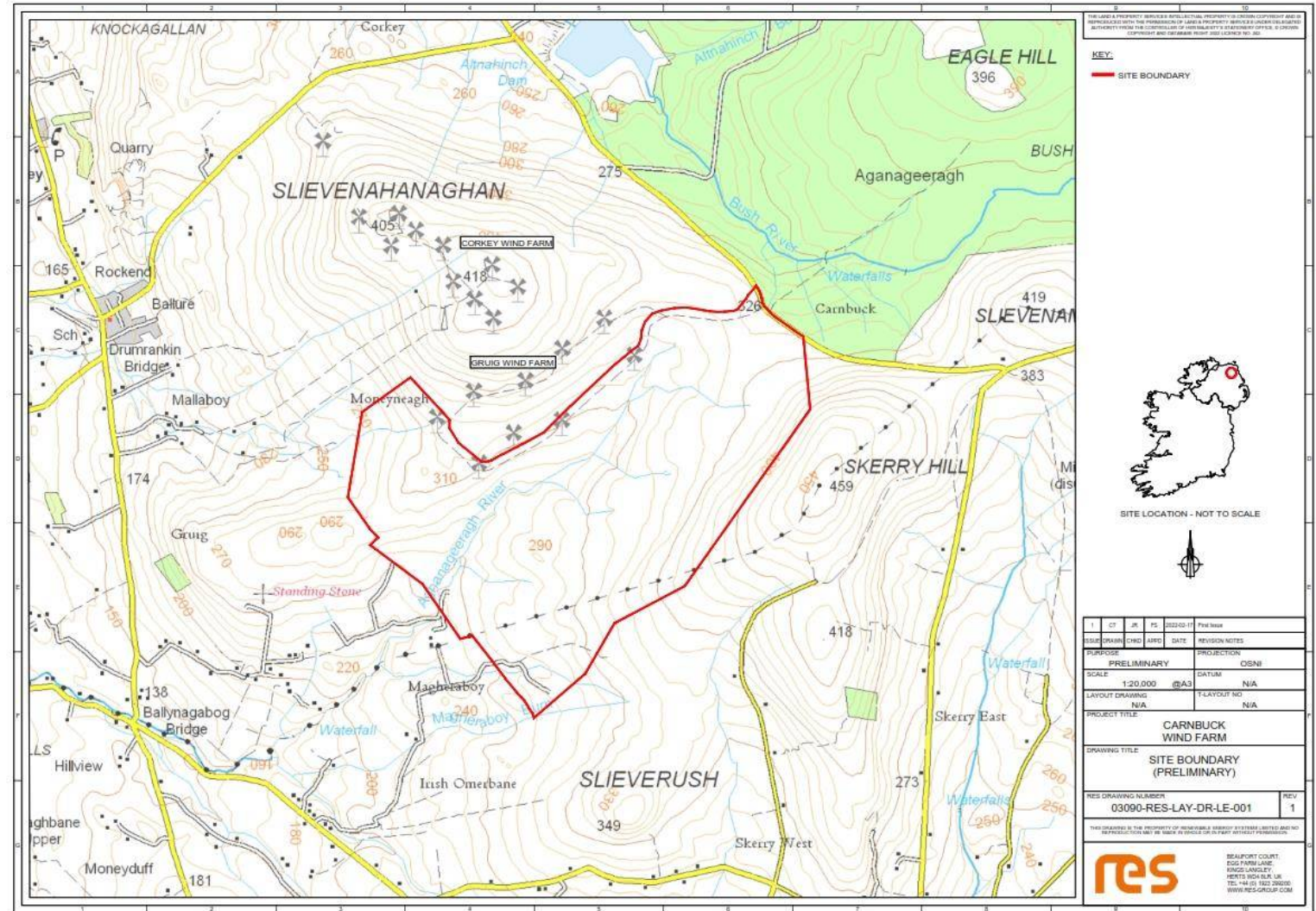


# Carnbuck Wind Farm



# About the Project

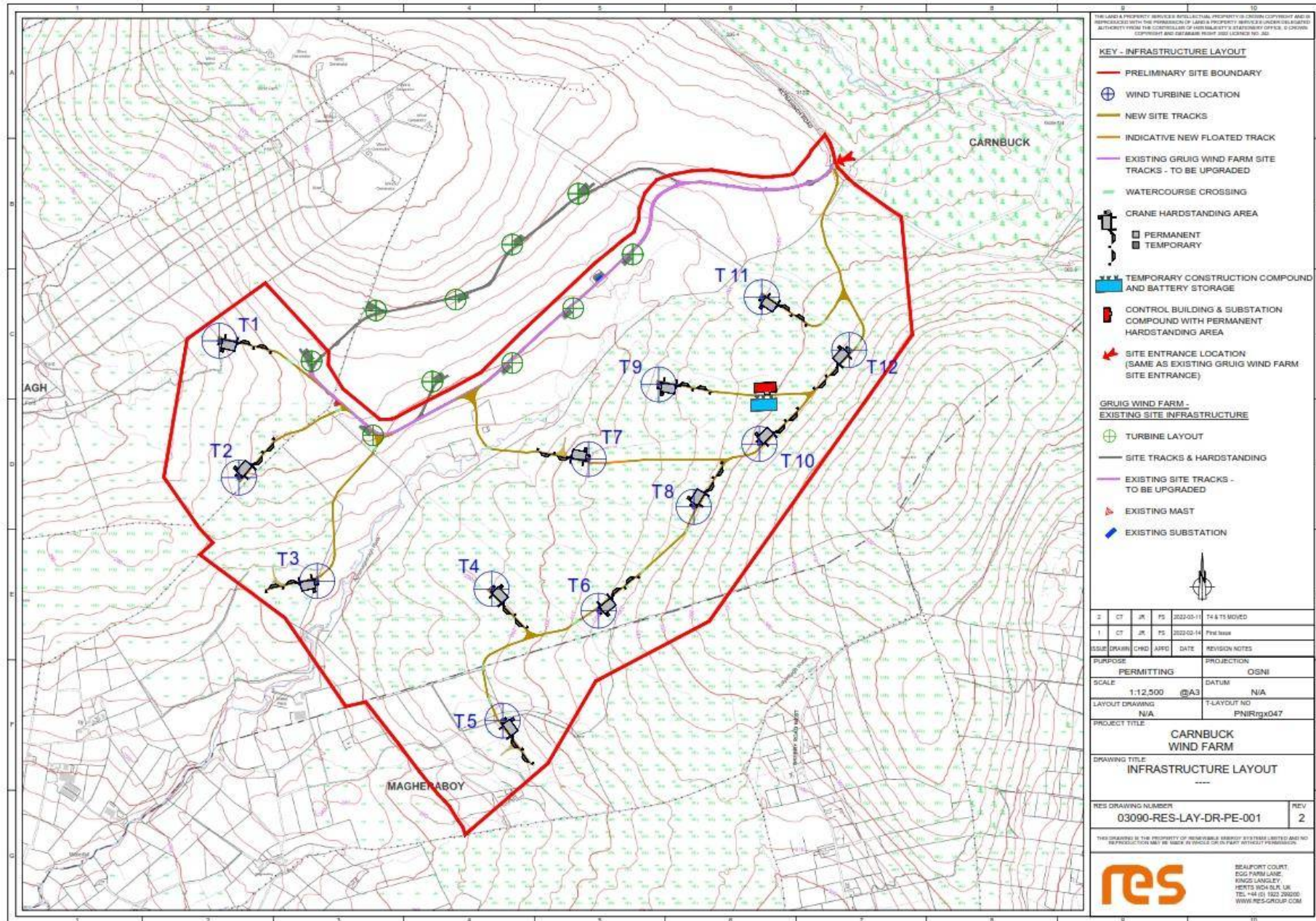
- Located in the townlands of Carnbuck, Magheraboy and Moneyneagh, near Corkey, Co. Antrim, adjacent to the existing Gruig Wind Farm.
- Environmental and technical surveys are underway, in addition to consultation with statutory bodies, organisations and the local community.
- Results of the site surveys and feedback received through our consultation process, will be used to inform the detailed design of the proposed wind farm and will be reported in the Environmental Statement which will accompany any planning submission.
- Designed to generate reliable, renewable electricity, whilst minimising local impacts and maximising local benefits wherever possible.
- Capable of generating around 50 megawatts (MW) of clean, green, low-cost renewable electricity.
- Equivalent to the electricity usage of around 55,000<sup>1</sup> homes each year.



<sup>1</sup> The homes figure has been calculated by taking the predicted annual electricity generation of the site (based on RES assessments Carnbuck has a predicted capacity factor of 46.75%) and dividing this by the annual average electricity figures from the Department of Business, Energy and Industrial Strategy (BEIS) showing that the annual UK average domestic household consumption is 3,748 kWh (Dec 2021).

- The plan below shows the preliminary layout of the proposed twelve turbines at Carnbuck Wind Farm, which have a maximum tip height of 180m. RES is currently consulting on this layout and as such it is subject to change.
- The proposed wind farm would share a site entrance and some infrastructure with Gruig Wind Farm, reducing the environmental footprint and traffic movements.
- The layout has been developed in response to the results of numerous environmental surveys that have been undertaken at the site so far. The surveys help us to build up a picture of sensitive features on and around the site, which we then take account of in the design of the layout.
- In addition to high-level necessities such as good wind-speeds, we have considered a number of site-specific features and buffers. These include turbines being located more than 1km from nearest properties, 50m from major watercourses and 10m from minor watercourses, and avoidance of areas of ecological interest and prominent hilltops.

# Design Layout and Infrastructure



- An Environmental Impact Assessment (EIA) is being undertaken to investigate any significant potential effects of the development on the environment and, where applicable, identify mitigation measures to eliminate or reduce potential effects.
  
- The EIA will include assessment of the following:
  - Ecology and Ornithology
  - Hydrology
  - Landscape and Visual
  - Archaeology and Cultural Heritage
  - Traffic and Transport
  - Socio-economics
  - Noise
  - Shadow Flicker



# Supply Chain Opportunities

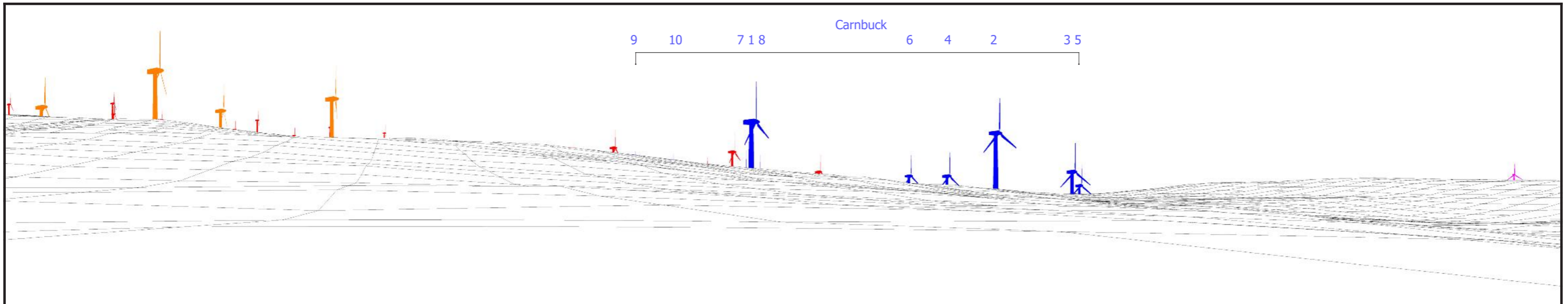
- RES has a strong track-record of working closely with the local supply chain around its projects and maximising inward investment opportunities wherever possible.
- Carnbuck Wind Farm has the potential to deliver approximately £3.3 million to the local area in the form of jobs, employment, and the use of local services.
- RES is keen to hear from local businesses who are interested in learning more about the opportunities associated with the construction and operation of this project. Please contact us for more information.
- During the construction of CastleCraig Wind Farm, near Drumquin, over £3 million inward investment was realised into the local economy. The wind farm construction also provided employment for around 50 local people.
- The construction of Altaveeden Wind Farm, near Loughguile was an economic success for local area, with £1.3 million invested directly into Co. Antrim with £772,000 of this spent within 5 miles of the site. A number of local contractors were used including P. Keenan and Sons, F.P. McCann and William and Henry Alexander (Civil Engineering) Limited



Damien Keenan (P. Keenan & Sons) with Fergal Duffy (RES Construction Manager) and Noel Breslin (RES Construction Site Manager) during the construction of Altaveeden Wind Farm

# What Would the Wind Farm Look Like?

- We have produced indicative visualisations and wirelines to help give an impression of what the wind farm could look like from different viewpoints in the area (based on the preliminary 12 turbine layout).
- We have also produced indicative Zone of Theoretical Visibility (ZTV) Maps showing where the turbines could be visible from. Please note that this is based on bare land form without taking into account any screening effects of trees and buildings.



Carnbuck turbines shown in blue. Turbine dimensions illustrated: 180 m max. tip height above ground level; 138 m rotor diameter; 111 m hub height  
 Where present in view: Existing wind farms in red; Consented wind farms in orange; Proposed wind farms in green; Single turbines within 5km of Carnbuck shown in pink (other single turbines beyond 5 km may also be visible).  
 Note: the consented Corkey Re-Power wind farm (5 turbines, shown in orange) would replace the existing Corkey wind farm (10 turbines).

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**Shanti McAllister**  
 landscape planning  
 and design ltd.

**PUBLIC EXHIBITION**

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TURBINE LAYOUT NO:  
 pNIRgrx047

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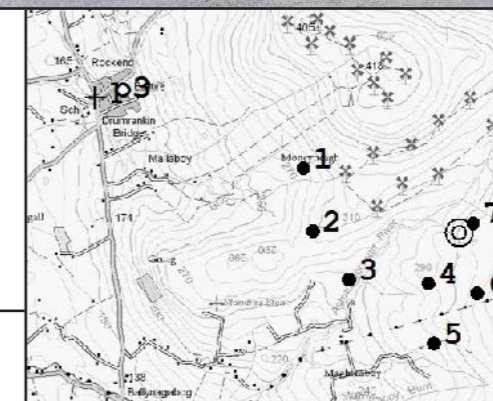
**CARNBUCK WIND FARM**

**Drawing 3**

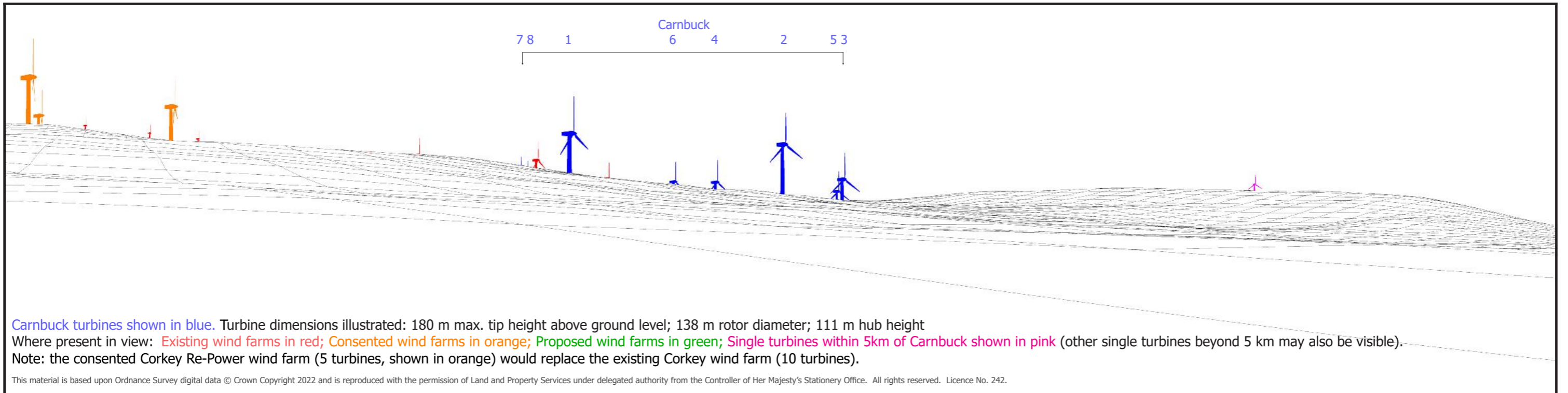
**PROVISIONAL VIEWPOINT 3  
 Corkey Village at Reservoir Road junction**

**NOTE: This Figure must be viewed at a comfortable arms length.**

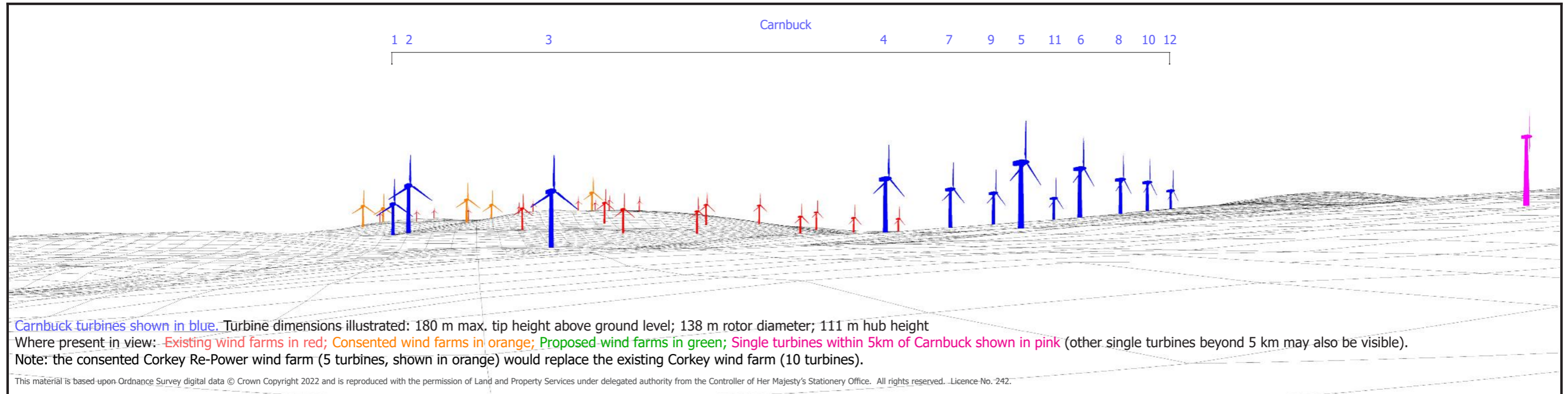
Easting: 309094  
 Northing: 421639  
 Elevation A.O.D: 165 m  
 Bearing: 110.29 °  
 Approx. Included Angle: 80 °  
 Approx. distance to nearest turbine: 1.87 km to T1



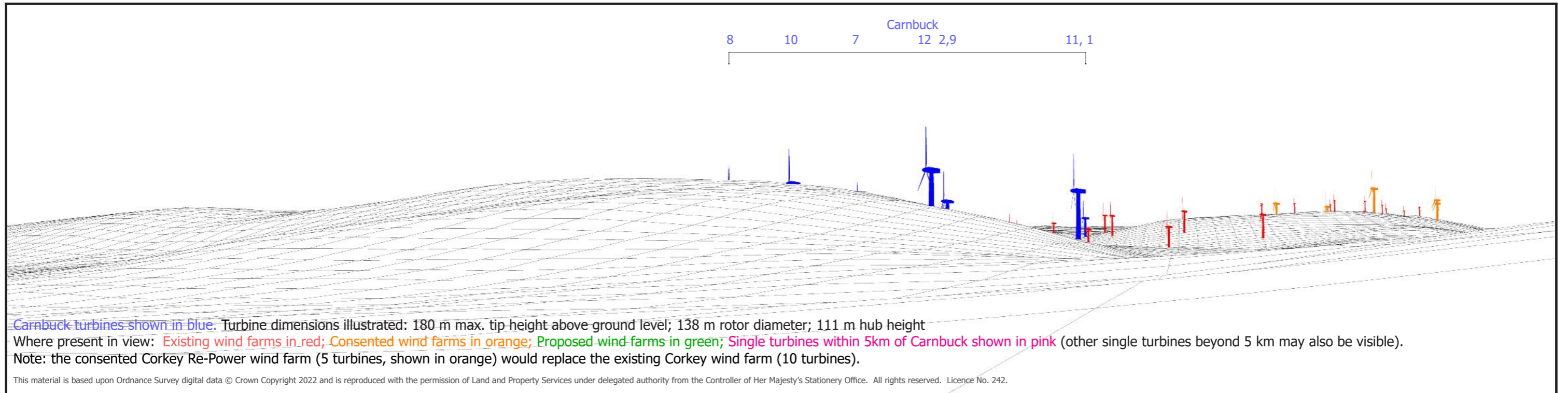




<b>Shanti McAllister</b> landscape planning and design ltd.				<b>CARBUCK WIND FARM</b>  <b>Drawing 4</b>  <b>PROVISIONAL VIEWPOINT 58</b> <b>Corkey Village at Ballyweeny Road junction</b>		Easting: 308997 Northing: 421871 Elevation A.O.D: 169 m Bearing: 113.33 ° Approx. Included Angle: 80 ° Approx. distance to nearest turbine: 2.04 km to T1			
<b>PUBLIC EXHIBITION</b>				<b>NOTE: This Figure must be viewed at a comfortable arms length.</b>					
DRAWN / APPROVED: SMc / FS	DATE: March 2022	PRINT SIZE: A3	REVISION: B			THIS DRAWING IS THE PROPERTY OF RENEWABLE ENERGY SYSTEMS LTD. AND NO REPRODUCTION MAY BE MADE IN WHOLE OR IN PART WITHOUT PERMISSION			

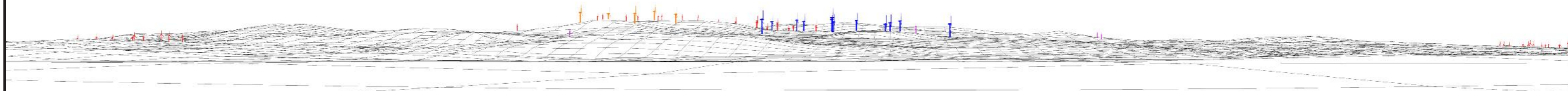


<b>Shanti McAllister</b> landscape planning and design ltd.	<b>CARBUCK WIND FARM</b>  <b>Drawing 5</b>  <b>PROVISIONAL VIEWPOINT 10</b> <b>Omerbane Road near Tullykittagh Road</b>	Easting: 311099 Northing: 417932 Elevation A.O.D: 220 m Bearing: 22.84 ° Approx. Included Angle: 80 ° Approx. distance to nearest turbine: 1.84 km to T5										
<b>PUBLIC EXHIBITION</b>		<b>NOTE: This Figure must be viewed at a comfortable arms length.</b>										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: 8px;">DRAWN / APPROVED:</td> <td style="font-size: 8px;">DATE:</td> <td style="font-size: 8px;">PRINT SIZE:</td> <td style="font-size: 8px;">REVISION:</td> </tr> <tr> <td style="font-size: 8px;">SMc / FS</td> <td style="font-size: 8px;">March 2022</td> <td style="font-size: 8px;">A3</td> <td style="font-size: 8px;">B</td> </tr> </table>	DRAWN / APPROVED:	DATE:	PRINT SIZE:	REVISION:	SMc / FS	March 2022	A3	B	<small>THIS DRAWING IS THE PROPERTY OF RENEWABLE ENERGY SYSTEMS LTD. AND NO REPRODUCTION MAY BE MADE IN WHOLE OR IN PART WITHOUT PERMISSION</small>			
DRAWN / APPROVED:	DATE:	PRINT SIZE:	REVISION:									
SMc / FS	March 2022	A3	B									
<small>TURBINE LAYOUT NO: pNIRgrx047</small>												



<b>Shanti McAllister</b> landscape planning and design ltd.	<b>CARNBUCK WIND FARM</b>		Easting: 315039 Northing: 421403 Elevation A.O.D: 405 m Bearing: 252.43 ° Approx. Included Angle: 80 ° Approx. distance to nearest turbine: 1.76 km to T12		
	<b>Drawing 6</b>  <b>PROVISIONAL VIEWPOINT 25</b> <b>Old Cushendun Road</b>		<b>NOTE: This Figure must be viewed at a comfortable arms length.</b>		
<b>PUBLIC EXHIBITION</b>					
DRAWN / APPROVED: SMc / FS DATE: March 2022 PRINT SIZE: A3 REVISION: B					
TURBINE LAYOUT NO: pNIRgrx047					
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Carnbuck  
 1 11 12,9 10, 8 3,4 6 5  
 2,7



Carnbuck turbines shown in blue. Turbine dimensions illustrated: 180 m max. tip height above ground level; 138 m rotor diameter; 111 m hub height  
 Where present in view: Existing wind farms in red; Consented wind farms in orange; Proposed wind farms in green; Single turbines within 5km of Carnbuck shown in pink (other single turbines beyond 5 km may also be visible).  
 Note: the consented Corkey Re-Power wind farm (5 turbines, shown in orange) would replace the existing Corkey wind farm (10 turbines).

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SMc / FS	March 2022	A3	B

TURBINE LAYOUT NO:  
 pNIRgrx047

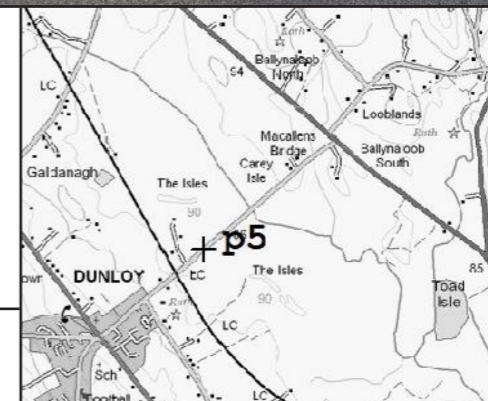
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**CARNBUCK WIND FARM**

**Drawing 7**

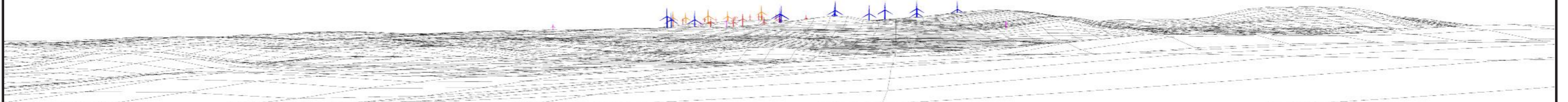
**PROVISIONAL VIEWPOINT 5  
 Dunloy Village**

Easting: 302448  
 Northing: 419977  
 Elevation A.O.D 92 m  
 Bearing: 86.93 °  
 Approx. Included Angle: 80 °  
 Approx. distance to nearest turbine: 8.48 km to T1



**NOTE: This Figure must be viewed at a comfortable arms length.**

Cambuck  
 2,1 3                      5,4    7,6    9 8    11,10 12



Carnbuck turbines shown in blue. Turbine dimensions illustrated: 180 m max. tip height above ground level; 138 m rotor diameter; 111 m hub height  
 Where present in view: Existing wind farms in red; Consented wind farms in orange; Proposed wind farms in green; Single turbines within 5km of Carnbuck shown in pink (other single turbines beyond 5 km may also be visible).  
 Note: the consented Corkey Re-Power wind farm (5 turbines, shown in orange) would replace the existing Corkey wind farm (10 turbines).

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<p><b>Shanti McAllister</b>          landscape planning          and design ltd.</p>	<p><b>CARNBUCK WIND FARM</b></p> <p><b>Drawing 8</b></p> <p><b>PROVISIONAL VIEWPOINT 54</b>  <b>Killygore Road near A43 at Martinstown</b></p>	<p>Easting: 312801          Northing: 411771          Elevation A.O.D: 149 m          Bearing: 355.93 °          Approx. Included Angle: 80 °          Approx. distance to nearest turbine: 7.83 km to T5</p>										
<p><b>PUBLIC EXHIBITION</b></p>		<p><b>NOTE: This Figure must be viewed at a comfortable arms length.</b></p>										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: 8px;">DRAWN / APPROVED:</td> <td style="font-size: 8px;">DATE:</td> <td style="font-size: 8px;">PRINT SIZE:</td> <td style="font-size: 8px;">REVISION:</td> </tr> <tr> <td style="font-size: 8px;">SMc / FS</td> <td style="font-size: 8px;">March 2022</td> <td style="font-size: 8px;">A3</td> <td style="font-size: 8px;">B</td> </tr> </table>	DRAWN / APPROVED:	DATE:	PRINT SIZE:	REVISION:	SMc / FS	March 2022	A3	B	<p>TURBINE LAYOUT NO:          pNIRgrx047</p>			
DRAWN / APPROVED:	DATE:	PRINT SIZE:	REVISION:									
SMc / FS	March 2022	A3	B									
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# CARNBUCK WIND FARM

## Drawing 1 (page 1 of 2)

### ZONE OF THEORETICAL VISIBILITY, 15 km RADIUS, BLADE TIP HEIGHT

#### KEY

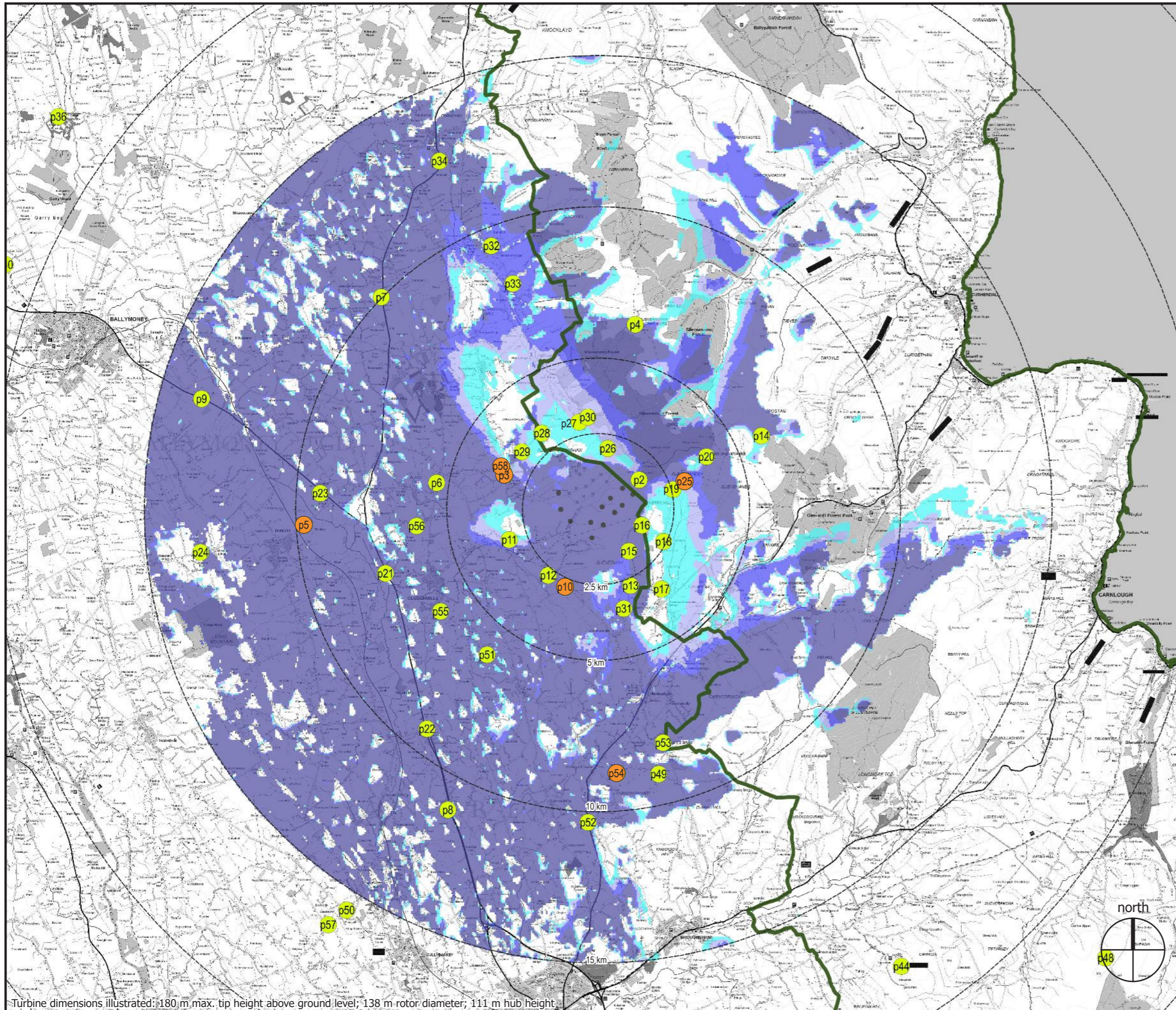
- Carnbuck proposed turbines
- Provisional Viewpoint Locations illustrated for exhibition
- Other PVP locations being considered for LVIA
- Zone of Theoretical Visibility of:
  - 1 - 3 turbines across 4.99 % of Study Area
  - 4 - 6 turbines across 4.07 % of Study Area
  - 7 - 9 turbines across 5.84 % of Study Area
  - 10 - 12 turbines across 42.58 % of Study Area
- Total area with theoretical visibility of at least 1 blade tip: 57.48 %
- Areas with no visibility are unshaded: 42.52 %
- Areas of Outstanding Natural Beauty

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#### PUBLIC EXHIBITION

DRAWN / APPROVED: SMc / FS	DATE: March 2022	SCALE & PRINT SIZE: 1:125,000 @ A3	REVISION: A
TURBINE LAYOUT NO: pNIRgrx047		0  5km	

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Turbine dimensions illustrated: 180 m max. tip height above ground level; 138 m rotor diameter; 111 m hub height



# CARBUCK WIND FARM

## Drawing 1 (page 2 of 2)

### ZONE OF THEORETICAL VISIBILITY, 15 km RADIUS, HUB HEIGHT

#### KEY

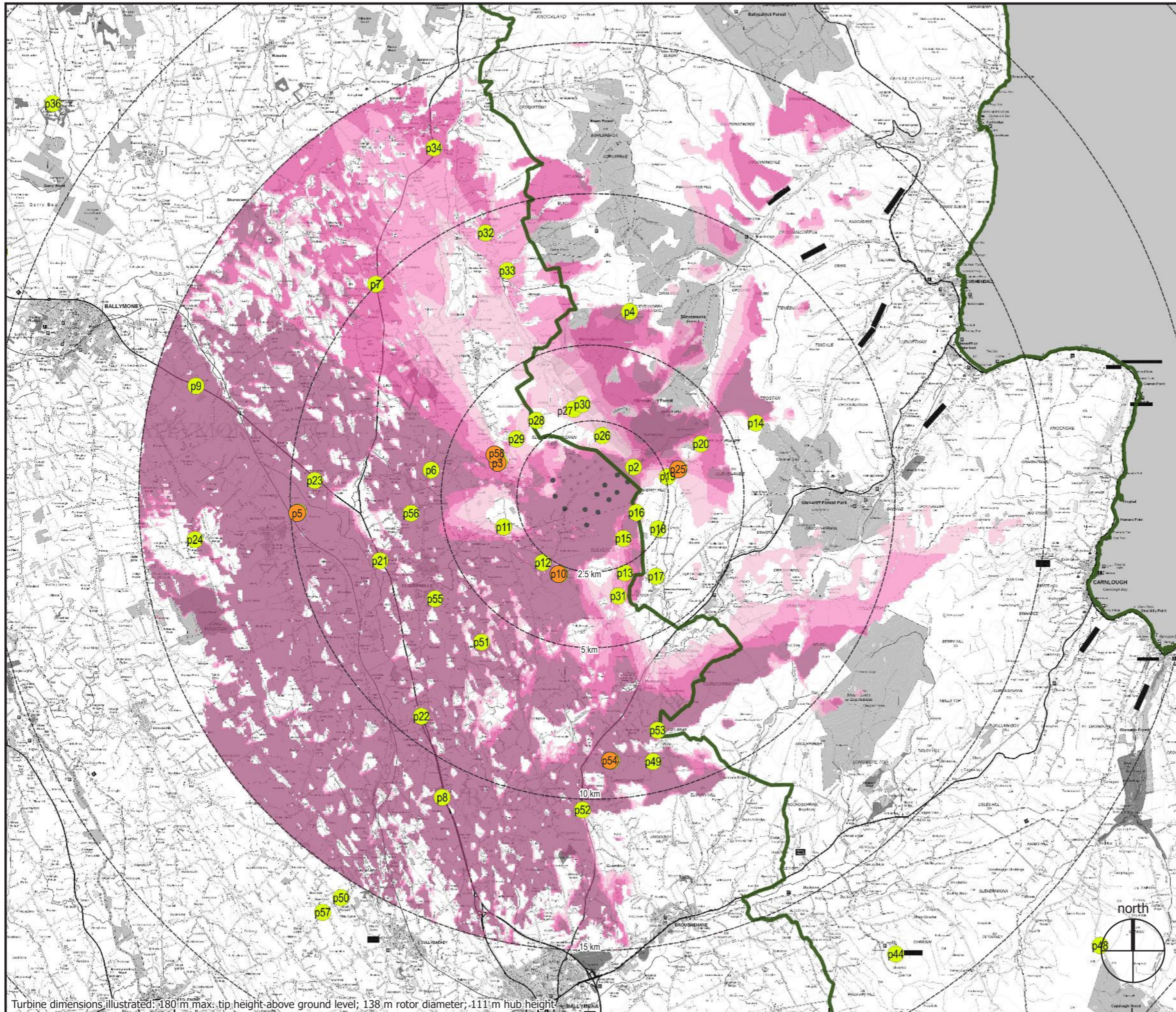
- Carbuuck proposed turbines
- Provisional Viewpoint Locations illustrated for exhibition
- Other PVP locations being considered for LVIA
- Zone of Theoretical Visibility of:
  - 1 - 3 turbines across 6.99 % of Study Area
  - 4 - 6 turbines across 7.52 % of Study Area
  - 7 - 9 turbines across 8.32 % of Study Area
  - 10 - 12 turbines across 26.92 % of Study Area
- Total area with theoretical visibility of at least 1 hub: 49.75 %
- Areas with no visibility are unshaded: 50.25 %
- Areas of Outstanding Natural Beauty

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#### PUBLIC EXHIBITION

DRAWN / APPROVED: SMc / FS	DATE: March 2022	SCALE & PRINT SIZE: 1:125,000 @ A3	REVISION: A
TURBINE LAYOUT NO: pNIRgrx047		0  5km	

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Turbine dimensions illustrated: 180 m max. tip height above ground level; 138 m rotor diameter; 111 m hub height










**CARBUCK WIND FARM**

**Drawing 2**

**CUMULATIVE ZONE OF THEORETICAL VISIBILITY: EXISTING & CONSENTED CLUSTER OF WIND FARMS AT GRUIG 30 km RADIUS, BLADE TIP HEIGHT**

**KEY**

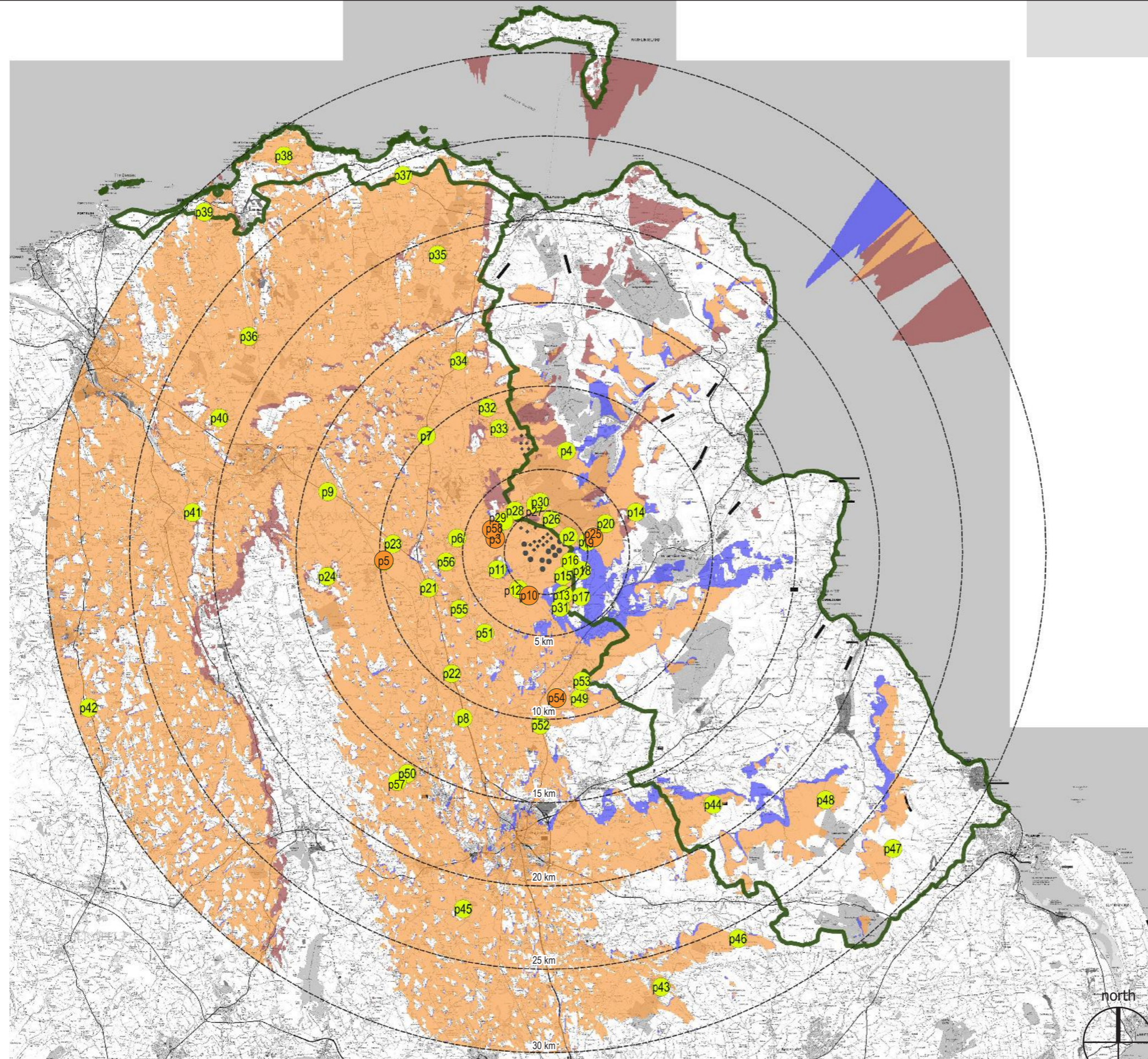
-  Carnuck proposed turbines
-  Provisional Viewpoint Locations illustrated for exhibition
-  Other PVP locations being considered for LVIA
-  Visibility of existing and consented wind farms\* where Carnuck would not be visible: 4.04 %
-  Visibility of Carnuck where there is already visibility of other wind farms: 38.03 %
-  Additional visibility of Carnuck where there is no visibility of other wind farms: 2.74%
- Total area with theoretical visibility of other wind farms: 42.07 %
- Total area with theoretical visibility of Carnuck: 40.77%
- Areas with no visibility of any wind farms are unshaded: 55.19 %
-  Areas of Outstanding Natural Beauty

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**PUBLIC EXHIBITION**

DRAWN / APPROVED: <b>SMc / FS</b>	DATE: <b>March 2022</b>	SCALE & PRINT SIZE: <b>1:250,000 @ A3</b>	REVISION: <b>A</b>
TURBINE LAYOUT NO: <b>pNIRgrx047</b>		0      5      10km	

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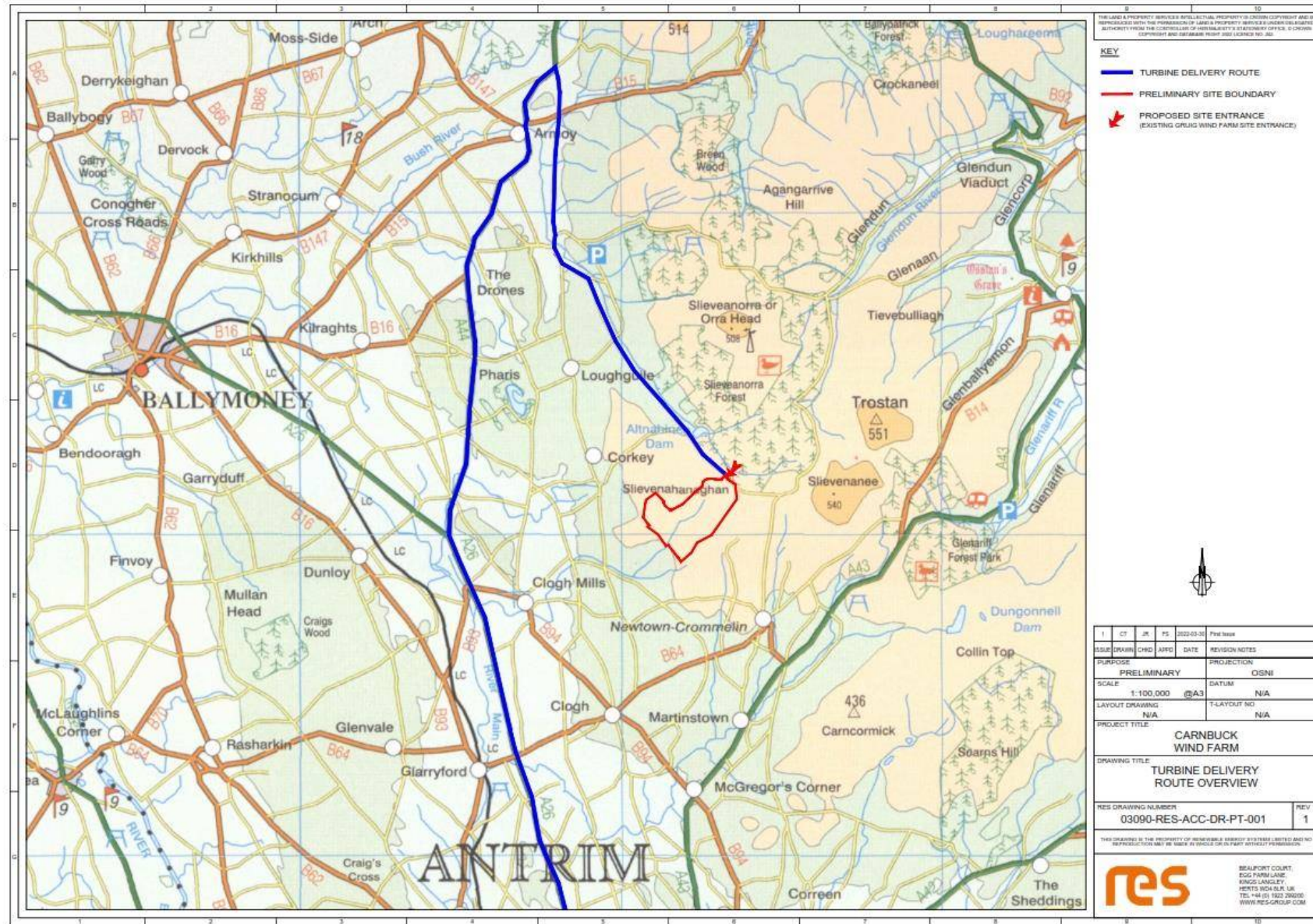


Turbine dimensions illustrated for Carnuck: 180 m max. tip height above ground level; 138 m rotor diameter; 111 m hub height  
 Gruig Cluster of wind farms includes: Existing wind farms at Altaveedan (9 turbines), Corkey Extension (1 turbine) and Gruig (10 turbines) and consented Corkey Re-Power wind farm (5 turbines) which would replace the existing 10-turbine Corkey wind farm. The latter is not included in this ZTV illustration.



- Access is one of the key considerations when selecting a potential wind farm site, particularly with regard to the turbine deliveries.
- The preferred access point and turbine delivery route are shown on the map below.
- A transport assessment will be undertaken as part of the Environmental Impact Assessment (EIA) process and, if the wind farm is given consent, a detailed Traffic Management Plan will be agreed with the highways authorities and the police, and in consultation with the local community.
- Wherever reasonably practicable we will use materials available on site and source construction materials locally in order to help reduce traffic movements.

# Traffic and Transport?



- Wind farm noise in many circumstances may be inaudible or effectively ‘masked’ by the background noise already present in the surrounding environment.
- We take care to ensure noise levels from wind turbines are within recommended limits and comply with planning policy.
- We are undertaking background noise surveys to enable us to gain an understanding of the existing noise environment and this will be fed into the design of the wind farm.
- A noise impact assessment will be produced, in accordance with relevant guidance and in consultation with the local authority Environmental Health Department. This will ensure the proposed wind farm will comply with the relevant guidance on wind farm noise.

## HOW LOUD IS WIND FARM NOISE?

Wind farm noise is, comparatively, generally low.

Source / Activity	Indicative noise level dB (A)
Threshold of hearing	0
Rural night-time background	20-40
Quiet bedroom	35
Wind farm at 350 metres	35-45
Car at 40mph at 100 metres	55
Busy general office	60
Truck at 30mph at 100 metres	65
Pneumatic drill at 7 metres	95
Jet aircraft at 250 metres	105
Threshold of pain	140

# Why Wind?

- Urgent need to reduce carbon emissions.
- Tackling Climate Change by supporting Northern Ireland's Climate Bill, which has a target of 80% of electricity consumption from renewable sources by 2030.
- Enables us to generate our own electricity reducing reliance on imports.
- Increases security of supply.
- Renewable energy at lowest cost to the consumer<sup>2</sup>.
- Free and inexhaustible resource which has an important role to play as part of a balanced energy mix.



<sup>2</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/911817/electricity-generation-cost-report-2020.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/911817/electricity-generation-cost-report-2020.pdf)

- Comments on the Carnbuck Wind Farm proposal should be provided in writing.
- The closing date for comments is **Friday 22<sup>nd</sup> April 2022**. Comments will still be accepted after this date but may not be considered in relation to the design development.
- Please note that comments submitted to RES at the Online Public Exhibition are not representations to the determining authority (Strategic Planning Directorate Department for Infrastructure). There will be an opportunity to submit representations to the determining authority should a planning application be submitted.



RES believes in meaningful and productive consultation and we aim to engage early with the local community and key stakeholders in order to facilitate constructive consultation. This helps to identify issues and concerns, as well as benefits and opportunities, which we can then consider when developing the design of the proposal.

Feedback from the local community is an important part of our pre-application consultation and we would be grateful if you could take the time to fill out this comments form with your feedback. The closing date for comments is 22 April 2022. Comments will still be accepted after this date but may not be considered in relation to the design development.

*Please note that comments submitted to RES at the Online Public Exhibition are not representations to the determining authority (Strategic Planning Directorate Department for Infrastructure). There will be an opportunity to submit representations to the determining authority should a planning application be submitted.*

1.1 How did you find out about our online exhibition?

- Newsletter through the door
- Advert in local newspaper
- Project website - [www.cambuck-windfarm.co.uk](http://www.cambuck-windfarm.co.uk)
- Word of mouth
- Other (please specify)

1.2 Before visiting the online exhibition how would you describe your knowledge of the proposed Carnbuck Wind Farm?

- Knew a lot
- Knew quite a lot
- Knew a little
- Knew very little
- Knew nothing at all

1.3 Having visited the online exhibition, to what extent do you feel you have increased your understanding about the proposed Carnbuck Wind Farm?

- A lot
- Quite a lot
- A little
- Very little
- Nothing at all

1.4 Do you have any suggestions for ways in which we could have improved our online exhibition?

## 2 Climate change and renewables

2.1 Do you agree that we are facing a global climate change emergency?

- I strongly agree
- I agree
- I don't know
- I disagree
- I strongly disagree

If you disagree or strongly disagree please explain why:

2.2 Do you agree that generating electricity from renewable sources, and reducing our reliance on fossil fuels, can help towards tackling the issue of climate change?

- I strongly agree
- I agree
- I don't know
- I disagree
- I strongly disagree

If you disagree or strongly disagree please explain why:

2.3 Do you agree that we need to develop onshore wind farms to help reduce our carbon emissions?

I strongly agree

I agree

I don't know

I disagree

I strongly disagree

If you disagree or strongly disagree please explain why:

### 3 Carnbuck Wind Farm Proposal

3.1 What do you think about the proposed design layout of Carnbuck Wind Farm?

I am happy with proposed layout

I am neutral towards to the proposed layout

I have concerns about proposed layout

I don't like wind farms in general

Further comments:

3.2 Please provide us with any further suggestions or comments regarding the design layout of the proposed Carnbuck Wind Farm



### 4 Local benefit

- 4.1 We firmly believe that wind farms should provide benefits locally and we are inviting feedback from the local communities on their priority projects and aims in the area, which we may be able to support. If you have any suggestions, please let us know in the box below.

### 5 Your details

Please provide your name and contact details below.

Your contact details will be treated by RES with the strictest of confidence, in line with the General Data Protection Regulations (GDPR) 2018. We may at times share your contact details, in confidence, with third parties who we employ to help process your comments or update you on the project and by providing your details below you consent to this. You may write to RES at any time to ask that your contact details be removed from our records and from any third parties we work with.

Name	
Email	
Address	

If you would like to be kept up to date with the project, please tick this box

When you have completed the comments form, please send by email to [carey.green@res-group.com](mailto:carey.green@res-group.com) or by post to: Carnbuck Project Team, Willowbank Business Park, Millbrook, Larne, County Antrim, BT40 2SF.

Thank you for taking the time to complete this comments form, your feedback is important to us.