

## Sensitivity and Capacity Study for Renewable Energy Development Blaenau Gwent CBC and Torfaen CBC TACP October 2021

### Executive Summary

TACP, a landscape consultant, has been commissioned by Blaenau Gwent County Borough Council (BGCBC) and Torfaen County Borough Council (TCBC) to assess the sensitivity and potential capacity of their landscapes to wind and solar development. The study follows on from the Carbon Trust Renewable and Low Carbon Energy Assessments that were completed for each Authority in 2020 and which identify potentially suitable areas for both wind and solar power generation. This study forms part of the evidence base for the respective Replacement Local Development Plans and will also function as a Development Management tool to assist in the determination of planning applications going forward. The Study includes the entirety of the County Boroughs of Blaenau Gwent and Torfaen (excluding land which falls under the National Parks Authority) and considers a range of potential development sizes.

The Welsh Government's (WG) national legislative and policy background provides the context, specifically highlighting the positive approach to renewable energy generation within both Future Wales: The National Plan (2021) and Planning Policy Wales Ed 11 (2021). Future Wales also contains designated Pre-Assessed Areas for large scale wind turbine development within which a presumption of acceptable landscape change has already been made subject to detailed considerations.

The Sensitivity and Capacity Study therefore aims:

- To provide an assessment of the study area and its potential to accommodate wind turbine and solar Photovoltaic (PV) development;
- To provide guidance on siting for renewable energy development within the study area; and
- To identify where particular landscapes may have a greater or lesser capacity for renewable energy development.

Landscape Assessment Units (LAUs) comprising consistent landscape types have been developed from LANDMAP landscape aspect areas and visual and sensory data to provide the basis for the assessment. There are 38 Landscape Assessment Units the subject of the study with areas of existing built development and inland water scoped out.

LAU Ref.	LAU Name	LAU Ref.	LAU Name
LAU 2	Trefil Quarry	LAU 32	Craig Swffryd
LAU 4	Trefil and Carno	LAU 33	Swffryd Wood
LAU 5	Rhymney Hill and Mynydd Bedwellte	LAU 34	Mynydd Coity Upland Ridge
LAU 7	Tredegar Open Space	LAU 35	Hills North of Blaenavon
LAU 10	Rassau A465 Corridor	LAU 36	Blaenavon
LAU 11	Sirhowy Valley	LAU 37	Mynydd Coity Eastern Valley Sides
LAU 13	Briery Hill and Cefn Manmoel	LAU 38	Cwm Du
LAU 16	Ebbw Vale	LAU 39	Hilltop above Gelli-Deg
LAU 18	Mynydd Carn y Cefn	LAU 40	Western Slopes of Mynydd Henllys

LAU 20	Ebbw Valley Sides and East of Carn-y-Cefn	LAU 41	Pantygasseg Valley & edge of Pontnewynydd
LAU 26	Cwm Celyn, Cwmtillery and Waun Wen Valley side	LAU 43	British Works West of Talywain
LAU 31	Cwm Cyffin	LAU 44	British Works on Mynydd Farteg Fawr
LAU 45	Lower Slopes of Varteg Hill	LAU 52	Henllys Vale, Castell-y-Bwlch & Hollybush
LAU 46	Mynydd Twyn-Glas, Mynydd Maen, Mynydd Henllys Ridge	LAU 53	Lasgarn Farmland
LAU 47	Cwm-Y-Glyn and Cwm Lleucu, Twyn Calch Hillsides	LAU 55	Pontypool Park and environs
LAU 48	Cwmavon	LAU 56	A4042 Usk Road Corridor
LAU 49	Mynydd Maen, Mynydd Henllys sides above Cwmbran	LAU 57	Llanfihangel Pont-y-Mael east of railway
LAU 50	Mynydd y Garn-Fawr, Mynydd Garnlochdy	LAU 58	Llantarnam Abbey & environs
LAU 51	Upper Race	LAU 59	Countryside east of Cwmbran

There are eight different types of landscape identified within the study area:

- Exposed Upland Plateau
- Upland Valleys
- Hills, Lower Plateau and Scarp Slopes
- Rolling Lowland
- Lowland Valleys
- Inland Water
- Built Development
- Developed Unbuilt Land

Wind turbine typologies comprise:

Height	No. of Turbines
Very Large: Tip height 181m to 250 metres at spacing of 0.9 km <sup>2</sup> per turbine (most likely in the WG designated Pre-Assessed Area)	Single: 1 turbine up to 180m height
Large: Tip height 151m to 180 metres at spacing of 0.24 km <sup>2</sup> per turbine	Small group: 1-3 turbines
Medium: Tip height 121m to 150 metres at spacing of 0.24 km <sup>2</sup> per turbine	Medium group: 4-6 turbines
Small: Tip height less than or equal to 120 metres at spacing of 0.2 km <sup>2</sup> per turbine	Large group: 7-10 turbines

Solar PV typologies comprise:

Features	Size of Site
1m x 2m size panels set in aluminium frames	Small array < 10Ha
Arranged in parallel rows in an east-west direction approximately 5-8m wide	Medium array 11-20Ha
Overall height above ground level 2-3m	Large array 21-30Ha
Tilted to the south at fixed or tracking angle of 20-40°	Very large array 31+Ha
Additional infrastructure including small scale buildings to house invertors and power	
2.5m high Security fencing and CCTV cameras mounted on 4.5m poles	
Minimum land area between 2 and 5 Ha	

The assessment methodology comprises two distinct stages for each technology (wind power and solar power), based on the Natural England Sensitivity Assessment guidance and Gillespies' Heads of the Valleys smaller scale wind turbine development report:

- Stage 1: Initial Assessment Framework comprised analysis and desk study of available GIS data mapping and satellite views.
- Stage 2: Evaluation of Sensitivity and Fieldwork confirmed landscape characteristics and baseline development information, assessing the extent of sensitive views and identifying any additional indicators of susceptibility that needed to be taken into account.

Sensitivity to different types of development was evaluated by combining susceptibility and value indicators for each landscape unit where landscape 'susceptibility' is the degree to which a defined landscape and its associated visual qualities and attributes might respond to a specific development type without undue negative effects on landscape character and 'value' is established from existing designations, recreational use, and cultural and historic associations. Values of 'low', 'medium' and 'high' for both susceptibility and value were attributed scores and combined to represent an overall score for sensitivity to either wind or solar development of that area. Scores were checked against sensitivity criteria, using professional judgement and fieldwork records to confirm or adjust the score for each landscape unit accordingly.

The landscape capacity assessment identifies the quantity and type of development that can be accommodated within a given LAU based upon the following:

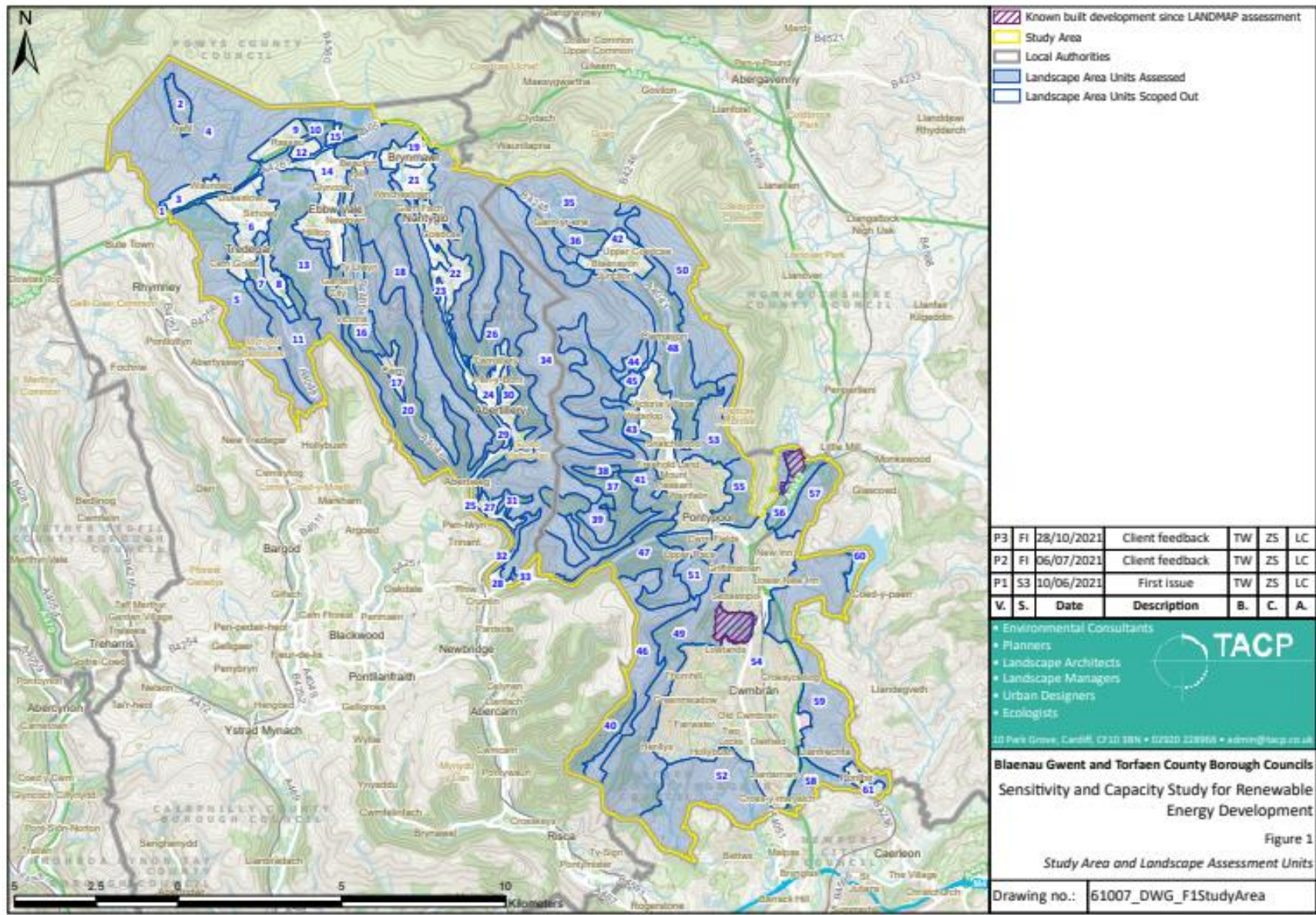
- The overall sensitivity to renewable energy development derived from the landscape and visual sensitivity assessments.
- Operational and consented renewable energy development within and adjacent to each LAU. This also includes consideration of the PAA;
- The size of each LAU i.e., there may be scope for a larger number of developments within larger LAUs before a capacity threshold is reached. This will however depend on current land use, aspect and topography all of which may be limiting factors to accommodating further development.
- The agreed development typologies.

Lower sensitivity areas were considered to have greater potential for incorporating wind or solar generating infrastructure without unacceptable landscape impacts.

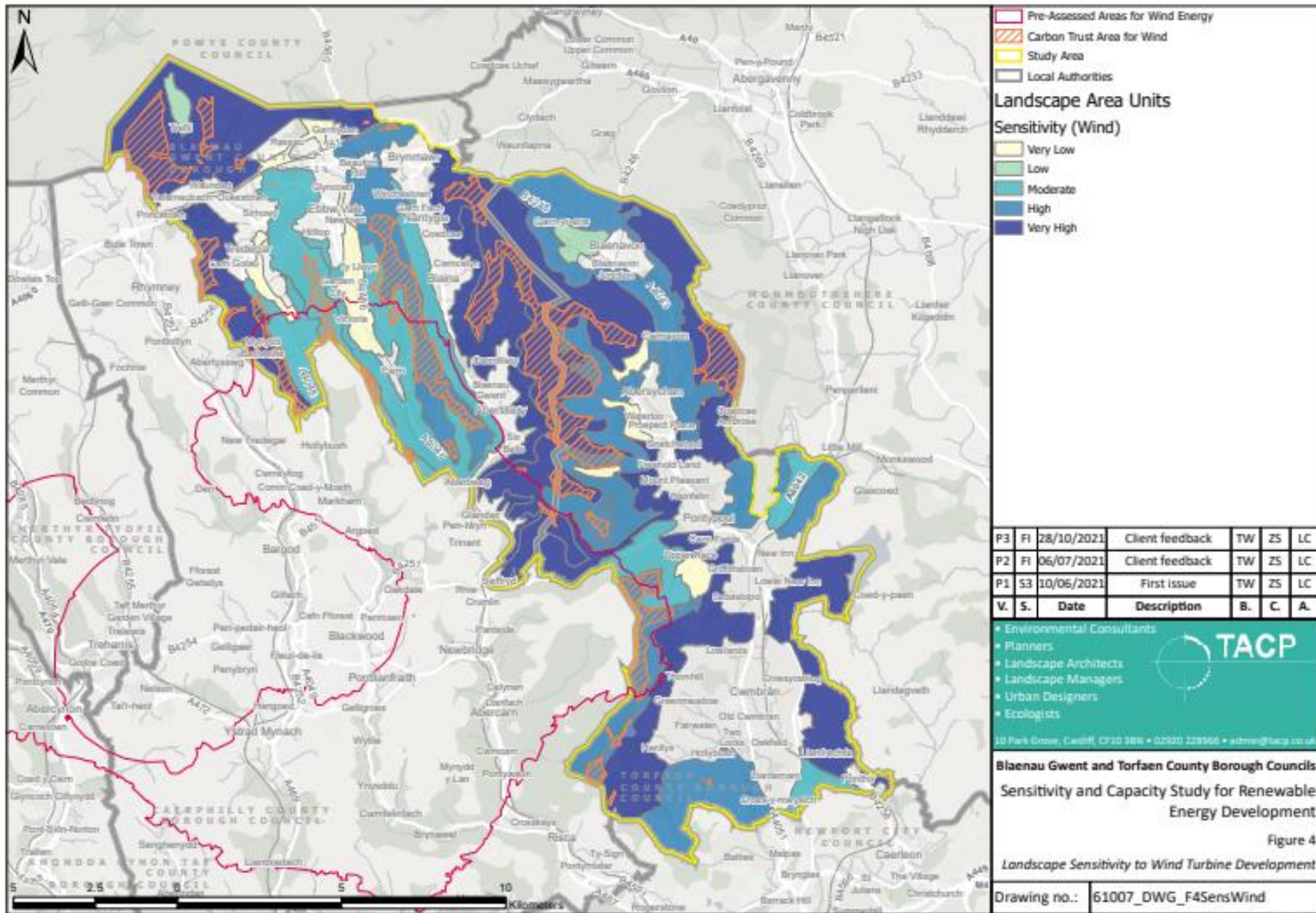
## LANDSCAPE ASSESSMENT UNIT STATEMENTS

A full description and analysis of each LAU accompanied by mapping is included within the Report. This includes specific guidance for siting and potential mitigation within each area to aid planning officers in identifying suitable sites for renewables development and assessing submitted proposals.

The Study provides strategic level guidance as it is anticipated that any proposed development will go through further detailed Landscape and Visual Impact Assessment and other interrelated aspects such as ecology, historic and cultural heritage and developments impacts on other environmental factors as part of the planning process.



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