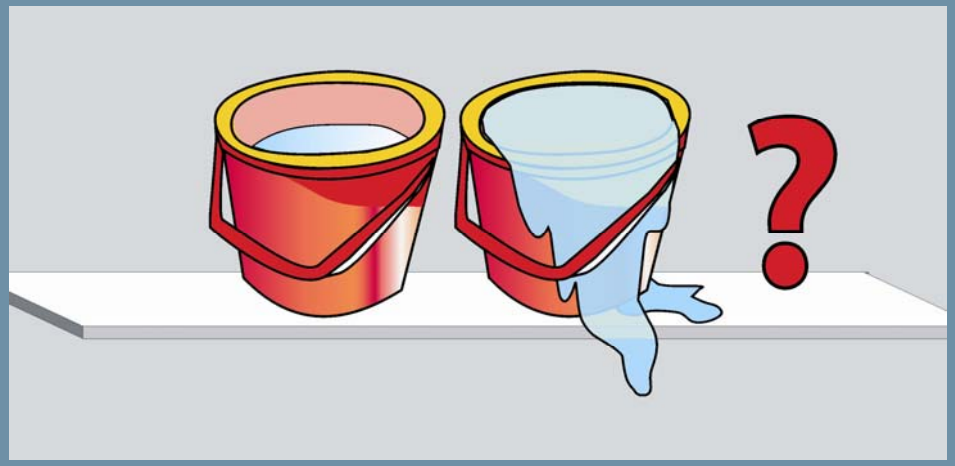
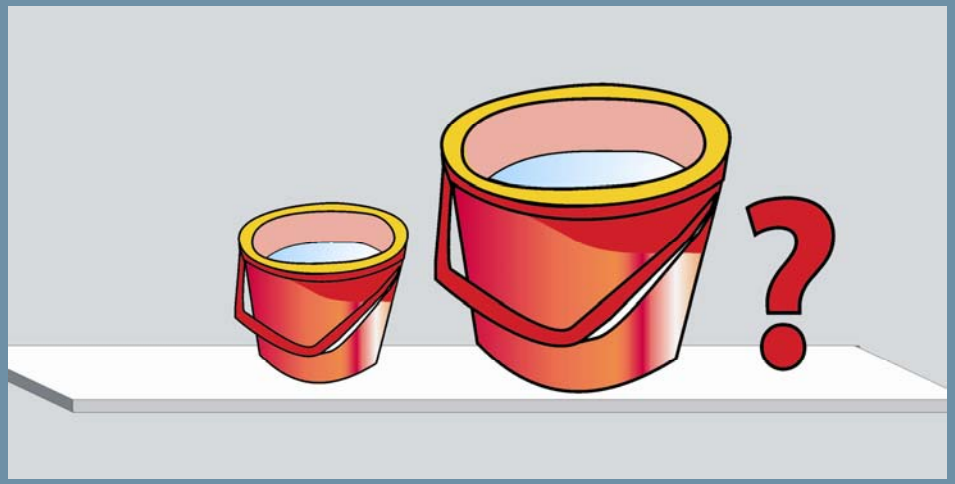


When is ‘the bucket’ full?



How big is ‘the bucket’?

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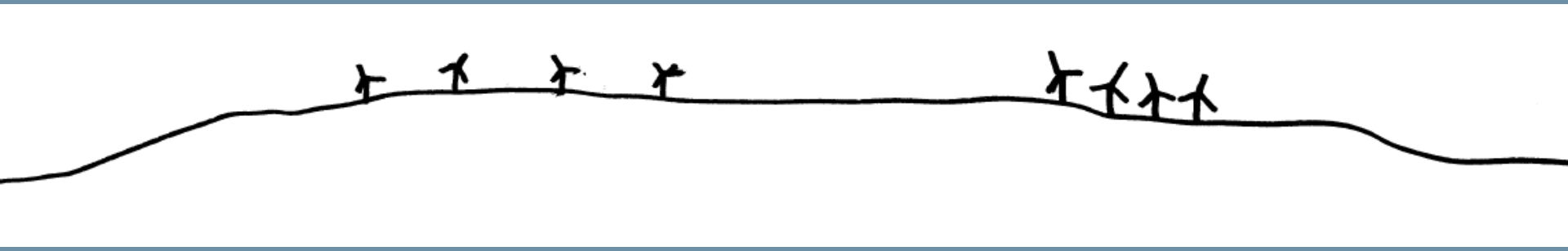

- Although the proposals are close, they are not close enough to read as one
- Inconsistency in design & layout mean that they would not read as one

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Case study 2: Accommodating energy crops in Devon

- Bioenergy crops account for a very small proportion of UK energy generation and fuel use
- Currently a high proportion of these bioenergy crops are imported
- Government has predicted that by 2020 one million hectares (17% of nations cropped land) would be needed for growing energy fuel crops to meet contribution to renewable electricity targets

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Case study 2: key issues

- Planting of energy crops, although outside planning control, can have a major impact on our landscape, especially if grown on a large scale.

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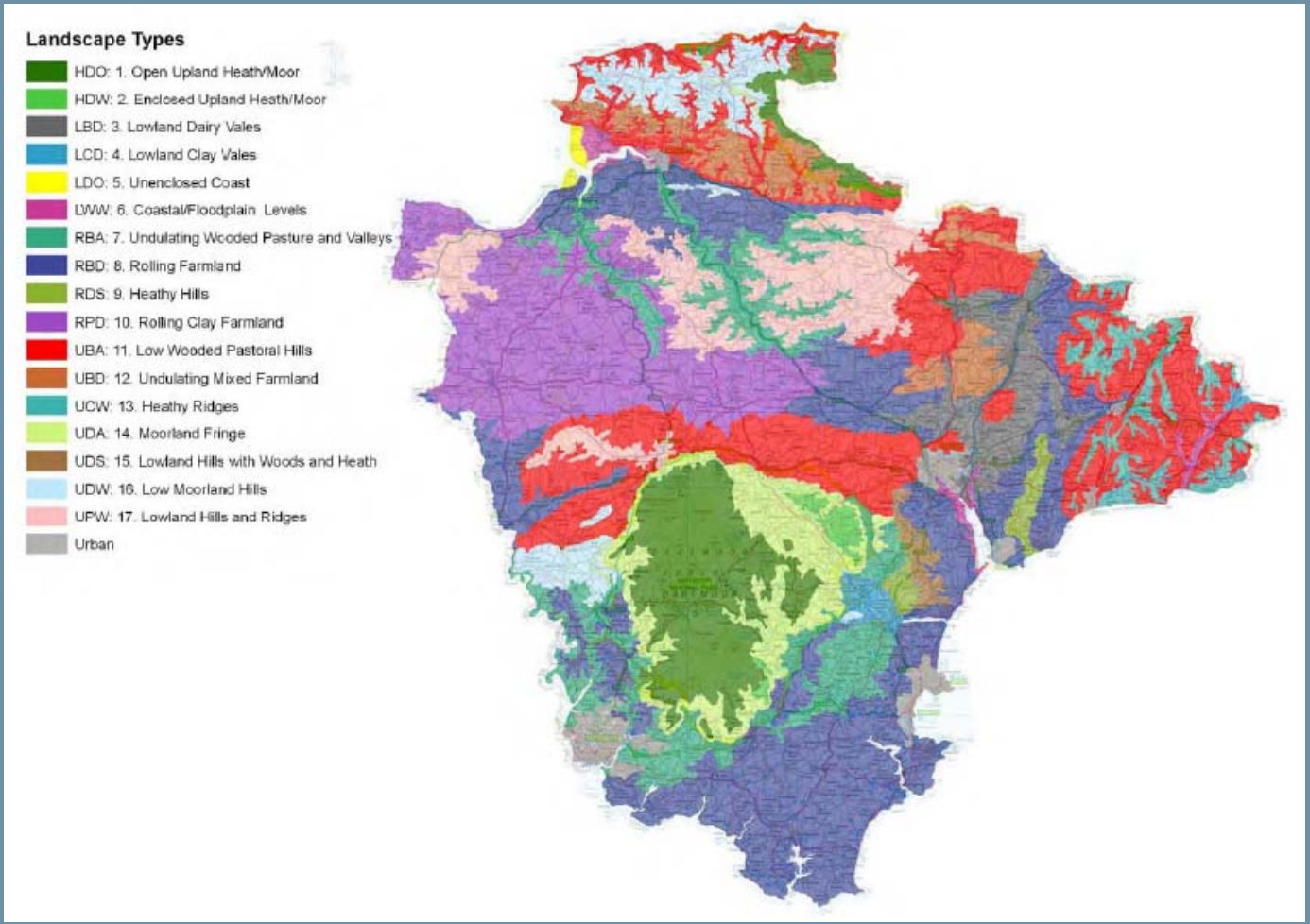

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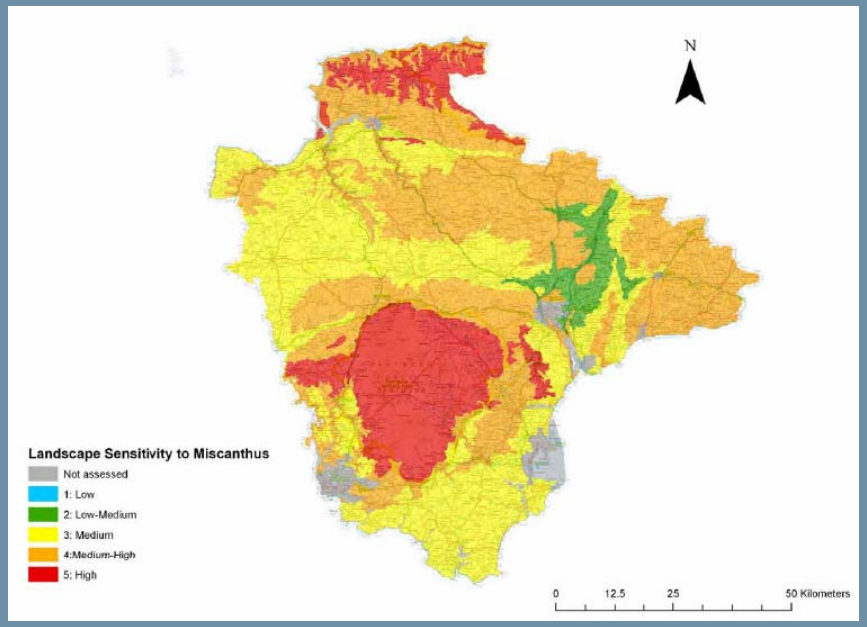

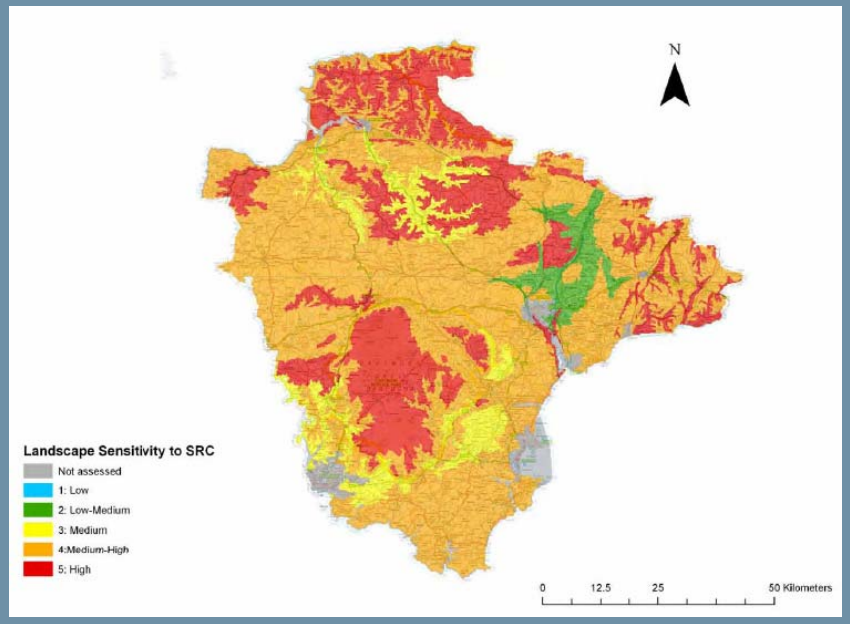

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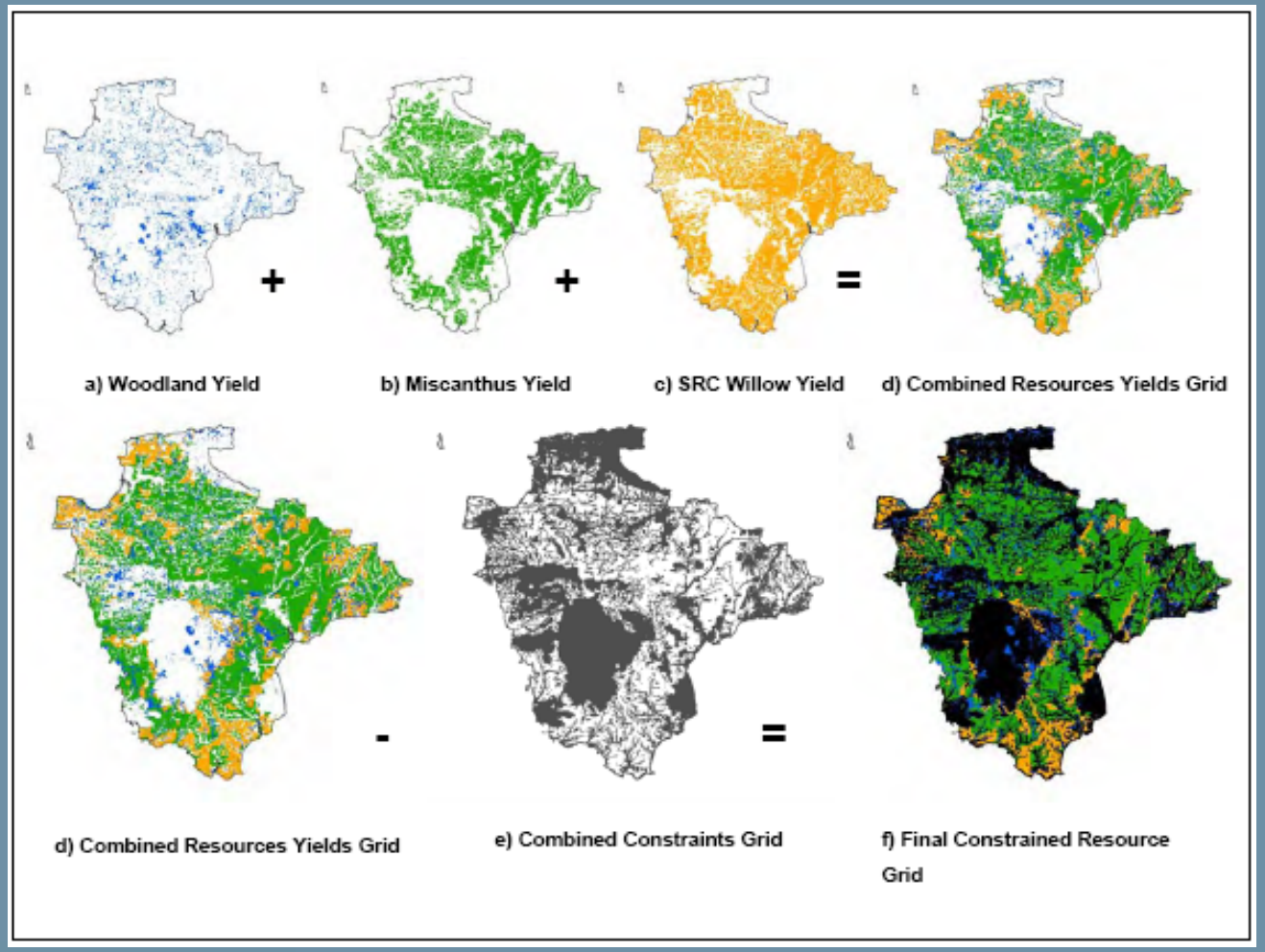

Case study 3: facts and figures

- Could produce up to 6% electricity supply for England and Wales (roughly equivalent to level of output produced by 4 conventional coal-fired power stations, or 8GW)

- A survey revealed that 58% of people across the UK were in favour of a barrage and 15% against - this support was mainly because of the perceived climate change benefits

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Case study 2: key issues

- Environmental impacts esp. landscape and ecology of Severn Estuary

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Case study 2: key issues

- Impact of the permanent barrage structure itself;
- Impacts resulting from changes to water levels throughout the estuary.

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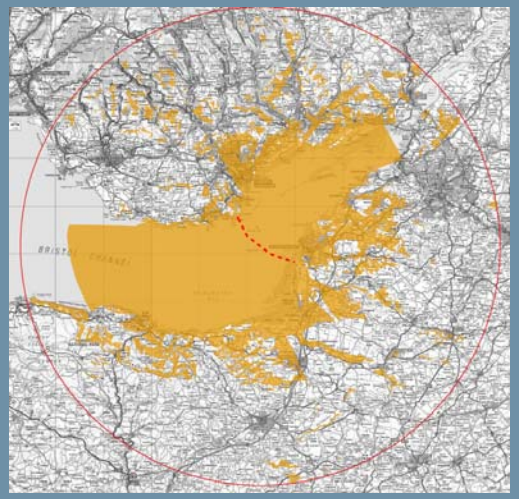
Case study 2: key issues



- Visual impact of the barrage structure itself – visible from the Mendip Hills and Quantock Hills AONBs;
- Change in character of the estuary relating to changes in water levels
- Loss of the Severn Bore phenomenon

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Case study 2: in absence of barrage

- Increase in sea levels will affect this low-lying estuary landscape.
- Inundation of the low lying levels is expected, creating additional inter-tidal areas and landward migration of saltmarshes.
- Extreme weather events, and the likelihood of increased stormy conditions, will make the problem of flooding & erosion much greater.
- Increased wave energy could result in erosion of the inter-tidal mudflats and saltmarsh margins.

[from 'futurecoast' – a study of coastal processes funded by Defra and the National Assembly for Wales]

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Summary

- Need to mitigate climate change vs. desire to protect our landscapes;
- Environmental impacts from climate change vs. environmental impacts resulting from the infrastructure designed to help mitigate climate change.

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