

Annex C

## **Appendix B: Renewable Energy Assessment Figures**



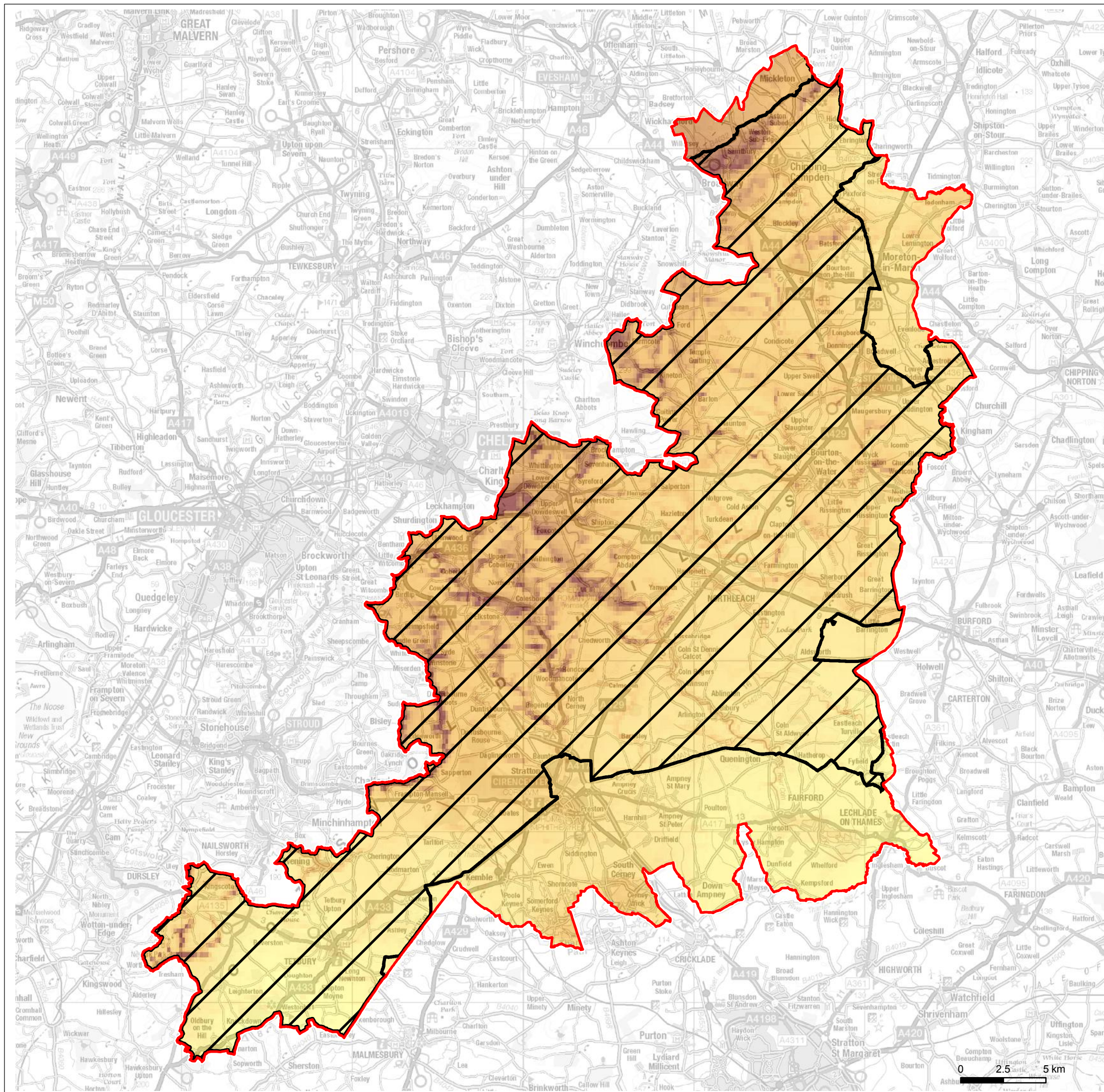




Figure 1.1: Annual solar irradiance

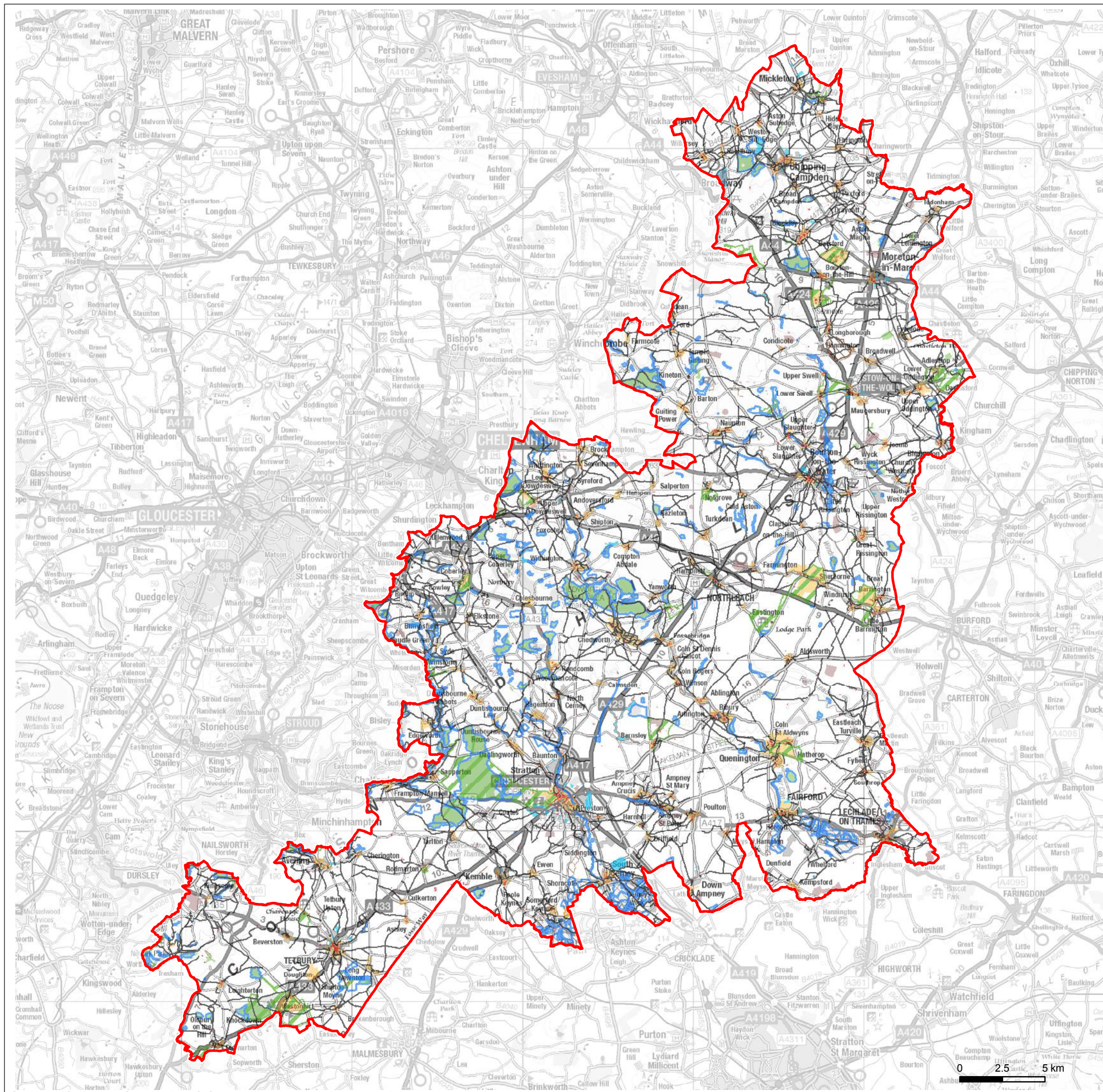
-  Cotswold District Council boundary
-  Cotswolds Area of Outstanding Natural Beauty

Data obtained from the Global Solar Atlas 2.0, a free, web-based application is developed and operated by the company Solargis s.r.o. on behalf of the World Bank Group, utilizing Solargis data, with funding provided by the Energy Sector Management Assistance Program (ESMAP). For additional information: <https://globalsolaratlas.info>.

Project	Cotswold Renewable Energy Study
Client	Cotswold District Council
Figure	Annual solar irradiance
Scale	1:220,000
Arial Bold 10	Arial Regular 10







**Figure 1.2: Solar constraints - Natural heritage, cultural heritage and recreation**

- Cotswold District Council boundary
- Local Nature Reserve
- Local Wildlife Site
- Registered parks and gardens
- Registered battlefield
- Special Area of Conservation
- Site of Special Scientific Interest
- Public rights of way
- Cycle routes
- Listed building
- Ancient woodland
- Conservation area
- Scheduled monument

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<b>Project</b>	Cotswold Renewable Energy Study
<b>Client</b>	Cotswold District Council
<b>Figure</b>	Solar constraints 1
<b>Scale</b>	1:220,000
<b>Arial Bold 10</b>	Arial Regular 10







Figure 1.3: Solar constraints - Physical and land use

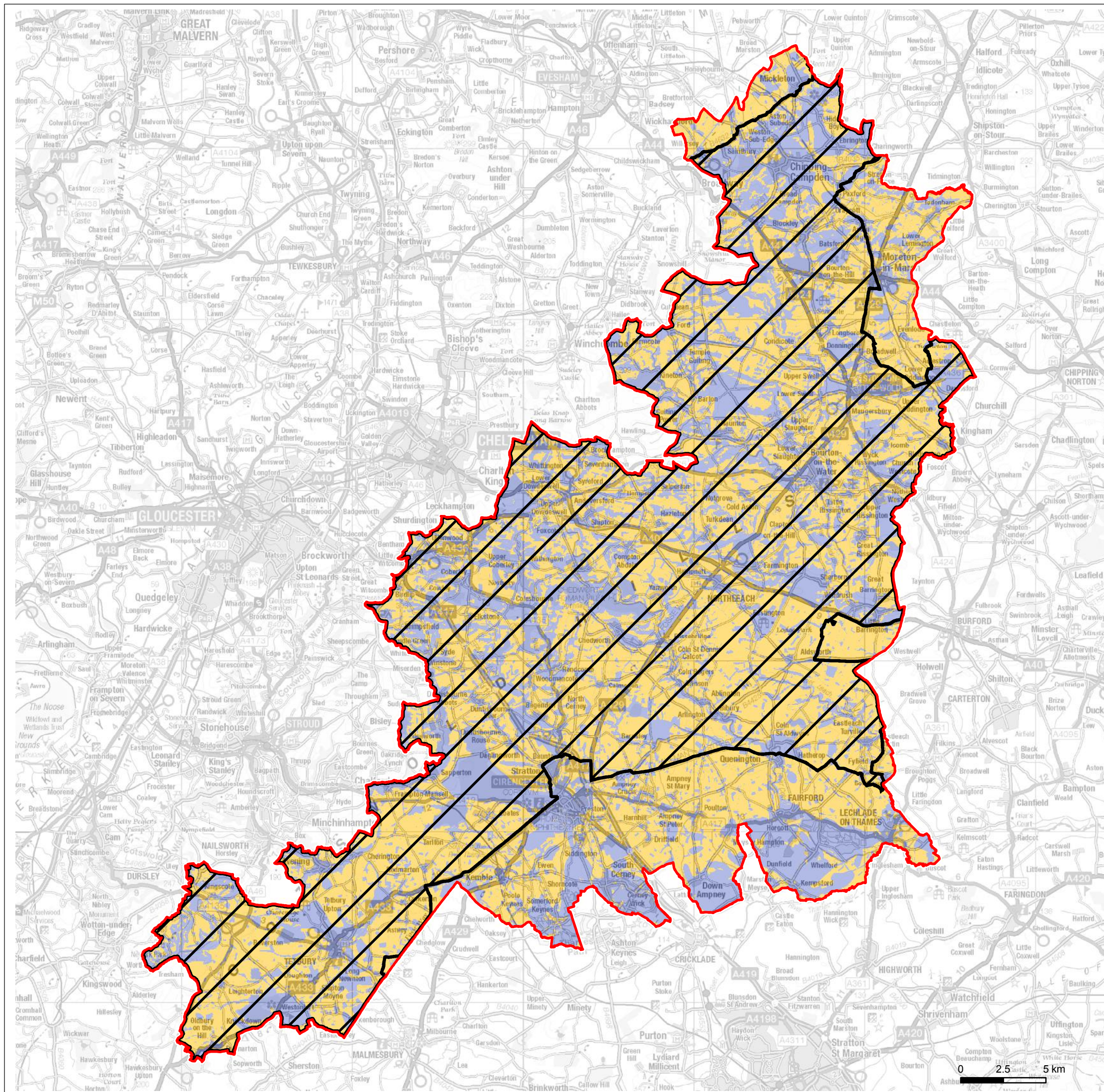
- Cotswold District Council boundary
- Buildings with 20m buffer
- Roads
- Railways
- Overhead lines 2m buffer
- Operational and allocated minerals sites with 250m buffer
- Airfields, airports and MOD land
- Allocated sites and employment sites
- Consented and operational renewable energy projects
- Slope greater than 10° and Aspect NW to NE with slope greater than 3°
- Agricultural land classification grade 1 and 2
- Watercourses and waterbodies
- Woodland and forestry 20m buffer

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Project	Cotswold Renewable Energy Study
Client	Cotswold District Council
Figure	Solar constraints 2
Scale	1:220,000
Arial Bold 10	Arial Regular 10







**Figure 1.4: Opportunities and Constraints: solar development**

-  Cotswold District Council boundary
-  Cotswolds Area of Outstanding Natural Beauty
-  Suitable areas for solar development
-  Constrained areas for solar

**Project** Cotswold Renewable Energy Study  
**Client** Cotswold District Council  
**Figure** Solar opportunities and constraints  
**Scale** 1:220,000  
**Arial Bold 10 Arial Regular 10**





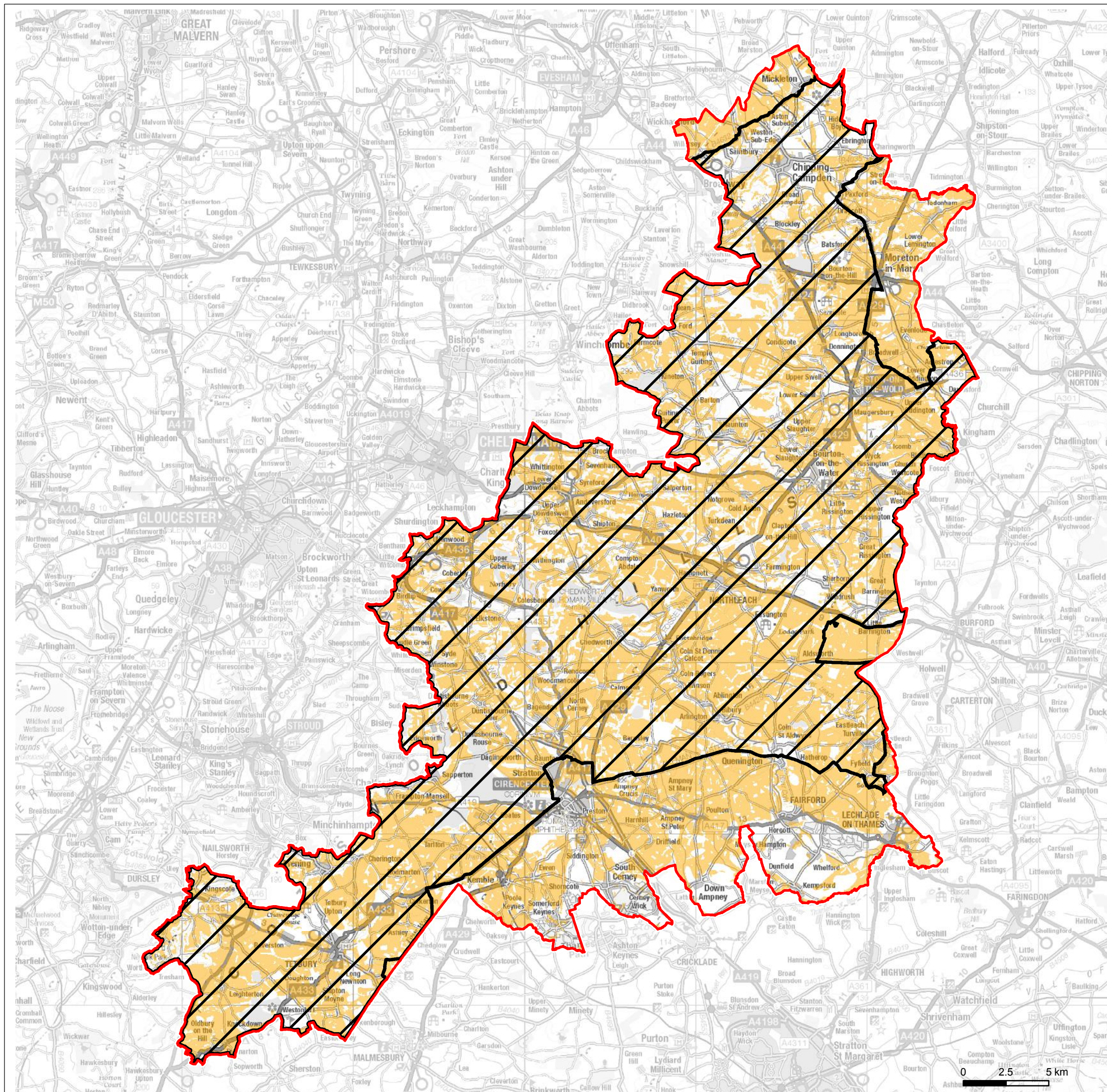





Figure 1.5: Opportunities for Solar Development

-  Cotswold District Council boundary
-  Cotswolds Area of Outstanding Natural Beauty
-  Areas of potential for solar development

**Project** Cotswold Renewable Energy Study  
**Client** Cotswold District Council  
**Figure** Solar opportunities  
**Scale** 1:220,000  
**Arial Bold 10** Arial Regular 10





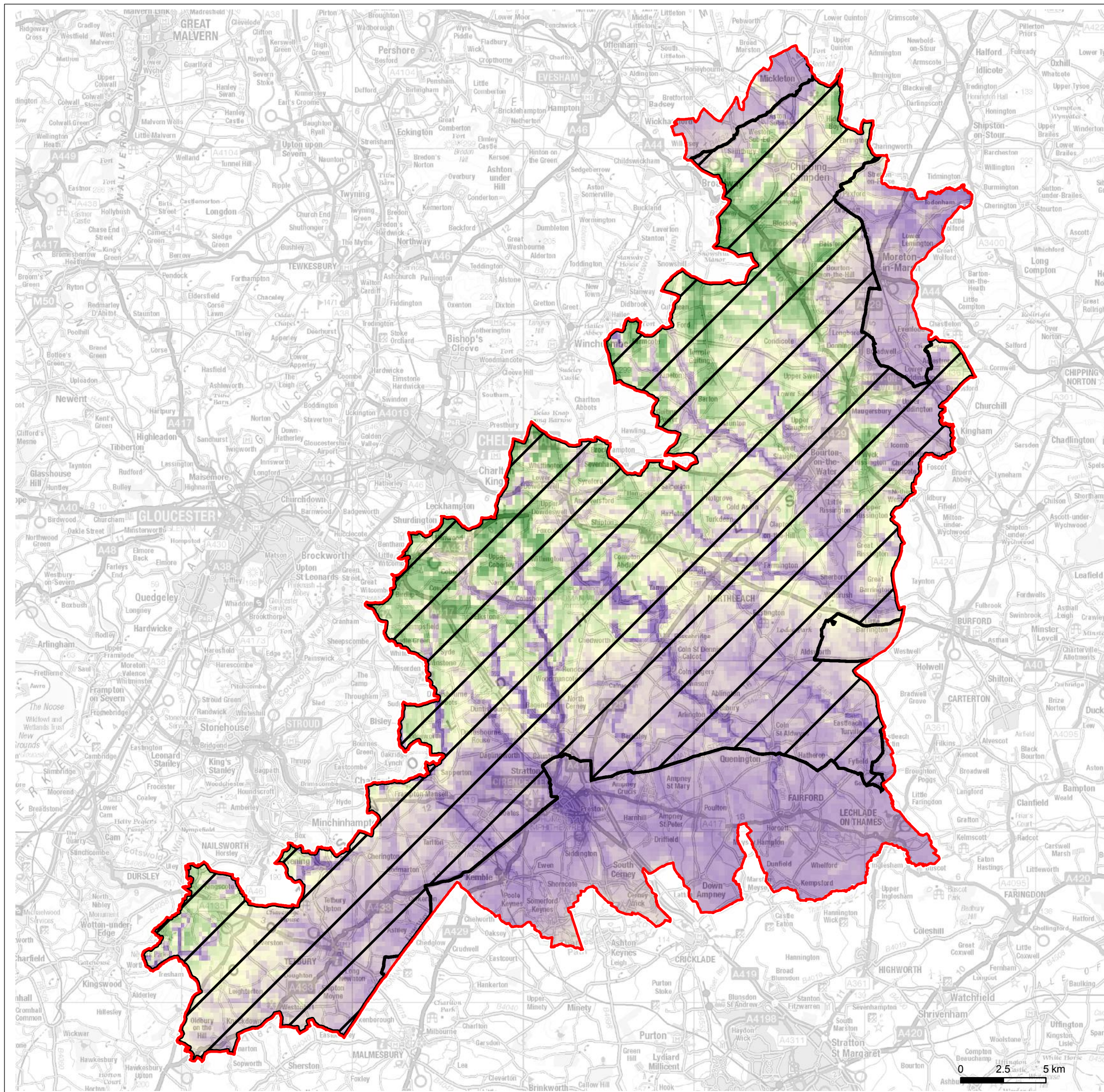
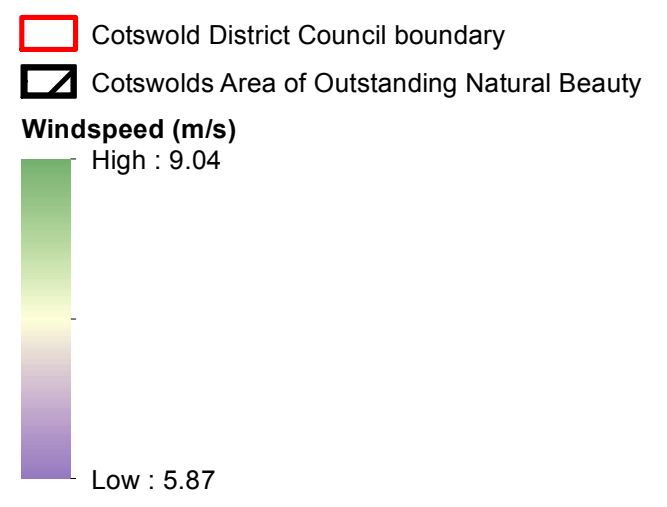


Figure 1.6: Wind Speed at 50m above ground level



Data obtained from the Global Wind Atlas 3.0, a free, web-based application developed, owned and operated by the Technical University of Denmark (DTU). The Global Wind Atlas 3.0 is released in partnership with the World Bank Group, utilizing data provided by Vortex, using funding provided by the Energy Sector Management Assistance Program (ESMAP). For additional information: <https://globalwindatlas.info>.

Project	Cotswold Renewable Energy Study
Client	Cotswold District Council
Figure	Wind speeds
Scale	1:220,000
Arial Bold 10	Arial Regular 10





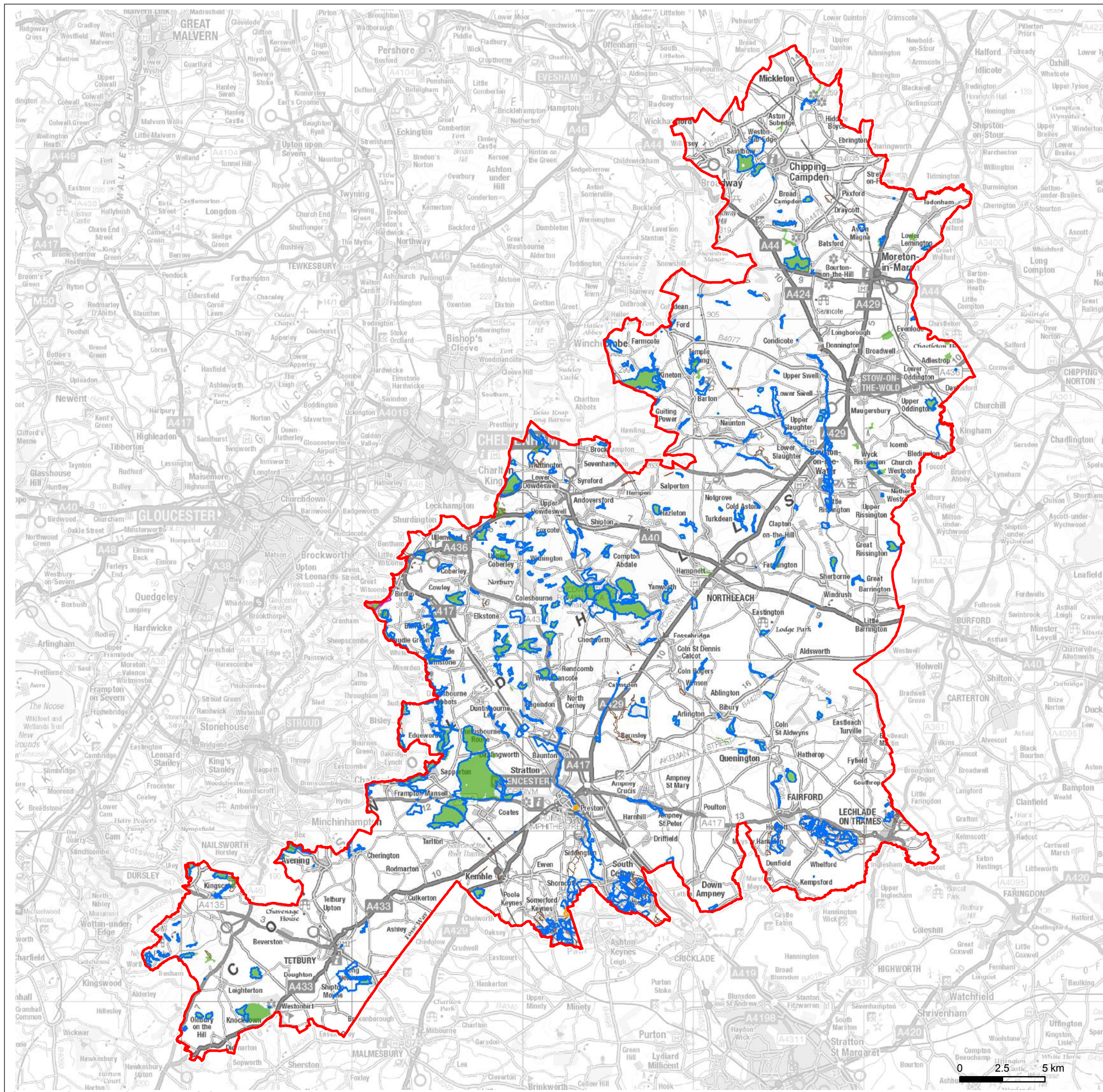


Figure 1.7: Wind constraints - Natural heritage

- Cotswold District Council boundary
- Local Nature Reserve
- Local Wildlife Site
- Ancient woodland
- Special Area of Conservation
- Site of Special Scientific Interest

In addition to the above natural heritage constraints, a blade radius buffer was applied to avoid oversail of the protected areas. This varied with wind turbine size:  
Small scale: 10m  
Medium scale: 27.5m  
Large scale: 45m  
Very large scale: 65m

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Project	Cotswold Renewable Energy Study
Client	Cotswold District Council
Figure	Wind constraints 2
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Arial Bold 10	Arial Regular 10







Figure 1.8: Wind constraints - Cultural heritage

-  Cotswold District Council boundary
-  Registered parks and gardens
-  Registered battlefield
-  Listed building
-  Conservation area
-  Scheduled monument

In addition to the above natural heritage constraints, a blade radius buffer was applied to avoid oversail of the protected areas. This varied with wind turbine size:  
Small scale: 10m  
Medium scale: 27.5m  
Large scale: 45m  
Very large scale: 65m

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Project	Cotswold Renewable Energy Study
Client	Cotswold District Council
Figure	Wind constraints 2
Scale	1:220,000
Arial Bold 10	Arial Regular 10







**Figure 1.9: Wind constraints - Physical constraints for small scale**

-  Cotswold District Council boundary
-  Sensitive noise receptors and buildings outside of Cotswold District 180m buffer
-  Other noise receptors and 80m buffer
-  Roads and railways 67.5m buffer
-  Footpaths and cyclepaths 45m buffer
-  Overhead line 49.5m buffer
-  Airfields, airports and MOD land
-  Allocated sites and employment sites
-  Consented and operational renewable energy projects
-  Gradient >15°
-  Watercourses and waterbodies 50m buffer
-  Woodland and forestry 50m buffer

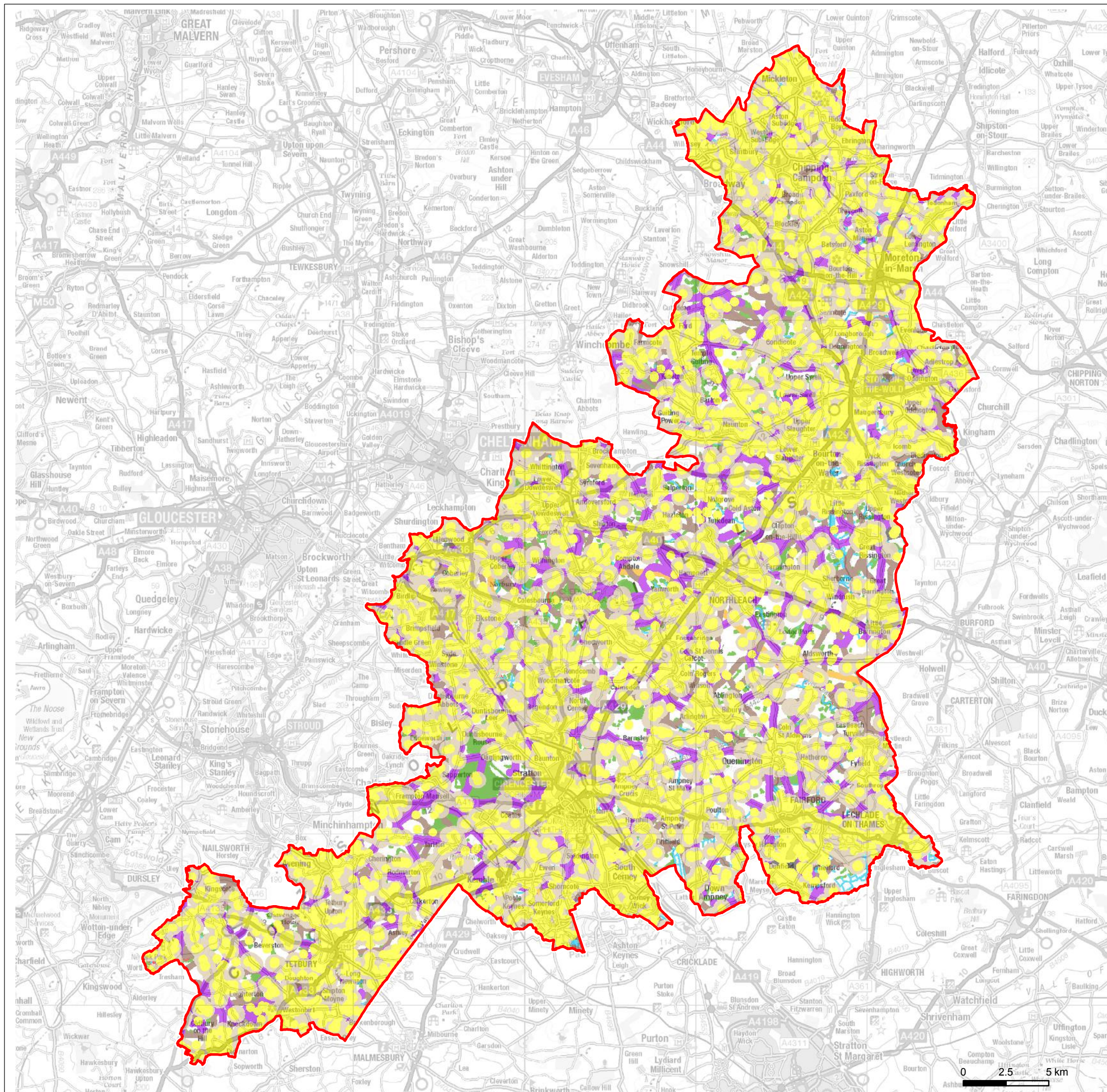
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<b>Project</b>	Cotswold Renewable Energy Study
<b>Client</b>	Cotswold District Council
<b>Figure</b>	Wind constraints 3
<b>Scale</b>	1:220,000
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0 2.5 5 km





**Figure 1.10: Wind constraints - Physical constraints for very large scale**

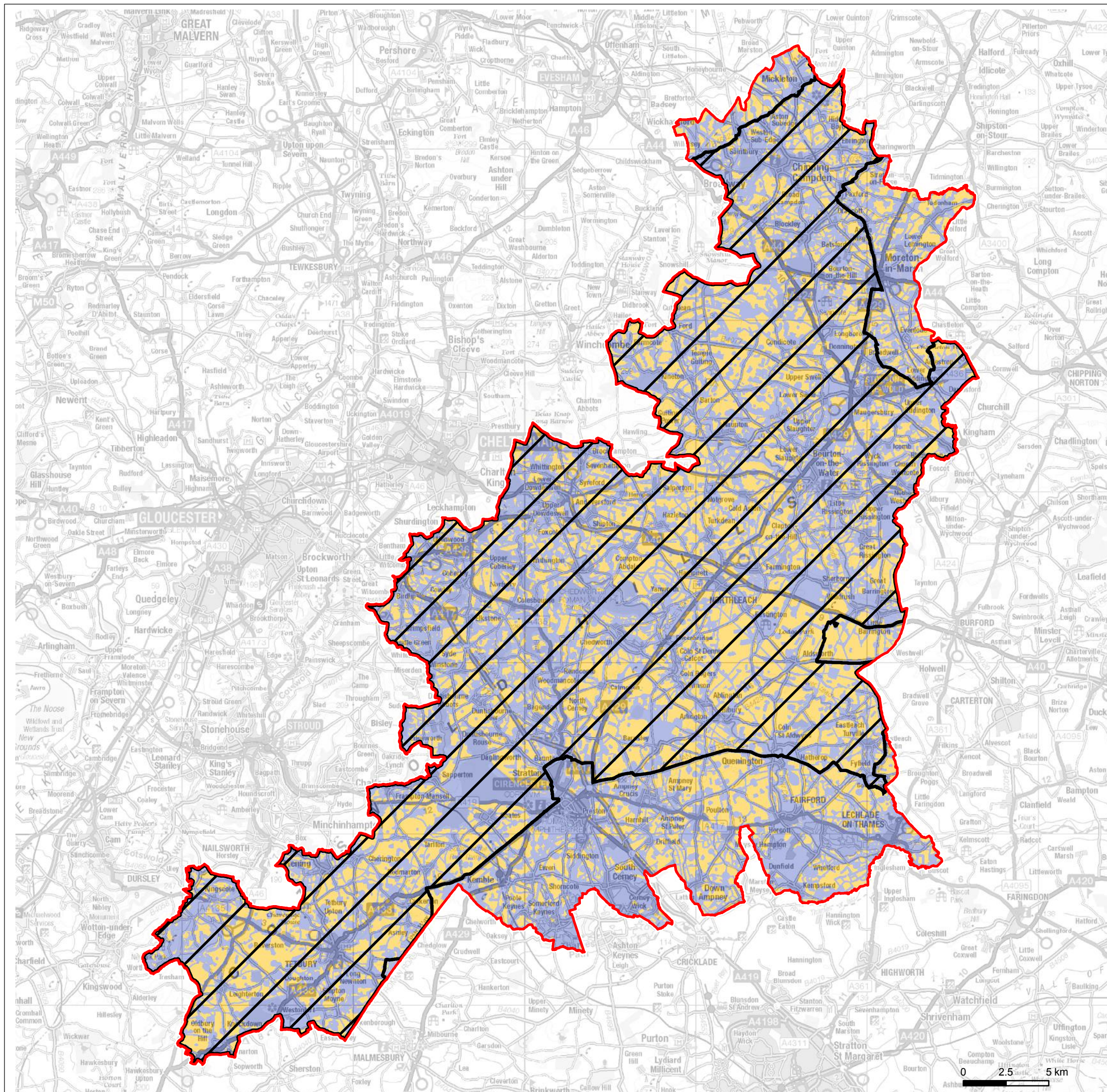
- Cotswold District Council boundary
- Sensitive noise receptors and buildings outside of Cotswold District 500m buffer
- Other noise receptors and 250m buffer
- Roads and railways 225m buffer
- Footpaths and cyclepaths 175m buffer
- Overhead line 192.5m buffer
- Airfields, airports and MOD land
- Allocated sites and employment sites
- Consented and operational renewable energy projects
- Gradient >15°
- Watercourses and waterbodies 50m buffer
- Woodland and forestry 50m buffer

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<b>Project</b>	Cotswold Renewable Energy Study
<b>Client</b>	Cotswold District Council
<b>Figure</b>	Wind constraints 4
<b>Scale</b>	1:220,000
<b>Arial Bold 10</b>	Arial Regular 10







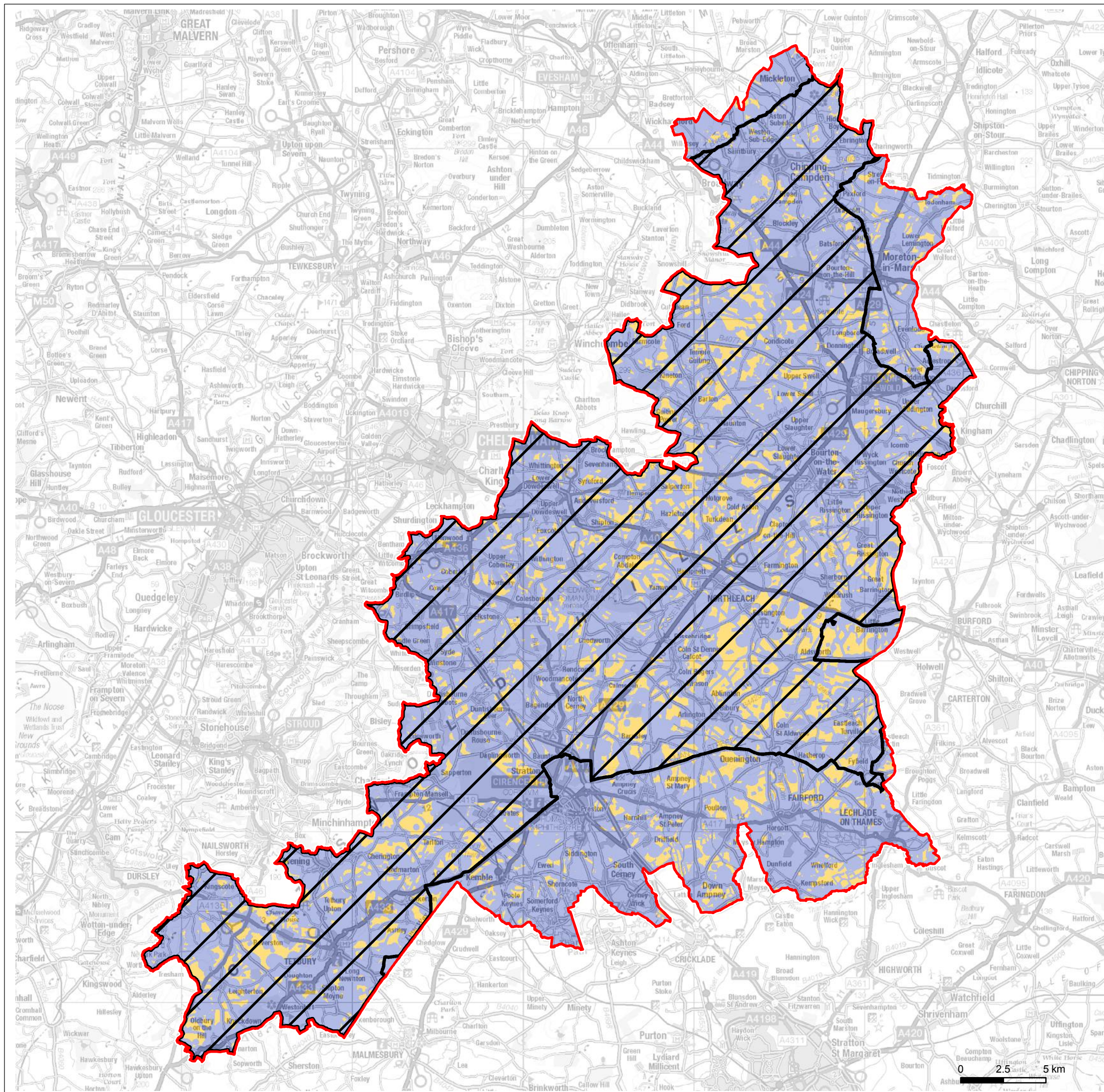
**Figure 1.11: Opportunities and Constraints: small scale wind development**

- Cotswold District Council boundary
- Cotswolds Area of Outstanding Natural Beauty
- Suitable areas for small scale wind
- Constrained areas for small scale wind





**Project** Cotswold Renewable Energy Study  
**Client** Cotswold District Council  
**Figure** Small wind opportunities and constraints  
**Scale** 1:220,000  
**Arial Bold 10** Arial Regular 10







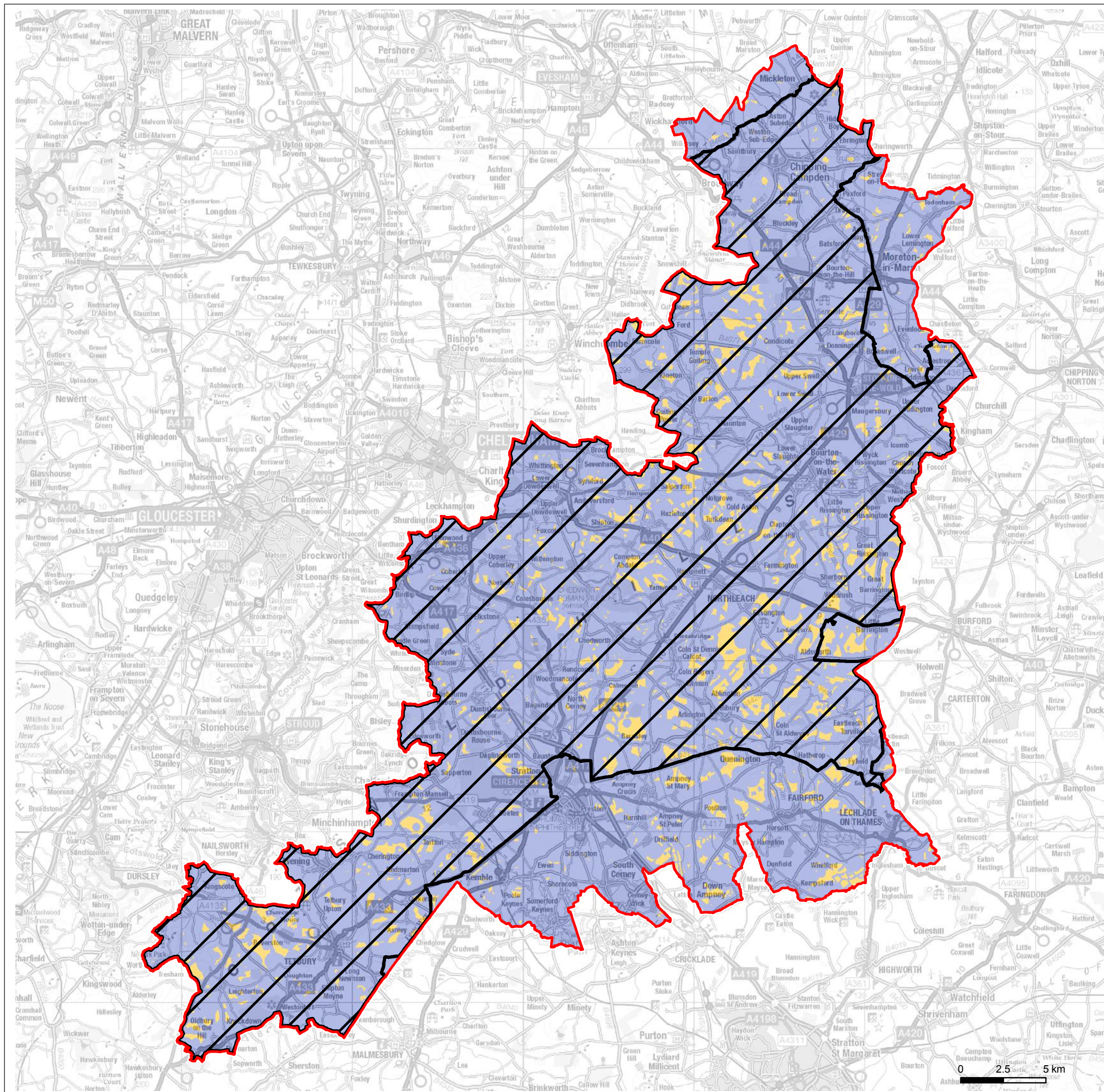
**Figure 1.12: Opportunities and Constraints: medium scale wind development**

-  Cotswold District Council boundary
-  Cotswolds Area of Outstanding Natural Beauty
-  Suitable areas for medium scale wind
-  Constrained areas for medium scale wind





**Project** Cotswold Renewable Energy Study  
**Client** Cotswold District Council  
**Figure** Medium wind opportunities and constraints  
**Scale** 1:220,000  
**Arial Bold 10** Arial Regular 10







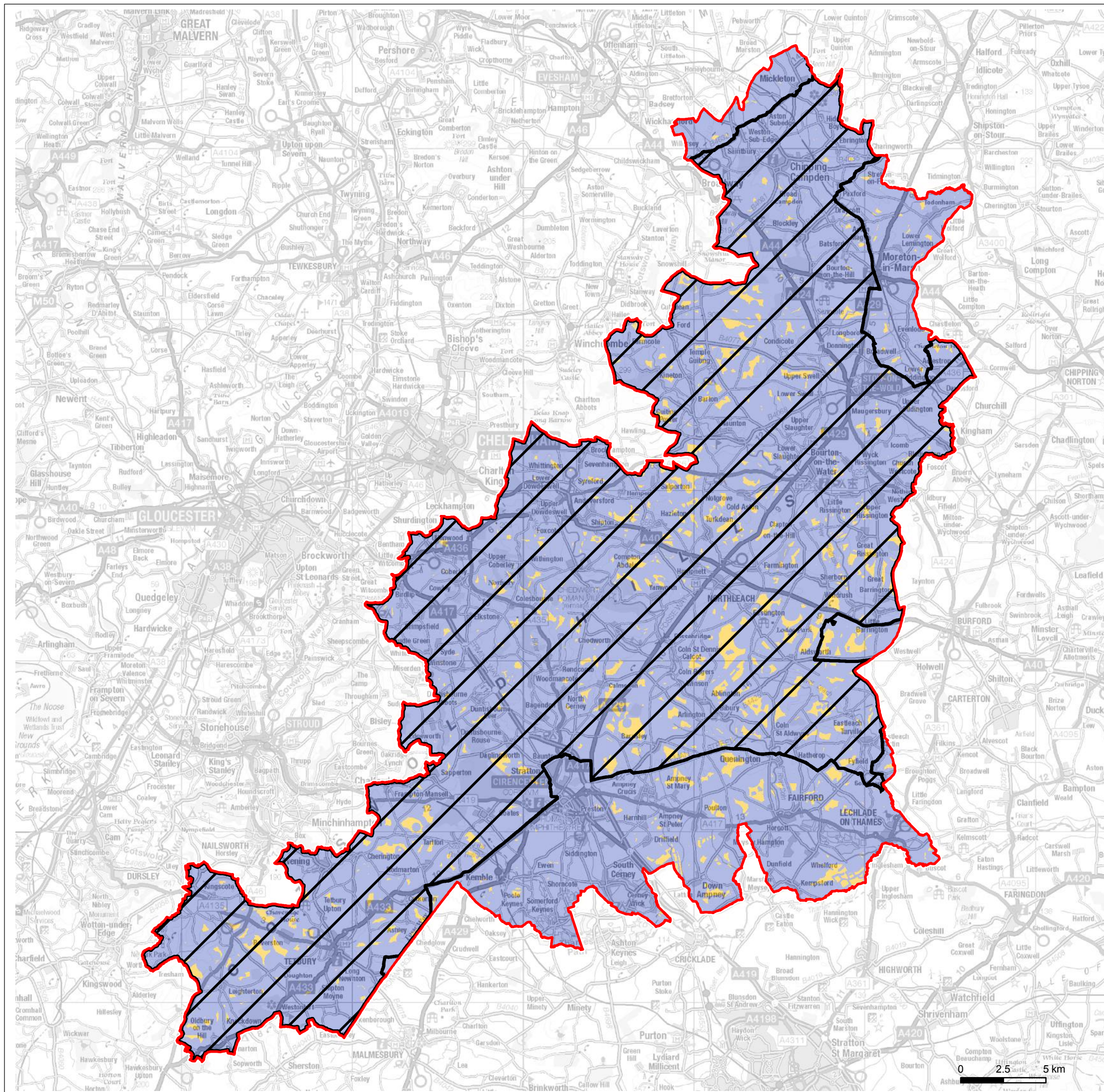
**Figure 1.13: Opportunities and Constraints: large scale wind development**

-  Cotswold District Council boundary
-  Cotswolds Area of Outstanding Natural Beauty
-  Suitable areas for large scale wind
-  Constrained areas for large scale wind





**Project** Cotswold Renewable Energy Study  
**Client** Cotswold District Council  
**Figure** Large wind opportunities and constraints  
**Scale** 1:220,000  
**Arial Bold 10 Arial Regular 10**







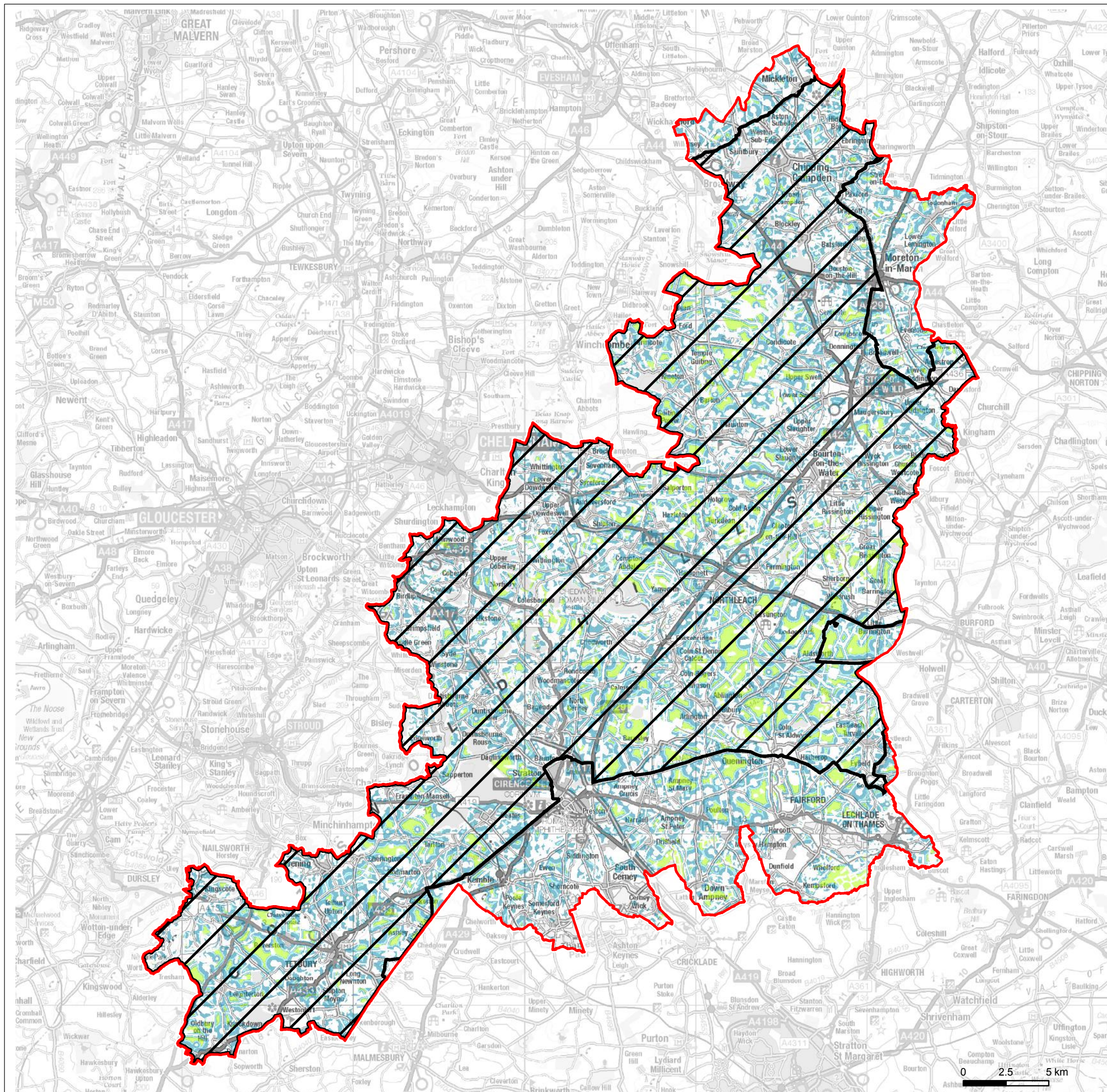
**Figure 1.14: Opportunities and Constraints: very large scale wind development**

-  Cotswold District Council boundary
-  Cotswolds Area of Outstanding Natural Beauty
-  Suitable areas for very large scale wind
-  Constrained areas for very large scale wind







**Project** Cotswold Renewable Energy Study  
**Client** Cotswold District Council  
**Figure** VL wind opportunities and constraints  
**Scale** 1:220,000  
**Arial Bold 10 Arial Regular 10**







**Figure 1.15: Opportunities for Wind Development - All Scales**

-  Cotswold District Council boundary
-  Cotswolds Area of Outstanding Natural Beauty
-  Small turbines only (up to 45m)
-  Small to medium turbines only (up to 80m)
-  Small to large turbines only (up to 125m)
-  All turbine scales (up to 175m)

**Project** Cotswold Renewable Energy Study  
**Client** Cotswold District Council  
**Figure** All wind opportunities  
**Scale** 1:220,000  
**Arial Bold 10** Arial Regular 10

