



SCOTTISHPOWER  
RENEWABLES

# East Anglia ONE North and East Anglia TWO Offshore Windfarms

## Applicants' Responses to Examining Authority's Written Questions

### Appendix 13 Tourism Impact Review

Applicants: East Anglia ONE North Limited and East Anglia TWO Limited

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Applicable to **East Anglia ONE North** and **East Anglia TWO**

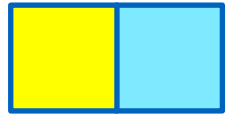


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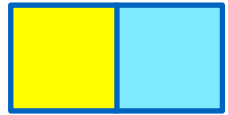
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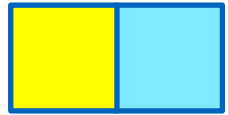
## Glossary of Acronyms

AONB	Area of Outstanding Natural Beauty
BRES	Buisness Register and Employment Survey
Km	Kilometres
LA	Local Authorities
O&M	Operations and Maintenance
ONS	Office for National Statistics
OWF	Offshore Wind Farm
UK	United Kingdom



## Glossary of Terminology

Applicants	East Anglia TWO Limited / East Anglia ONE North Limited
East Anglia ONE North project	The proposed project consisting of up to 67 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia TWO project	The proposed project consisting of up to 75 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.



# 1 Introduction

1. This note has been prepared Biggar Economics on behalf of East Anglia TWO Limited and East Anglia ONE North Limited (the Applicants) to further investigate the predicted impacts upon tourism during the construction phase of both the East Anglia TWO project and East Anglia ONE North project (the Projects).
2. Biggar Economics were commissioned by the Applicants to review the effects upon tourism and visitor spending in areas where offshore wind farms have been built previously (including those offshore from landscape designation areas) and consideration of what might influence visitor behaviour.
3. Therefore, this study analysed indicators of the tourism industry in 11 comparable cases, including one location adjacent to an Area of Outstanding Natural Beauty (AONB) and one location adjacent to a National Park, to identify any relationship between offshore wind farms and changes in visitor behaviour or spending during the construction periods.
4. Overall, analysis of the 11 areas studied did not suggest any relationship between the construction of the offshore wind farms and a reduction in tourism, visitor spending or tourism-related employment.

## 2 Tourism Empirical Analysis

### 2.1 Approach to Analysis

5. The tourism economy in 11 areas, including one AONB and one National Park, were analysed to identify any relationship between offshore wind impacts and changes in visitor behaviour or spending during the construction period.
6. The overall approach was to identify similar scenarios, in which visitors, or potential visitors, could be aware of the impacts of the construction of an offshore windfarm as it can be reasonably assumed that visitors might react in a similar way to similar impacts.
7. One way that the Suffolk Coast is different to other areas is that it has a landscape designation as an AONB, therefore this assessment considers the impacts on areas with landscape designations separately to identify if there are unique impacts in these situations.
8. The analysis was based on publicly available data relating to the expenditure in the tourism economy and aimed to identify evidence of visitors, or potential visitors, reacting to the impacts of an offshore wind farm through a change in their spending.



### 2.1.1 Evidence Used

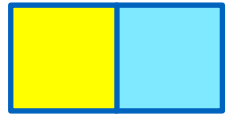
9. It was necessary to identify a dataset that would show evidence of a change in visitor spending within a local authority. Therefore, the data needed to be:
  - published annually;
  - published at the level of district local authority;
  - published by industrial sector;
  - directly linked to visitor spending; and
  - sensitive to change.
10. The source of this data is the Business Registrar and Employment Survey (BRES), which is undertaken each year by the Office for National Statistics. This survey involves engaging with approximately 80,000 business across the UK and this high sample size allow the ONS to publish statistics at the level of District Local Authority with a high degree of confidence.
11. Alternative data sources identified during this process were:
  - the Great British Tourism Survey<sup>1</sup> which provides estimates of visitors spend by local authority. However, this data is averaged across three years and therefore it is not possible to use in this analysis;
  - the UK Business Count<sup>2</sup> which provides the relevant data, however, the level of business birth and death is less sensitive to change than employment, and therefore the Business Register and Employment Survey was preferred. The UK Business Count data was used to sense check the analysis.
12. Tourism sector employment is directly linked to the number of visitors and their level of spending. The level of tourism employment is highly sensitive to visitor expenditure, and this has been evidenced by a study by Deloitte and Oxford Economics<sup>3</sup>. This study found that for every 1% increase in expenditure in the tourism sector, employment in the sector grew by 0.89%. Their analysis found a very strong relationship between the two between 1980 and 2012 across the UK. The data on tourism related employment is more detailed than the data available for visitor spending and therefore the focus of this analysis is employment data.
13. The sector used in this analysis was the number of people employed in the accommodation and food services sector. This sector includes:

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<sup>1</sup> Visit England (2019) The GB Tourist – 2018 Annual Report

<sup>2</sup> ONS (2019) Inter Departmental Business Register

<sup>3</sup> Deloitte, Oxford Economics (November 2013) Tourism: jobs and growth. The economic contribution of the tourism economy in the UK.



- Hotels;
  - B&Bs,
  - Campsites and Caravan Parks;
  - Cafes and Restaurants; and
  - Bars.
14. This sector was used as a proxy for the level of visitor spending in an area because these activities are strongly linked to visitor spending.

## 2.2 Coastal Districts

15. **Chapter 30 of the Environmental Statements** (APP-078) lists offshore wind farms<sup>4</sup> which are within 32km of the coast. . This list of the offshore wind farms, and the corresponding coastal assets, was used as the basis of this employment analysis.
16. The analysis considered the employment in the district local authority in which the coastal asset is based and it considered the offshore wind farms for which construction started after 2009, to reflect the availability of data.
17. The analysis considered the trends in tourism-related sector employment in each coastal local authority district listed in **Chapter 30 of the Environmental Statement** (APP-078) (shown in Figure 2-1).
18. An offshore wind farm had been built near all of these districts between 2009 and 2018. Of these areas, 9 had onshore construction activity during the construction period for onshore elements of the infrastructure, such as substations, cable routes and O&M bases.
19. If there was a relationship between the onshore and offshore construction of offshore wind farms and visitor spending, it would be expected to be apparent when the trends in tourism-related sector employment were analysed.

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<sup>4</sup> East Anglia TWO Limited (2019) East Anglia TWO Offshore Windfarm Environmental Statement; and East Anglia ONE North Limited (2019) East Anglia ONE North Offshore Windfarm Environmental Statement, Chapter 30



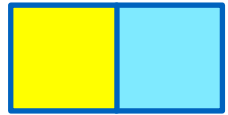
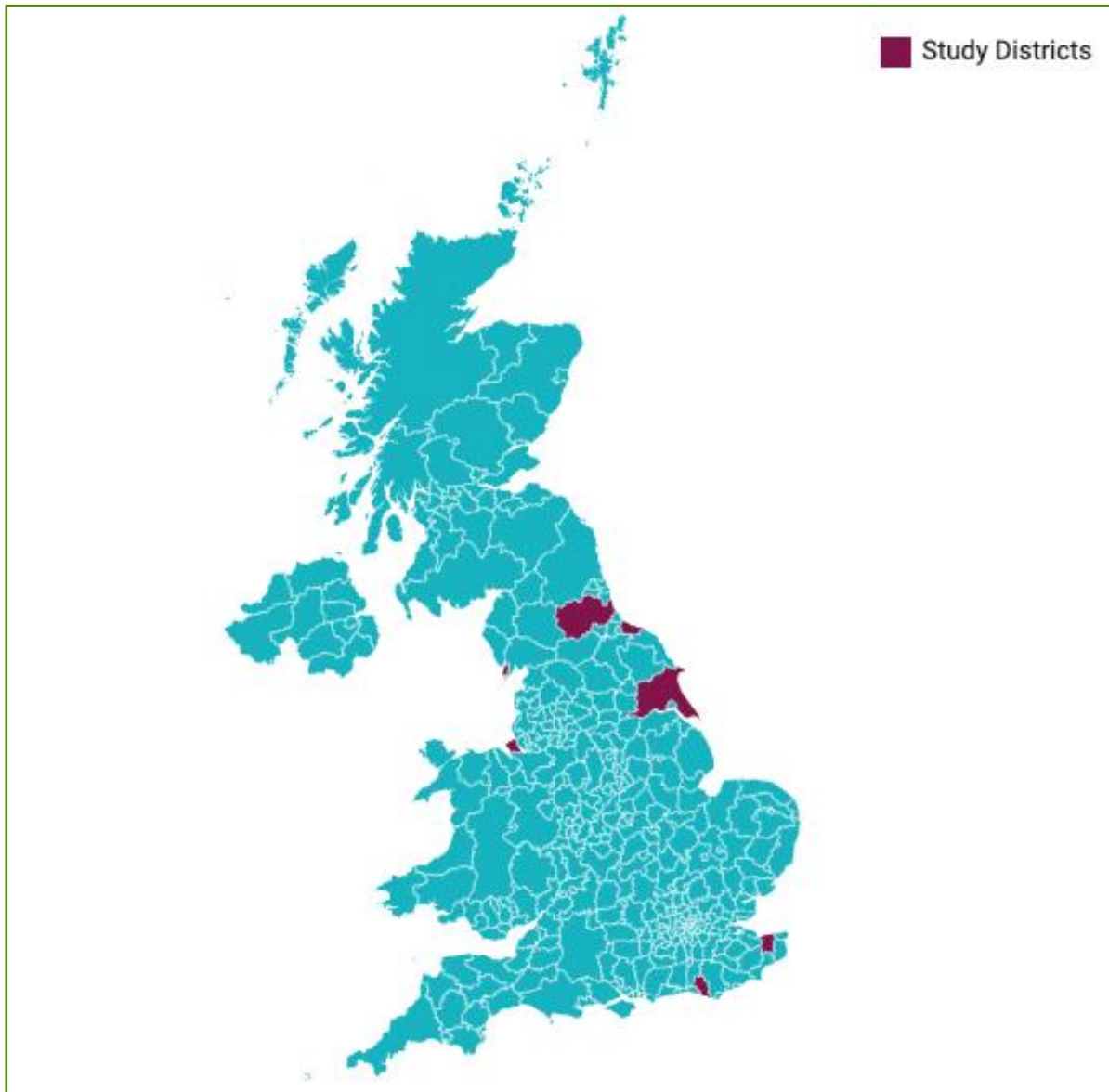


Figure 2-1 Study Districts with attractions with Offshore Wind Farm visibility and onshore infrastructure



Source: BIGGAR Economics

20. The local authority districts included in the analysis are located throughout England and the construction of the offshore wind farms that are visible from these districts occurred in every year between 2010 and 2018. An outline of the offshore wind farm that each district relates to and the period of construction of these wind farms is shown in **Table 2-1**.



**Table 2-1: Local Authority Districts with attractions with visibility of offshore wind farms and onshore infrastructure**

District	UK Region	Offshore Wind Farm	Construction Period
<b>Barrow-in-Furness</b>	North West	West of Duddon Sands	2013 – 2014
<b>Barrow-in-Furness</b>	North West	Walney Phase 1 and 2	2010 – 2012
<b>Wirral</b>	North West	Burbo Bank Extension	2016 – 2017
<b>Redcar and Cleveland</b>	North East	Teeside OWF	2011 – 2013
<b>County Durham</b>	North East	Teeside OWF	2011 – 2013
<b>East Riding of Yorkshire</b>	Yorkshire and the Humber	Westermost Rough	2014 – 2015
<b>East Riding of Yorkshire</b>	Yorkshire and the Humber	Humber Gateway	2013 – 2015
<b>Canterbury</b>	South East	Kentish Flats Extension	2014 – 2015
<b>Lewes</b>	South East	Rampion OWF	2015 - 2018

Source: Environmental Statement, Chapter 30 Tourism, Recreation and Socio-Economics (APP-078)

21. There were two approaches taken to the analysis to identify changes in the behaviour of visitors or potential visitors to the area. The trends in tourism-related employment in these districts during the construction period were compared to:
- overall trends in UK wide employment during the period 2009 – 2018; and
  - trends in tourism-related employment in its UK region during the construction period.

### 2.2.1 Time Series Analysis

22. The changes in tourism-related employment in each of the areas outlined in **Table 2-1** were analysed during the years of construction of the offshore wind farm. These changes in tourism-related employment were then compared to the changes in total regional employment during the period 2009 – 2018 (see Figure 2-2).
23. The purpose of this analysis was to identify changes in the behaviour of visitors, or potential visitors, to these areas during the construction period. If the accommodation and food services sector within the region performed worse than

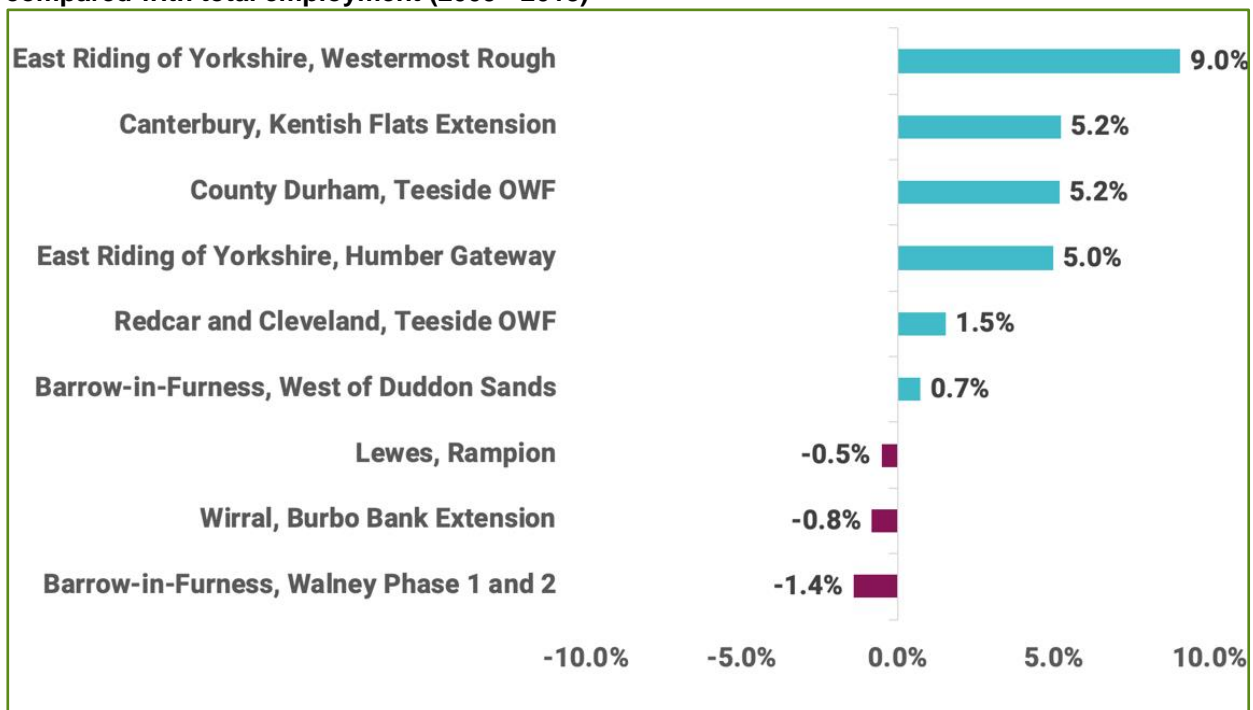


average during the construction period, this could be evidence that the visitors, or potential visitors, to the area had changed their behaviour as a result of the impacts of the offshore wind farm construction.

24. This analysis showed that of the 9 areas:

- the accommodation and food services sector performed **better** during the construction period in **6 areas**; and
- the accommodation and food services sector performed **worse** during the construction period in **3 areas**.

Figure 2-2 Change in Employment during Construction Period, tourism related employment compared with total employment (2009 - 2018)



Source: BIGGAR Economics Analysis

25. For example, in East Riding of Yorkshire employment grew by 11.8% during the construction of Westermost Rough Offshore Wind Farm. However, between 2009 and 2018, the average level of growth in employment in East Riding of Yorkshire was 2.8%. Therefore, tourism related employment increased by 9.0% more than the long-term average during the construction period.

26. Conversely, the employment growth in Barrow-in-Furness was 1.4% lower than the long-term average during the construction of Walney Phase 1 and 2.

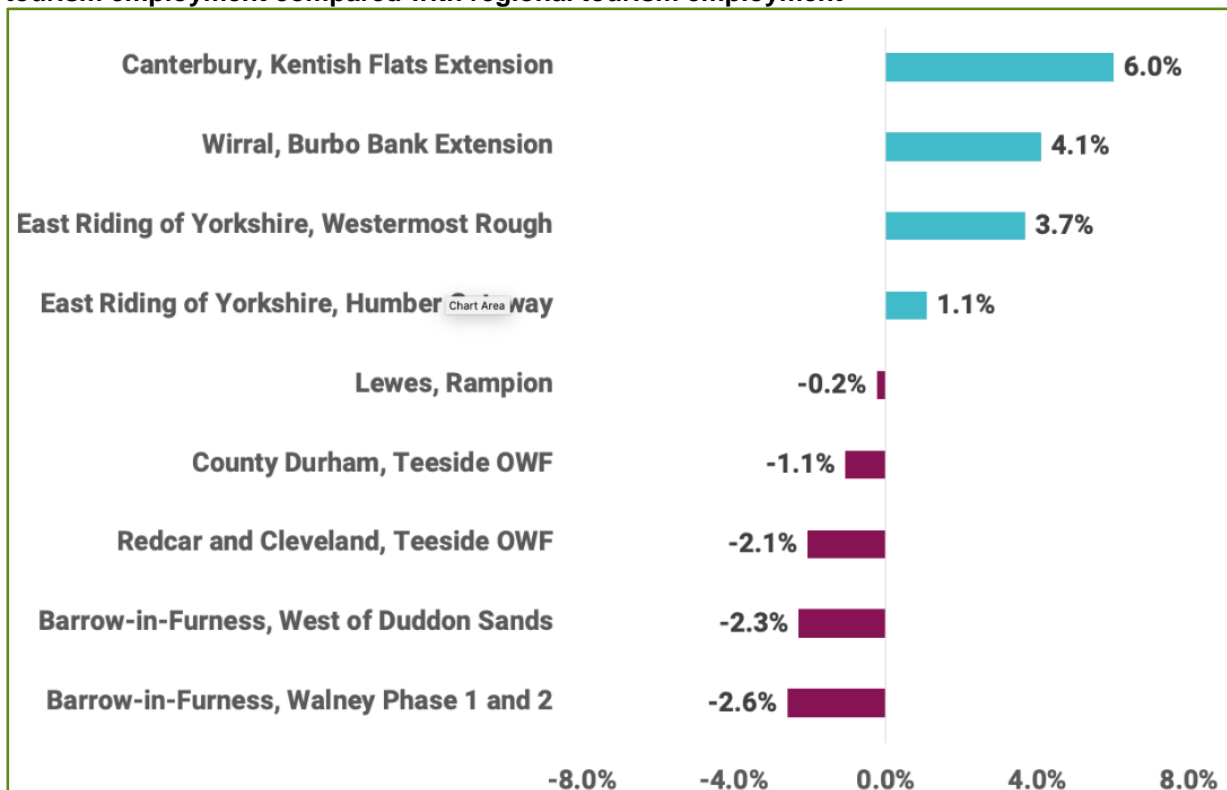
27. This analysis concludes that the performance of the accommodation and food service sector, as measured by employment, does not indicate a relationship with offshore wind farm construction.



### 2.2.2 District vs Region Analysis

28. Each of the areas identified operates within the wider visitor economy of the region of England that they are in.
29. The performance of the tourism economy in each of these districts is affected by the same factors which affect the tourism economy in the region. For example, consumer preferences, weather and currency values are likely to affect the region as a whole. More localised issues, such as the impacts associated with the construction of an offshore wind farm, are likely to be felt at a district level.
30. Therefore, this analysis compared the performance of the sector in each of these areas to the performance of the accommodation and food services sector in the wider region (see Figure 2-3). The aim of this to identify if the areas performed better or worse than expected during the construction of the offshore wind farms.
31. This analysis showed that, of the 9 areas, during the construction of the offshore wind farm the accommodation and food services sector:
  - performed **better** in the district than the wider region in **4 areas**; and
  - performed **worse** in the district than the wider region in **5 areas**.

Figure 2-3 Regional Analysis of Tourism Employment during Construction Period, district tourism employment compared with regional tourism employment



Source: BiGGAR Economics Analysis



32. The change in employment in the accommodation and food services sector in each study district is compared against the change in the sector in the wider region during the same period in **Figure 2-3**.
33. For example, in the Canterbury District during the construction of the Kentish Flats Extension tourism-related employment grew 6% more than the wider South East. During the construction of Walney Phase 1 and 2, tourism related employment in the North West grew 2.6% more than in Barrow-in-Furness.
34. This analysis concludes that during the construction of the offshore wind farms the study districts did not experience worse performance in employment in the accommodation and food services sector than their wider region.
35. Therefore, there is no evidence of a relationship between impacts from the construction of offshore wind farms, their onshore infrastructure and visitor spending.
36. If there was any change in visitor behaviour, then it did not result in a change in visitor spending.

### 2.3 Landscape Designations

37. To predict how visitors, or potential visitors to areas with landscape designations, would react to construction and operation impacts of offshore wind farms it was necessary to identify situations where such development had occurred and identify if tourism related employment was different in designated landscapes compared to other coastal districts. This could provide an indication of the effects that could be predicted for the Projects and the Suffolk Coasts and Heath AONB.
38. There is one coastal AONB in the UK of relevance. The Norfolk Coast AONB – has four offshore wind farm sites within 40km of the AONB, namely
  - Dudgeon Offshore Wind Farm;
  - Lincs Offshore Wind Farm;
  - Sheringham Shoal Offshore Wind Farm; and
  - Race Bank Offshore Wind Farm.
39. In addition, the South Downs National Park also has an offshore wind farm site (Rampion Offshore Wind Farm) within 40km. The two areas are shown in **Figure 2-4**.
40. In addition, onshore infrastructure for both Dudgeon and Sheringham Shoal was constructed in the Norfolk Coast AONB and the Rampion Offshore Wind Farm required onshore infrastructure construction in the South Downs National Park.

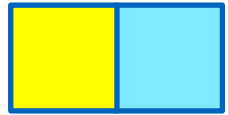
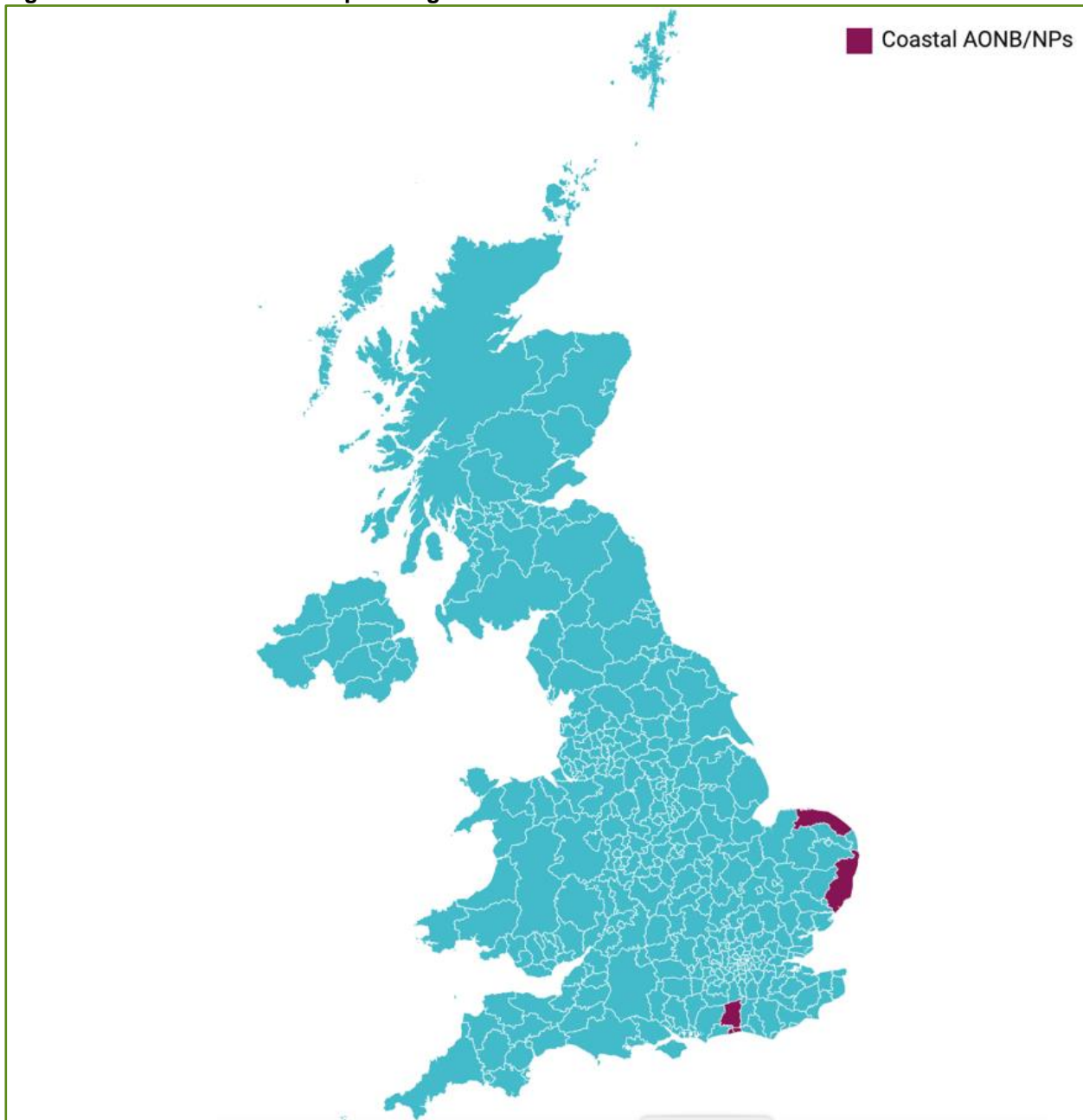


Figure 2-4 Location of Landscape Designation areas with OWF onshore infrastructure



Source: BIGGAR Economics

41. The trends in employment in these areas was considered at both locations to identify if the construction of offshore wind farms and their infrastructure changed the behaviour of visitors, or potential visitors, in a way that resulted in changes in spending.

### 2.3.1 Norfolk Coast AONB

42. The Norfolk Coast AONB is a protected landscape on the north coast of Norfolk which comprises of agricultural and coastal land. The majority of the AONB is



located within the district local authority of North Norfolk and this is the geography that was used for the analysis of the change in employment.

43. There are four offshore wind farm sites which are located between 17km and 33km from the Norfolk Coast AONB. These are:
- Dudgeon Offshore Wind Farm (400MW)- which is located 32km from the nearest point in the AONB and was constructed between 2015 and 2017;
  - Lincs Offshore Wind Farm (270MW) – which is located 23km from the nearest point in the AONB and was constructed between 2010 and 2013;
  - Sheringham Shoal Offshore Wind Farm (317MW) – which is located 17km from the nearest point in the AONB and was constructed between 2009 and 2011; and
  - Race Bank Offshore Wind Farm (573MW) – which is located 33km from the nearest point in the AONB and was constructed between 2015 and 2017.
44. In the period of the analysis, which is between 2009 and 2018, there were only two years in which there was no construction activity of offshore wind farms. These years were 2014 and 2018.
45. The number of people employed in the accommodation and food services sector has grown faster in North Norfolk than in either the surrounding county of Norfolk or across the East of England as a whole, as shown in Figure 2-5. Between 2009 and 2018, employment in this sector grew by 36% in North Norfolk, 28% in the county of Norfolk and 29% across the East of England.

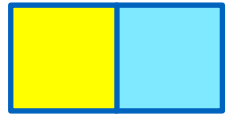
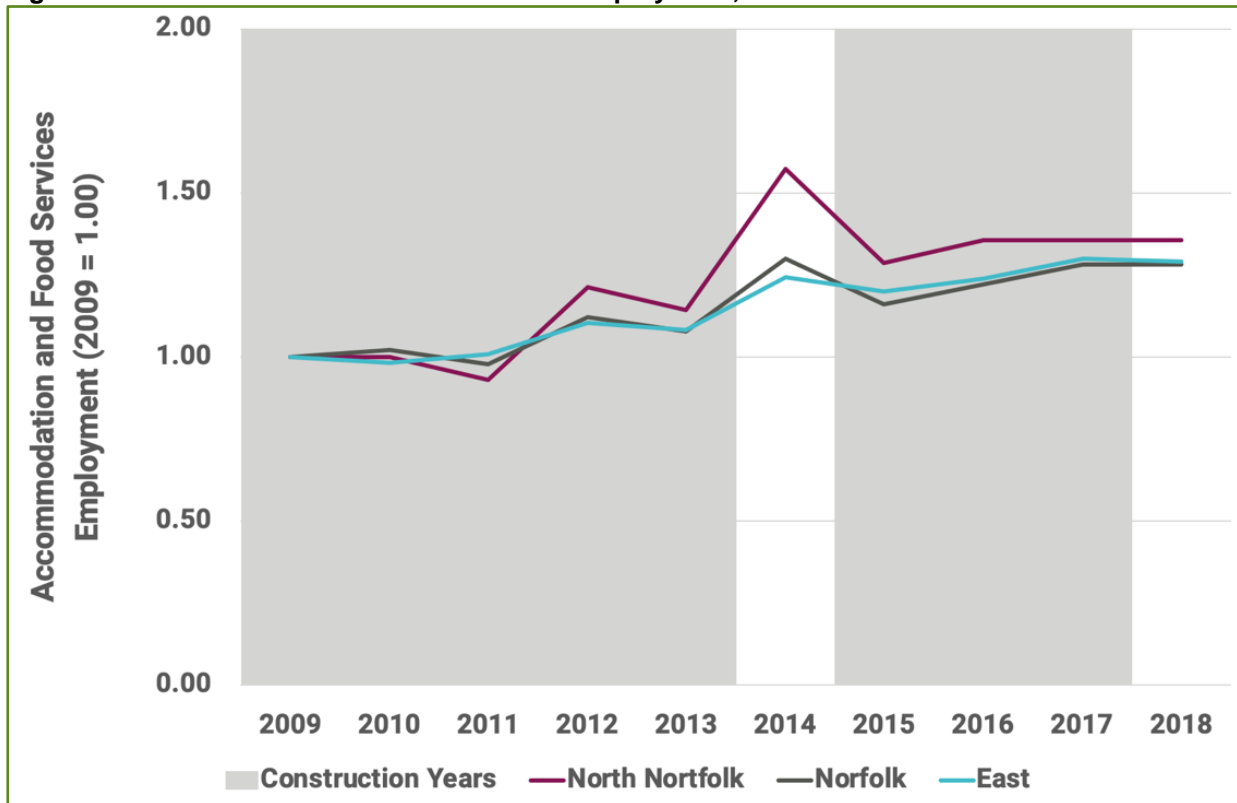


Figure 2-5 Accommodation & Food Services Employment, North Norfolk



Source: ONS, Business Registrar and Employment Survey

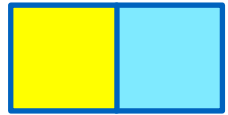
- 46. In the two years in which there was no construction activity, 2014 and 2018, the level of employment either jumps significantly or remained static.
- 47. In 2014, employment in this sector grew by 38% in North Norfolk. Similarly, employment grew significantly in Norfolk (20%) and the East of England (15%). Employment returned to trend across all areas in 2015<sup>5</sup>.
- 48. In 2018, there was minimal change in employment across all three areas.
- 49. Overall, during the period of offshore wind farm construction, the trends in employment in tourism-related sectors in North Norfolk broadly reflect those in the county of Norfolk and the East of England. Although North Norfolk outperforms the other two areas, there is no relationship between the construction of any of the wind farms and changes in visitor, or potential visitor, spending.

**2.3.2 South Downs National Park**

- 50. The 400MW Rampion Offshore Wind Farm was constructed in the English Channel approximately 13 km from the Sussex coast.

<sup>5</sup> It is notable that this jump in employment is not recorded in other surveys of business activity, such as the ONS UK Business Counts. However, the overall trend of growth in North Norfolk exceeding that of both the county of Norfolk and the East of England is also apparent in this survey.





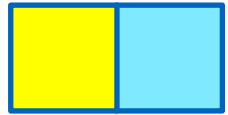
51. The onshore infrastructure for the wind farm included a cable between the cable landfall at Worthing and the substation at Twineham. This cable route passed through the South Downs National Park.
52. The cable route passed through the South Downs National Park in three local authority districts, namely:
  - Adur;
  - Horsham; and
  - Worthing.
53. The number of people employed in the Accommodation and Food Services sector in these areas has followed the trends in employment for both West Sussex and the wider South East between 2009 and 2018, as shown in Figure 2-6.
54. The construction period started in 2015 and ended in 2018. During this time, employment in the three local authority districts grew by 8%, compared to 5% in West Sussex and 2% across the South East

Figure 2-6 Accommodation & Food Services Employment, Rampion OWF Infrastructure LAs



Source; ONS, Business Registrar and Employment Survey

55. Although the employment in tourism-related sectors in these three local authority districts outperforms West Sussex and the South East during the construction



period, there is no relationship between the construction of Rampion Offshore Wind Farm, its onshore infrastructure and the performance of the tourism sector in these areas.

### 2.3.3 Summary of Landscape Designation Areas

56. This analysis considered whether the impacts from an offshore wind farm development would lead to change in visitor spending in AONBs.
57. The analysis of the Norfolk Coast AONB and the South Downs National Park found that there was no relationship between the performance of the visitor economy and the construction of onshore infrastructure of offshore wind farms. In addition, in the North Norfolk example wind farms have been operational since 2011, therefore these data cover construction and operation effects.

### 2.4 Summary of Tourism Employment Analysis

58. The purpose of this analysis was to identify changes in visitor spending as a result of impacts identified in **Chapter 30 of the Environmental Statement** (APP-078).
59. This analysis considered both potential impacts on areas with coastal landscape designations and more general coastal districts from offshore wind farm construction activity.
60. The analysis used the level of employment in the accommodation and food services sector to identify potential changes in the expenditure of visitors.
61. The analysis found no relationship between tourism, visitor spending and tourism-related employment and the construction phase of 11 comparable offshore windfarm developments.