Ayrshire Planning Guidance on Wind Farm Development

Purpose

1. The guidance has been prepared to provide developers with greater clarity regarding those areas where the principle of development is likely to be acceptable - and likewise where it is not - and to provide further explanation regarding the criteria against which new development will be assessed. **For the avoidance of doubt this guidance covers wind farms of all capacities including single turbines.**

Scope

2. The guidance is a material consideration and will therefore be given significant weight when dealing with planning applications.

3. The guidance confirms and clearly defines areas of significant protection, the broad areas of search where proposals are likely to be supported and other areas where constraints will have to be addressed.

4. The document does not provide guidance on site specific issues associated with developments, off-shore wind energy, micro-generation, and other renewable energy development or energy conservation. The guidance applies to new schemes and to extensions to, and re-powering of, existing schemes. The guidance is to be applied to the whole of Ayrshire to assist developers in preparing wind farm proposals and in determination of those proposals by the three Ayrshire Councils. The guidance will also be used to inform the response of the Ayrshire Councils to proposals over 50MW although these are determined by the Energy Consents Unit under the Electricity Act 1989.

Targets

5. Ayrshire has significant wind energy resources and is attractive as a location for wind farm development. The Scottish Government has set a target for 80% of Scotland's electricity to be generated from renewable resources by 2020, with an interim target of 31% by 2011. Planning Authorities are required to have up to date policies to guide wind farm development to contribute to these increased levels of renewable energy generation where possible.

Principle

6. The Ayrshire Councils are aware of both the potential of wind energy and the challenges which realising this potential can bring. Existing policy seeks to maximise the potential for wind energy and is supportive of development which can be accommodated without significant adverse impacts on the economic, natural and cultural assets of the area.

7. In line with the above, and in accord with Scottish Planning Policy and Scottish Government web based renewables advice, this guidance is based on the principle that wind farms should be accommodated "where the technology can operate efficiently and environmental and cumulative impacts can be satisfactorily addressed".

Guidance Structure

8. This Guidance is divided into two sections: Spatial Framework and Visual and Landscape considerations. The structure of the Guidance is consistent with the approach in Scottish Planning Policy and Scottish Government web based renewables advice with respect to onshore wind turbines and the process for preparing spatial frameworks for wind farms.

Spatial Framework

9. The spatial framework is intended to provide greater certainty for developers and local communities and speed up the decision making process. The Framework defines areas as follows:

- Areas to be given significant protection – See Map 1
- Areas of potential constraint – See Map 2
- Other Considerations – See Map 3
- Broad area of search – See Map 4

A web mapping facility in support of this guidance shows areas of opportunity and constraint. This can be found at http://gis.south-ayrshire.gov.uk/mapsAJPUWindFarm/

This web map facility also provides landscape guidance for wind farms and guidance on other technical factors potentially affecting location and siting. The following text generally follows the process of preparing a spatial framework as indicated by Scottish Planning Policy and Scottish Government web based renewables advice with respect to onshore wind turbines and the process for preparing spatial frameworks for wind farms.

Areas to be Afforded Significant Protection (Stage 1)

10. The guidance affords significant protection to:

- Areas designated for national or international natural heritage value; and
- Areas where the limit of acceptable cumulative impact has been reached.

The areas shown in MAP 1 will be afforded significant protection from the effects of large scale wind farms. These areas are designated for a variety of different purposes and assessment will be undertaken against policy criteria within the development plan and be concerned with the potential effects on the interests which the designation is intended to protect.

International and National Designations

11. The integrity of areas covered by national or international natural heritage designations should not be compromised. SPP states that "the spatial framework should identify areas requiring significant protection because they are designated for their national or international landscape or natural heritage value". The designations are defined by SPP as:

International Designations – Natura 2000 Sites - Special Protection Areas (SPAs) – Ramsar Sites - Special Areas of Conservation (SACs)

National Designations – the National Scenic Area on Arran – National Nature Reserves (NNRs) – Sites of Special Scientific Interest (SSSIs)

Cumulative Impact

12. Cumulative impacts will most frequently involve landscape and visual impacts but may also affect natural heritage designations and aviation interests. Cumulative impact will take into account existing windfarms, those which have permission and those that are the subject of valid but undetermined applications. The web map facility identifies existing windfarm developments and proposals. In addition windfarm impacts will be assessed along with other impacts from other land uses which in combination produce significant adverse cumulative impacts. Where the limit of acceptable cumulative impact has been reached wind farms will be steered away from these locations. The three element of cumulative impact which will be assessed are composed of landscape, natural heritage and aviation interests.

Landscape and Visual Impacts

13. SNH has supported the preparation of region wide wind farm landscape capacity studies. The Ayrshire & Clyde Valley landscape capacity study explored the capacity of the Ayrshire landscape and adjoining Council areas to accommodate significant wind farm development. A key conclusion reached from the study was that irrespective of the level ultimately achieved within the Ayrshire area, a planned approach, based on the concentration of development into a smaller number of larger windfarms would help reduce the overall level of landscape and visual impact.

14. Taking into account inter-visibility, landscape sensitivity and local populations the areas which were least sensitive to cumulative impact were identified as the plateau moorlands in South Carrick and Whitelee (see Landscape/Visual Impacts Section). In these two areas the principle of significant landscape change to well designed wind-farmed landscapes was accepted. It is acknowledged that sites may be identified for smaller scale wind farm development outwith the Broad Areas of Search which are in locations of low landscape and visual sensitivity and are acceptable in terms of their cumulative landscape and visual effects.

15. The scale of existing windfarm development and current developer interest in the form of existing consents and valid applications in South Carrick and Whitelee has begun to raise issues of significant adverse cumulative impact. Taking this existing impact together with the scope for additional impact from development in the remainder of the two Broad Areas of Search indicates that if developed the level of acceptable cumulative impact will have been reached. This significantly reduces the scope for any additional large scale wind farm development of 20MW and above beyond the Broad Areas of Search.

16. The significant adverse cumulative impacts from large scale wind farm developments spreading beyond these Broad Areas of Search would be unacceptable. Establishing a clear boundary to the area and maintaining visual separation from other wind farms will allow for a clear distinction to be perceived between the wind-farmed landscape and the landscape beyond. It is therefore appropriate to provide significant protection to the areas in the immediate vicinity of these newly created windfarm landscapes on visual grounds. There will be a presumption against development within a 30km radius area beyond the boundary of the Broad Areas of Search however, subject to careful analysis and consideration there may be sites identified for a more limited scale of development that do not undermine the area of significant protection, are in locations of low landscape and

visual sensitivity and are acceptable in terms of their cumulative landscape and visual effects.

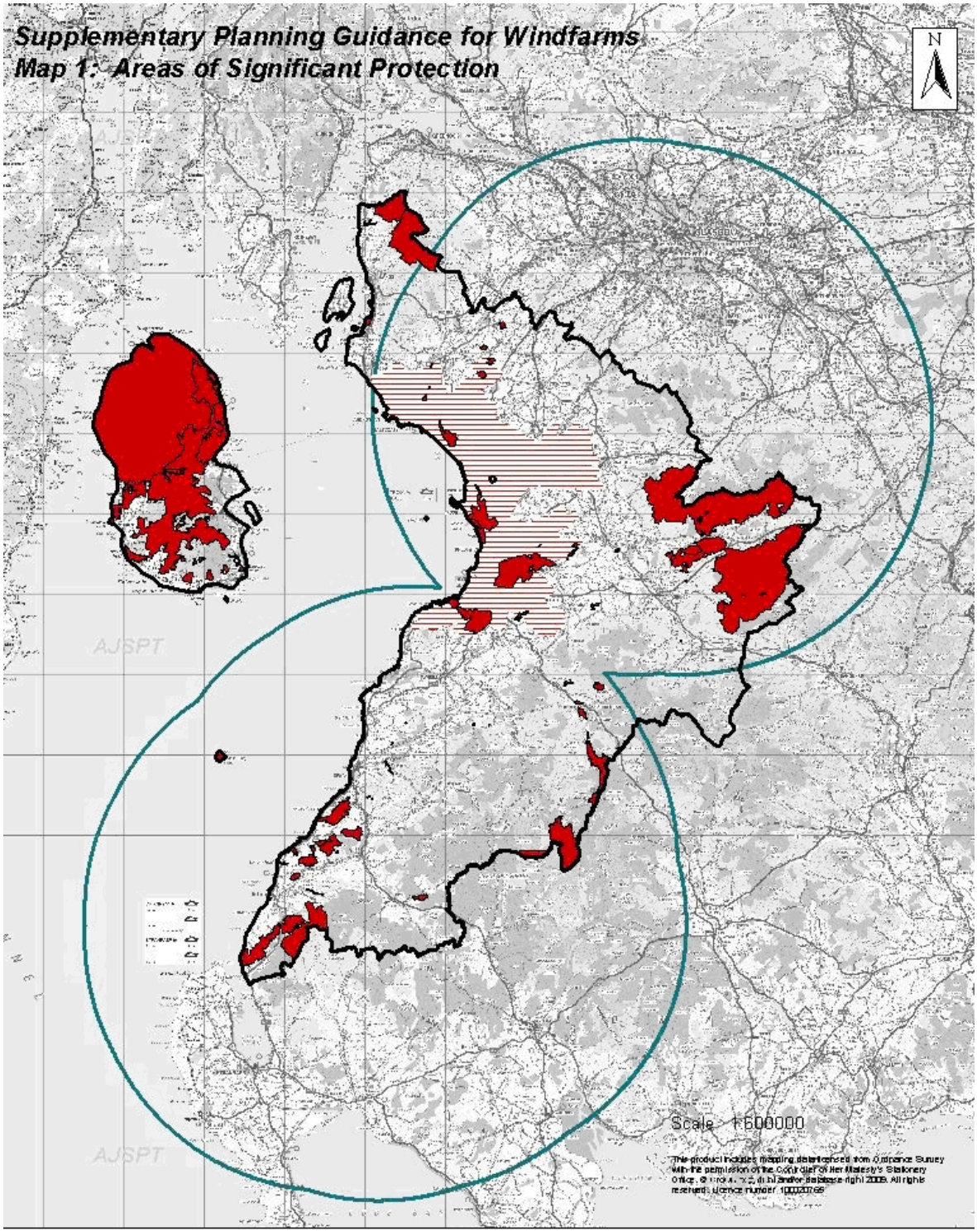
Natural Heritage Designations

17. There will be a presumption against wind farms in locations where the cumulative impact will adversely affect Natura 2000 sites and the National Scenic Area on Arran.

Aviation Interests

18. Wind-farms will not be permitted in locations where the cumulative impact will adversely affect aviation safety and operations. It is for the developer to demonstrate that NATS, CAA, MOD and Glasgow Prestwick/Glasgow International Airports have been consulted and are satisfied with the proposal. If mitigation is required then it must be demonstrated that the relevant consultee agrees to the specific mitigation being implemented in the anticipated timescale. The cumulative impact buffer will provide significant protection to radar sensitive airspace from further encroachment by windfarm development.

There will be a presumption against all wind farm developments of 20MW and above in areas which are afforded significant protection through international and national designations and cumulative impact through landscape and visual impacts, natural heritage designations and aviation interest.


Supplementary Planning Guidance for Windfarms
Map 1: Areas of Significant Protection
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Scale 1:600000
Ayrshire Area
Areas Afforded Significant Protection
Core Investment Area Landscape
30km Buffer

Areas of Potential Constraint (Stage 2)

19. The guidance specifically identifies other potential constraints as follows:

- Historic Environment
- Areas designated for their regional and local natural heritage value
- Tourism and recreational interests
- Communities
- Buffer Zones
- Aviation and defence interests
- Broadcasting installations

20. The constraints listed are consistent with Scottish Planning Policy and Scottish Government web based renewables advice with respect to onshore wind turbines and the process for preparing spatial frameworks for wind farms. In addition the guidance identifies Buffer Zones as an additional constraint and requires impacts on Sensitive Landscape Character Areas to be satisfactorily addressed (this is dealt with later under the Landscape & Visual Impacts section). The Areas of Potential Constraint are shown in MAP 2.

21. The guidance identifies and describes each constraint and the web map facility allows constraints to be viewed individually and cumulatively. **The existence of a constraint does not necessarily preclude development but should be taken as a signal to the developer that a clear understanding of the nature of the constraint, the factors that must be satisfactorily addressed and any mitigation required to produce an acceptable level of impact will need to be fully demonstrated and agreed.** Identifying and clarifying constraints in this way should steer applicants away from potentially constrained areas and towards areas with fewer or no constraints. In all cases developers will be required to show that their proposals are consistent with all the relevant Local Development Plan policies.

Historic Environment

22. Ayrshire benefits from having an attractive and high quality environment which provides a sense of place and local distinctiveness. The historic environment is a key part of this and as a finite resource its stewardship is central to sustainability. It provides a background against which we live and work, and a link between ourselves and the past which helps define our sense of place and belonging. The following resources and their settings will be protected:

- listed buildings
- conservation areas
- scheduled monuments
- historic gardens & designed landscapes
- locations and landscapes and buildings associated with Robert Burns (potential world heritage site)
- archaeological locations and landscapes

Development having a significantly adverse effect on the historic environment will not be supported.

Regional & Local Natural Heritage & Biodiversity

23. Landscape character, biodiversity and natural heritage are valuable resources and a key part of Ayrshire's attractive and high quality environment, contributing to sense of place and local distinctiveness and important to future well being and economic development. National and International natural heritage designations are afforded significant protection from wind farm development. Outside these designations the planning system has to ensure that wind farm development needs are met in ways which do not erode this environmental capital. In particular the following areas represent those areas most valued for their scenic or ecological value and where a more cautious approach to development is therefore appropriate:

- Clyde Muirshiel Regional Park
- Sensitive Landscape Character Areas
- Habitats & features which complement the Natura 2000 network
- The setting to communities and key economic development locations
- Local nature reserves, wildlife sites and habitats of local conservation value.

Development which compromises the objectives or overall integrity of the regional and local natural heritage and biodiversity designations will not be supported.

Tourism and Recreational Interests

24. Tourism makes a significant contribution to the economy of Ayrshire and has the potential for significant growth. At the heart of this growth is environmental quality, increasingly seen as a key economic driver, and which requires to be protected and enhanced. It is therefore important that the planning system puts in place safeguards which protect important tourist assets from inappropriate development.

25. These assets include international recognised golf courses, major sailing and recreational locations, landscapes sensitive to change, coastal communities and European and nationally significant natural heritage and habitats. Areas particularly sensitive to the impacts of wind farms and which are regionally significant include areas designated for scenic importance and recreational potential, such as Clyde Muirshiel Regional Park, Heads of Ayr, Merrick Hills, and the Galloway national tourist route, which stretches from Gretna to Ayr and links the Robert Burns attractions in both Dumfries and Ayr and the industrial heritage of the Doon Valley.

Regionally Significant Tourist Resources:

- Natura 2000 sites
- National Scenic Area on Arran
- Firth of Clyde Estuary including the islands of Ailsa Craig, Arran & the Cumbraes
- Clyde Muirshiel Regional Park
- Biosphere/Merrick Hills
- National recognised cycle & walking routes

- Galloway national tourist route
- Sensitive landscape character areas
- International golf courses and their settings
- Robert Burns designated buildings, locations and settings (Potential World Heritage)
- Arran

Development which has a significantly adverse impact on tourism and recreational interests will not be supported.

Communities

26. Amenity and quality of life are key assets contributing significantly to the attractiveness and economic potential of the area. Wind farms have the potential to create significant long term adverse impacts on the amenity of an area or health, well being and quality of life of people living or working nearby. Visually, within 2km, wind turbines are a prominent feature in an open landscape. Impacts from noise and shadow flicker can be significantly reduced by distance and the introduction of appropriate safeguarding zones. The purpose of these zones is to steer developers away from potentially constrained locations. Noise and light pollution can have serious impacts on health and well being. Rather than attempting to mitigate these impacts after a development has taken place, it is considered more effective to avoid locating development in areas where these problems could occur.

- Shadow Flicker – as a general rule a minimum separation distance of 10 times the turbine's rotor blade diameter from a dwelling house, work place or community facility to the turbine will be required. Exceptionally if turbines are to be located closer than this, the developer will be required to demonstrate that the impacts are acceptable.

- Noise - as a general rule a minimum separation distance of 700m from a dwelling house, work place or community facility to a turbine will be required. Exceptionally if turbines are to be located closer than this, the developer will be required to demonstrate that the impacts are acceptable. Good acoustic design and siting of turbines is essential to ensure there is no significant increase in ambient noise levels such that it can affect the amenity. Properties in the vicinity of a windfarm should not experience noise levels in excess of 35dB(A) under all wind conditions.

- Visual – as a general rule a minimum separation distance of 2km from towns and villages to a turbine will be required. Exceptionally if turbines are to be located closer than this, the developer will be required to demonstrate that the impacts are acceptable.

Development will not generally be supported within 2km of a town and village or within either 700 metres or a distance of 10 time the turbines rotor blade diameter (whichever is the greater) from an individual dwelling, work place or community facility unless the developer can demonstrate the impacts are acceptable.

Aviation & Defence Interests

27. The capacity of airports and associated airspace are increasingly recognised as key elements of national infrastructure which require to be safeguarded and enhanced. Windfarms in certain locations are known to have significant adverse impacts on this capacity and should be avoided if other locations are available. As a result of 5 windfarms currently operating within 35km of Glasgow Prestwick Airport certain areas of airspace formerly used by aircraft are now off limits. The danger is that this gradual erosion of airspace will begin to compromise safety, flexibility, capacity and ultimately viability of the airport.

28. Glasgow Prestwick Airport offers significant international connectivity and competitive advantage for economic development. The airport is a major asset and with substantial spare capacity and specialisms in freight, maintenance, repair and overhaul. It is recognised in the Structure Plan as a key Gateway location pivotal to the success of Ayrshire's economy and offering significant benefit to Scotland and the UK. The 2003 Aviation White Paper confirms the role of GPA in meeting UK aviation development needs to 2030 when it is expected to account for 6 million passengers and Glasgow 20 million. GPA's role and future development as a key part of national infrastructure is also confirmed by designation as a National Development in the Scottish Government's National Planning Framework 2.

29. A wind farm radar safeguarding map has been prepared by Glasgow Prestwick Airport in conjunction with the previous Ayrshire Joint Structure Plan and Transportation Committee. The map identifies areas sensitive to wind farm development and a wider consultation zone. The cumulative impact of wind farm developments on the safety, flexibility and capacity of GPA's airspace requires constant monitoring. The map is therefore a "live" document which will be subject to continuing review depending on the cumulative effect of future development. Developers will be required to show that their development does not impinge on the current operation of the airport and would not threaten the requirements for growth sought by Government.

Defence Interests

30. A large part of Ayrshire is designated by the Ministry of Defence as a tactical training area for low flying aircraft (LFA 20T). Wind farms present obstacles and interference on radar creating "blind spots". Obstacles in excess of 100ft, unlit by night and with the ability to cause interference and "blind spots" have the potential to create a safety hazard to aircraft engaged in operational low flying, tactical radar avoidance training and specialised night flying. Developers are required to contact the MOD to clarify the impact of their proposal on this national interest.

31. Because wind farms are known to have significant adverse impacts on navigational aids and radar systems, applicants are encouraged to have early discussion with airport operators, NATS, CAA and MOD prior to an application being submitted. Where developers can specify technological or other mitigation solutions in relation to specific developments they will be required to demonstrate agreement between themselves and the relevant operator that it can be delivered within a reasonable timeframe.

Development will not be supported in locations which are known to have adverse impacts on instrument landing systems, navigational aides, radar systems and air traffic control. All applications will be required to assess the environmental impacts of turbine lighting if this requirement is sought by the MOD or Airport operators.

Broadcasting Installations

32. Wind turbines have the potential to interfere with electronic communication media, this includes television, radio and micro wave links. These interference effects can be reduced through changes to turbine siting and discussion with operators.

Television & Radio Reception

33. Wind farms can cause interference if the viewer is in the "shadow" of and within a few kilometres of a wind farm if the aerial is pointing through the wind farm. Interference can also be created through a "bounce" effect over significant areas of water. The effect is to create interference and a loss of picture and or sound. A "ghosting" effect is also possible.

Micro Wave Communications

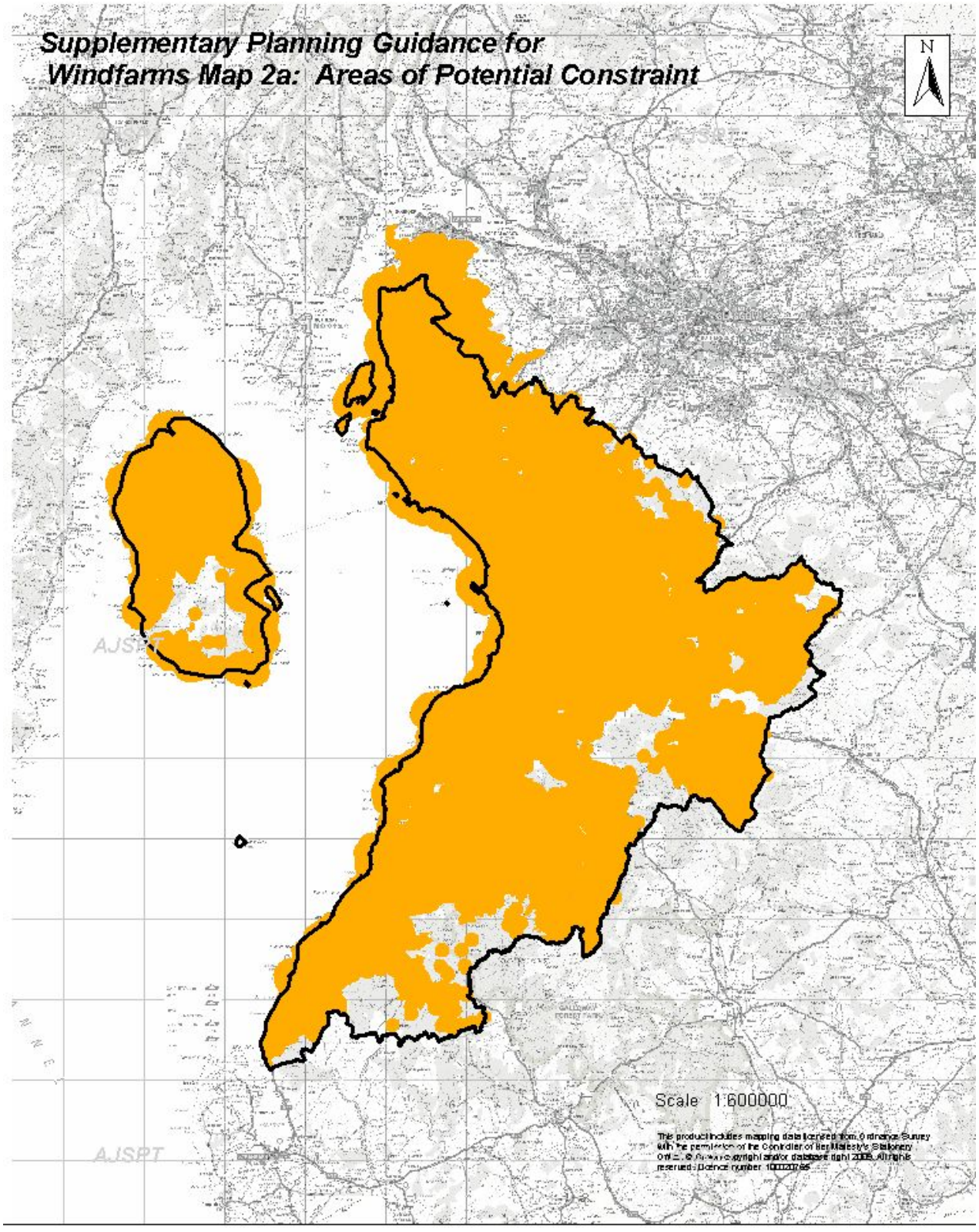
34. Micro waves can be affected by reflection, diffraction, or blocking if the turbines are in "line of sight" of the transmitting or receiving station. A minimum clearance distance of 200m should be set between the alignment of the microwave and any turbine.

Civil Aviation, Maritime and Military Communications

35. The potential interference to military and civil aviation radar systems through the construction of wind farms is covered elsewhere by Guidance.

Developers should consult with and demonstrate that network owners and Ofcom are satisfied that no adverse impact will occur or alternatively that a technical solution is available and will be provided as part of the scheme. Development which has an adverse impact on broadcasting and receiving installations will not be supported.

Applicants will, through an appropriate Section 75 agreement, be required to enter into a binding agreement to rectify any interference should this occur after construction. This could include the removal of turbines if necessary.


Supplementary Planning Guidance for
Windfarms Map 2a: Areas of Potential Constraint
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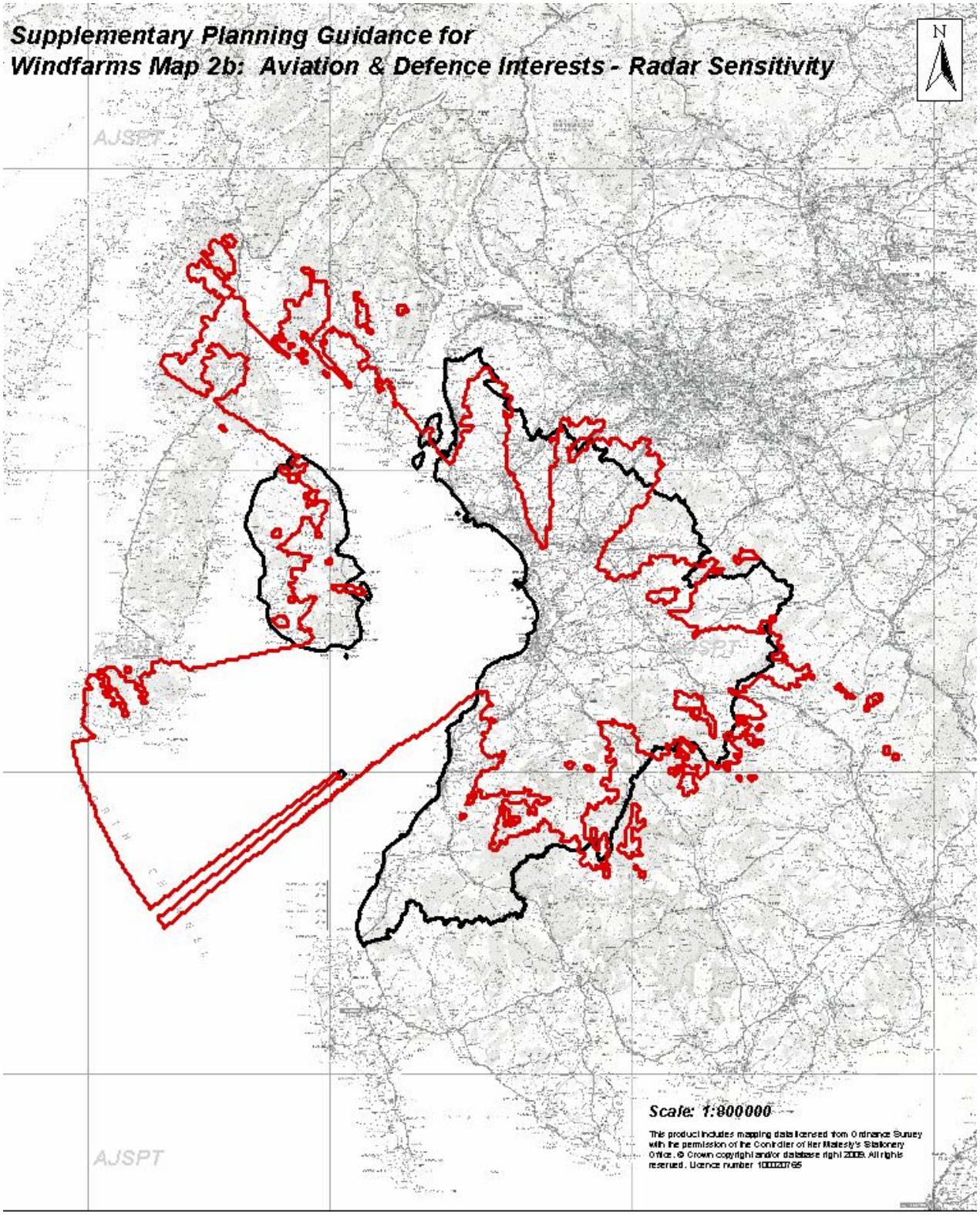
Ayrshire Area
Areas of Potential Constraint



Aviation & Defence Interests - Radar Sensitivity

Ayrshire Area

Other Considerations

36. Stages 1 and 2 above identify areas of significant constraint and those areas that are potentially constrained. When applied to the map of Ayrshire these areas cover much of the land mass, particularly for wind farms over 20MW in size. Nevertheless there are other possible limitations to be considered as part of Stage 2. These fall into three discrete categories.

Local Biodiversity Action Plan Priority Habitats and Species
Article 10 Habitats Directive locations
Project Viability and Other Technical Constraints

Local Biodiversity Action Plan

37. The Local Biodiversity Partnership has recently reviewed the original document produced in 2001. A revised Action Plan was approved in September 2008 for the years 2007 - 2010. This gives priority to two habitats – raised bogs and coastal habitats - and two species – water vole and farmland birds – where urgent action is considered necessary. Whilst these features would not preclude wind farm development, considerable care in siting and location should be exercised. This would also apply to species covered by The Wildlife and Countryside Act 1981, The Protection of Badgers Act 1992 and the requirements of the Habitats Directive and Regulation 3(4) of the 1994 Regulations.

Article 10 Habitats Directive Locations

38. Article 10 of the Habitats Directive contains a requirement for land use planning and development policies to encourage the management of features of the landscape in the wider countryside which are major importance for wild flora and fauna. The management of such features outside designated sites is recognition of the important role that they have in facilitating the dispersal and migration of species, or genetic exchange.

39. These ‘stepping stones’ or linear and continuous structures are part of a complex support mechanism which is fundamental to the maintenance and enhancement of the European sites in the Natura 2000 network. Some of the features of importance may already be protected through some form of statutory designation, including SPAs SACs SSSIs and National Nature Reserves, or a non-statutory designation such as Scottish Wildlife Trust Reserves. Other features, however, may not benefit from any form of designation but are still a significant component of the natural resource in Ayrshire and should be considered in the development of proposed wind farm locations. Particular significance should be placed on areas of blanket bog given their potential for carbon sequestration.

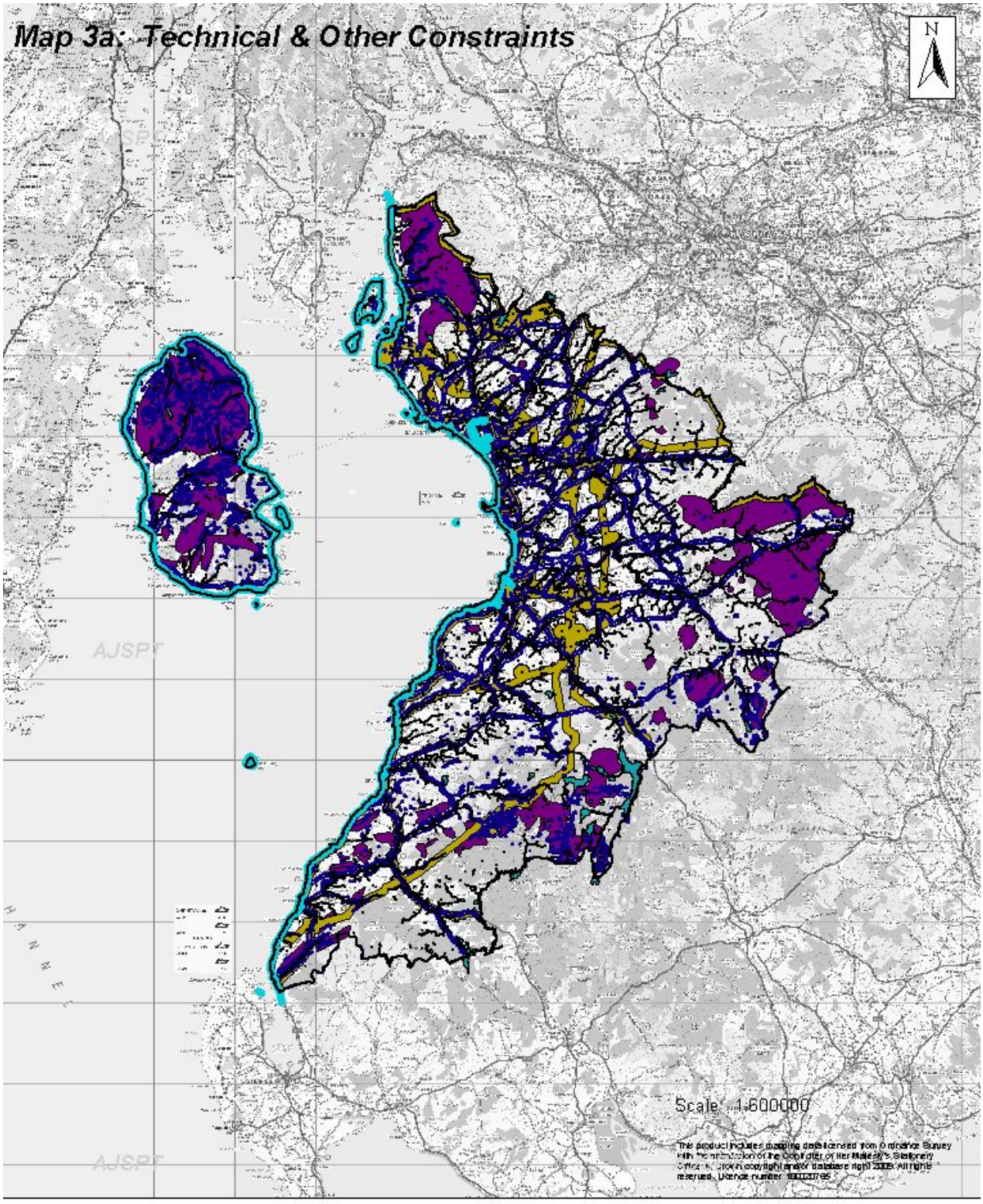
Technical and Other Constraints

40. Information collated from a variety of sources identifies a number of technical constraints place on wind farm and wind turbine location. These are identified on Map 3 as:

Watercourse - minimum 50 m distance
Railway Line – minimum 180m (1.5 X 120m turbine height) distance
A & B Class Road – minimum 180m (as above)

Transmission Line – minimum 450m (5X rotor diameter 90m)
Slopes – 17 degrees or more
Wind Speeds – greater than 6.5 mps.

Wind farm development will require to show that Local Biodiversity Action Plan priorities, Article 10 Habitat Directive locations and technical and other constraints have been addressed when bringing forward proposals.


Map 3a: Technical & Other Constraints
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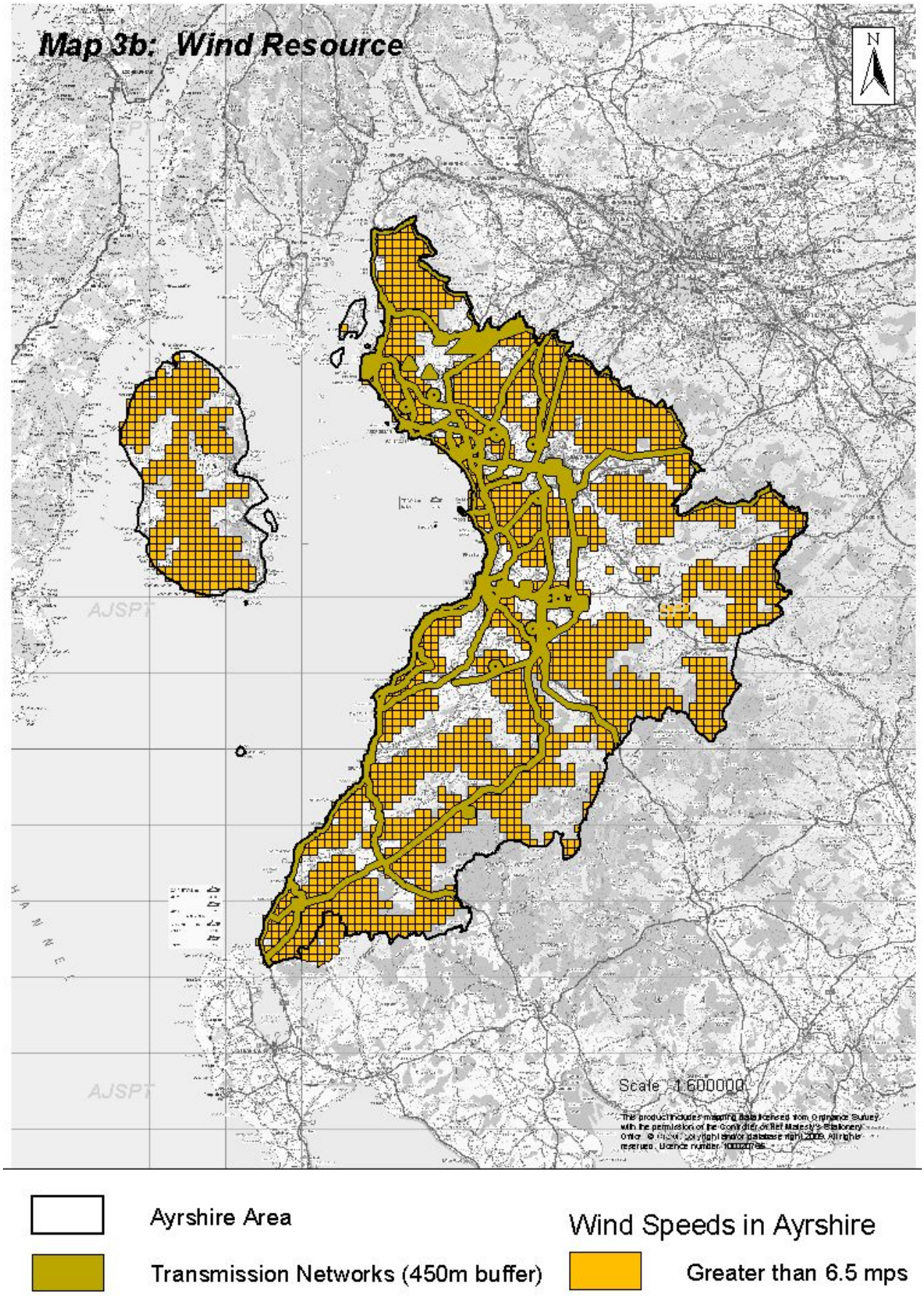
Ayrshire Area
Coastal Habitat
Watercourse - Minimum 50m Distance
Rail, A & B Class Road - Minimum 180m
Slope - 17 Degree +
Transmission Networks (450m buffer)
Annex 1 Locations


Map 3b: Wind Resource
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Ayrshire Area
Transmission Networks (450m buffer)
Wind Speeds in Ayrshire
Greater than 6.5 mps

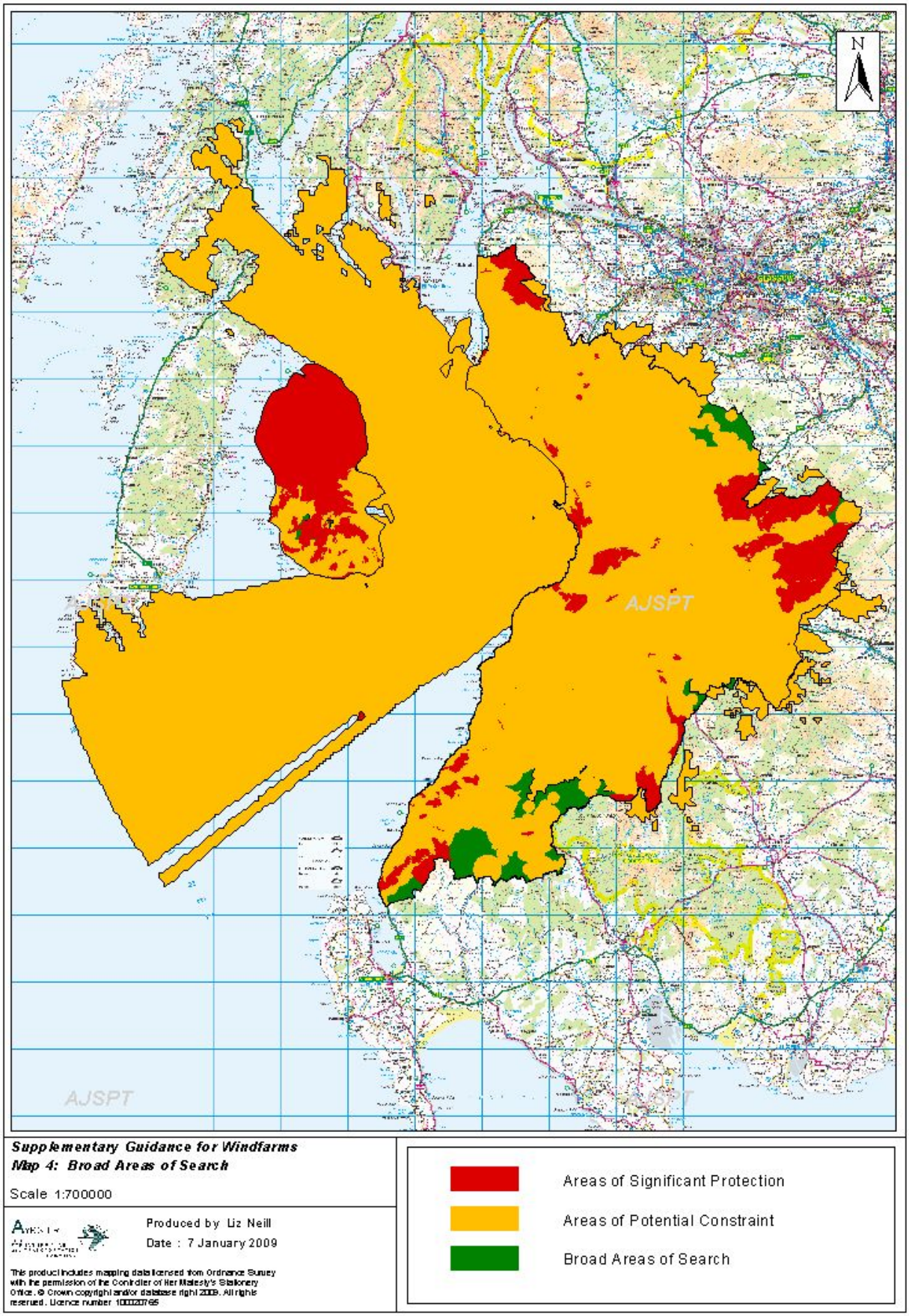
Broad Areas of Search (Stage 3)

41. Having identified Areas afforded Significant Protection and Areas of Potential Constraint, the remaining areas or Broad Areas of Search, previously identified in the Ayrshire Joint Structure Plan, are now confirmed as being in South Carrick and Whitelee. The Broad Areas of Search are shown in MAP 4.

42. The identification of Broad Areas of Search establishes the principle of significant landscape change and the creation of wind-farmed landscapes within these areas. Unconstrained by strategic conflicts of interest, development proposals in these areas are likely to be supported provided they reflect site specific constraints, good practice and, have incorporated fully the views of the local community. Well designed windfarm development of both large and small scale would in general be acceptable within the Broad Areas of Search. Both areas offer good links to the grid and have wind speeds in excess of 6m/s. While these Areas provide a steer to developers on broadly acceptable locations, it cannot be certain that development will be technically feasible throughout the whole area identified.

43. The Broad Areas identified amount to some 10% of the total land area of Ayrshire and offer significant capacity towards meeting the Scottish Government's targets for renewable energy.

Proposals for large and small scale windfarm developments will be supported subject to specific proposals satisfactorily addressing all other material considerations.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Supplementary Guidance for Windfarms
Map 4: Broad Areas of Search
Scale 1:700000
Produced by Liz Neill
Date : 7 January 2009
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Areas of Significant Protection
Areas of Potential Constraint
Broad Areas of Search

Visual & Landscape Considerations

44. Visual and landscape assessments are not specifically identified in Scottish Planning Policy and Scottish Government web based renewables advice as a discrete stage in the process of preparing a spatial framework. However impacts on landscapes are clearly recognized as important criteria in any assessment of development proposals and have been fully reflected in Local Development Plan Policy PI 9 Renewable Energy.

Landscape Character and Value: Reference Guidance within Ayrshire

45. Ayrshire contains considerable diversity of landscape character which has developed through natural and human influence on the area. Key influencers in the evolution of the landscape include the area's geology and the effect this has had on landform; glacial and fluvial erosion also had an impact over many thousands of years, more recently human activity has reflected the physical character in the pattern of land use and settlement of the area.

46. In Ayrshire the landscape is also seen as a major asset in economic development, tourism, leisure and recreation as well as a source of pride and pleasure to residents. Public awareness of changes in landscape brought about by development proposals is increasing, particularly in relation to wind farm developments. The commitment to sustainable development now enshrined in planning legislation requires that the character and qualities of the landscape are maintained in all their richness and diversity.

Ayrshire Landscape Assessment

47. This diversity in character of landscape within Ayrshire was analysed by Land Use Consultants in 1998, "Ayrshire Landscape Assessment: March 1998". This identified eight distinct regional character areas and a further 22 landscape types. Five of these are further classified according to the presence or absence of large-scale commercial forestry.

48. The description of landscape types in the character assessment provides a basis for the formulation of recommendations on landscape management and planning. In general these recommendations reflect both the strength of landscape character and its quality. In areas where the landscape character is strong and intact, the emphasis is placed on conserving the qualities and features that contribute to that character, in areas where the landscape has become weakened by change, the emphasis is on restoring character that has been lost. In areas where profound change has resulted in the loss of landscape character there is opportunity to recreate new landscapes e.g. the use of commercial forestry areas for wind power.

49. Key issues addressed by the planning and management guidelines published within this study included advice on the potential of the landscape to accommodate renewable energy development, particularly wind power. It should be noted however that the description of turbine size reflect wind turbine technology at that time.

Reference: Ayrshire Landscape Assessment- SNH & AJPU - March 1998

Sensitive Landscape Character Areas

50. Using the above landscape character assessment each landscape category type has been reviewed against a series of criteria that sought to define relative importance and sensitivity to change**.** It includes such considerations as the rare and / or representativeness of the landscape character type in Ayrshire, the overall scenic quality, the unspoilt nature and conservation interest of the area and its contribution towards a definite sense of place. In these defined areas of Sensitive Landscape Character the protection and enhancement of landscape is recognised in policy as a priority.

Reference: Landscape Evaluation- Sensitive Landscape Character Areas-AJPU, Technical Note 23, and March 1999

Ayrshire and Clyde Valley Wind Farm Landscape Capacity Study

51. In 2004 Land Use Consultants carried out on behalf of Scottish Natural Heritage and the Ayrshire Councils a study which explored the capacity of the landscape to accommodate wind farm development. The study confirmed significant variations in the sensitivity of the landscape to wind farm development. It confirmed the likely cumulative effects of a large number of wind farm developments on the landscape as a consequence of meeting future targets but importantly suggested that these could be partially mitigated by a planned approach to future development which concentrated development on a small number of large schemes.

Reference: http://www.ayrshire-jsu.gov.uk/download/A&CV%20Windfarm%20Study%20-%20Report%20No.065.pdf

The advice as it relates to wind farm development has been summarised in Appendix 1.

APPENDIX 1

Landscape Guidance for Windfarms above and below 20 MW

Landscape Character Type	Management and Planning Guidelines	Landscape Sensitivity to Wind Turbines		
		Large	Medium	Small
A:Raised Beach Coast	The aim of the development strategy is to conserve and maintain the predominately small scale, agricultural nature of this landscape type, and to retain the integrity of the related landform features. The area is considered a low priority for wind farm development on landscape character and visibility grounds. Any wind power on adjacent higher ground should avoid skylining when viewed from coastal towns and main transport corridors.			
B: Lowland Coast	The aim of the development strategy is to conserve remaining areas of undeveloped coast, and restore or enhance areas which are used for formal recreation. Additional loss of this landscape type should be avoided. Wind Farm development in these areas is not appropriate.			
C: Coastal Fringe	The aim of the development strategy is to conserve the agricultural character of these areas, by controlling development and reinforcing the structure of field boundaries and trees. This landscape character type is not suitable for wind farms. The introduction of modern, large structures such as a wind farm could conflict with the grain and scale of this landscape			
D: Coastal headlands	The aim of the development strategy is to conserve, undeveloped, these prominent coastal hill top landscapes. This landscape character type is not suitable for wind farms			
E: Coastal Valleys with policies	The aim of the development strategy is to conserve and reinforce the policy landscape of the valley. This landscape character type is not suitable for wind farms			
F: Coastal Lowland Moor	The aim of the development strategy is to arrest the gradual decline of agriculture while conserving the historic character of the landscape. This landscape character type is not suitable for wind farms			
G: Ayrshire Lowlands	The aim of the development strategy is to conserve the high quality, pastoral landscape of the Ayrshire lowlands. Retaining the area's legacy of hedges and hedgerow trees is central to this aim. Some limited potential for small scale wind power development associated with local consumption			

H: Broad Valley Lowland	The aim of the development strategy is to conserve and restore the valley's pastoral character and to mitigate the visual impact of built developments. Encourage wind power developments adjacent to the upper valley to locate away from valley sides. This landscape character type may be suitable for medium scale wind power development where the landform can minimise intrusion and cultural history provides an appropriate context.			
I: lowland River Valleys	The aim of the development strategy is to conserve the distinctiveness and small pastoral and woodland landscapes of the river valleys. This landscape character type is not suitable for wind farms. Part is within the Ayr Greenbelt			
J: Upland River Valleys	The aim of the development strategy is to maintain the contrast between the valleys and surrounding uplands, to address issues associated with industrial decline and mineral working, and to maintain each of the valleys' distinctive character.			
K:Lower Dale	The aim of the development strategy is to conserve the relatively open, arable landscape of the lower dale, maintaining contrasts with the neighbouring middle dale, upland and coastal landscapes.			
L:Middle Dale	The overall aim of the development strategy is to conserve and reinforce the woodland character of this pastoral valley, retaining contrasts with exposed uplands and with the lower, more open sections of the dale. Policy and other broadleaf woodlands are central to this character. The combination of landscape elements, particularly the presence of castles and policy landscapes give the middle dale a rich historic character. This would be sensitive to the development of wind turbines. The visual impact on this character type of development on surrounding upland areas should be assessed.			
M: Intimate Pastoral Valleys	The overall aim of the development strategy is to conserve the small scale, pastoral character of these valleys and to maintain the contrast with surrounding uplands. Maintaining the balance of broadleaf woodland and pastures should be a key objective. There may be opportunities to develop wind power within the surrounding uplands, the visual impact upon the intimate valley landscape should be considered carefully .Wind power developments should be located away from the valley sides			

N: Upland Glen	The aim of the development strategy is to conserve the distinctive upland character of these glens, minimising the impact of development on land uses such as forestry. The intimate scale and distinctive undeveloped character mean that wind farm development located either within or visible from these glens would have a significant influence on landscape character and should therefore be discouraged.			
O: Upland Basin	The aim of the development strategy is to enhance the semi-upland character of the basin and to address the effects of past or present industrial activity. Although enclosed by rising hills to the east, west and south, it is possible that the open and exposed nature of this basin would make small –scale wind energy schemes viable, particularly if linked to local use. This however would need to take account of cumulative impacts associated with the existing wind farms. Tall structures in this landscape would be very visible. There may be opportunities for small scale wind energy schemes linked to local energy needs.			
P: Lowland Hills	Some limited potential for small scale wind power development which would not compromise the rural character			
Q;Foothills	The aim of the development plan strategy is to retain the foothills transitional character which is a product of variations in land cover, and the contrast with neighbouring lowlands, valleys and higher uplands.			
Q: Foothills (b) with forestry	Large parts of the foothills with forestry have potential for wind power development. Wind farm development will be encouraged to locate with in the forested areas. Proposals will be encouraged to locate away from skylines. Medium scale wind farms will be suitable in areas where the landform can minimise intrusion. Siting of wind towers should attempt to use adjacent forested landscapes to aid screening and back clothing. Wind farms may be appropriate in open ground, ideally utilising existing roads. All schemes should be subject to thorough landscape and visual assessment at the design stage.			

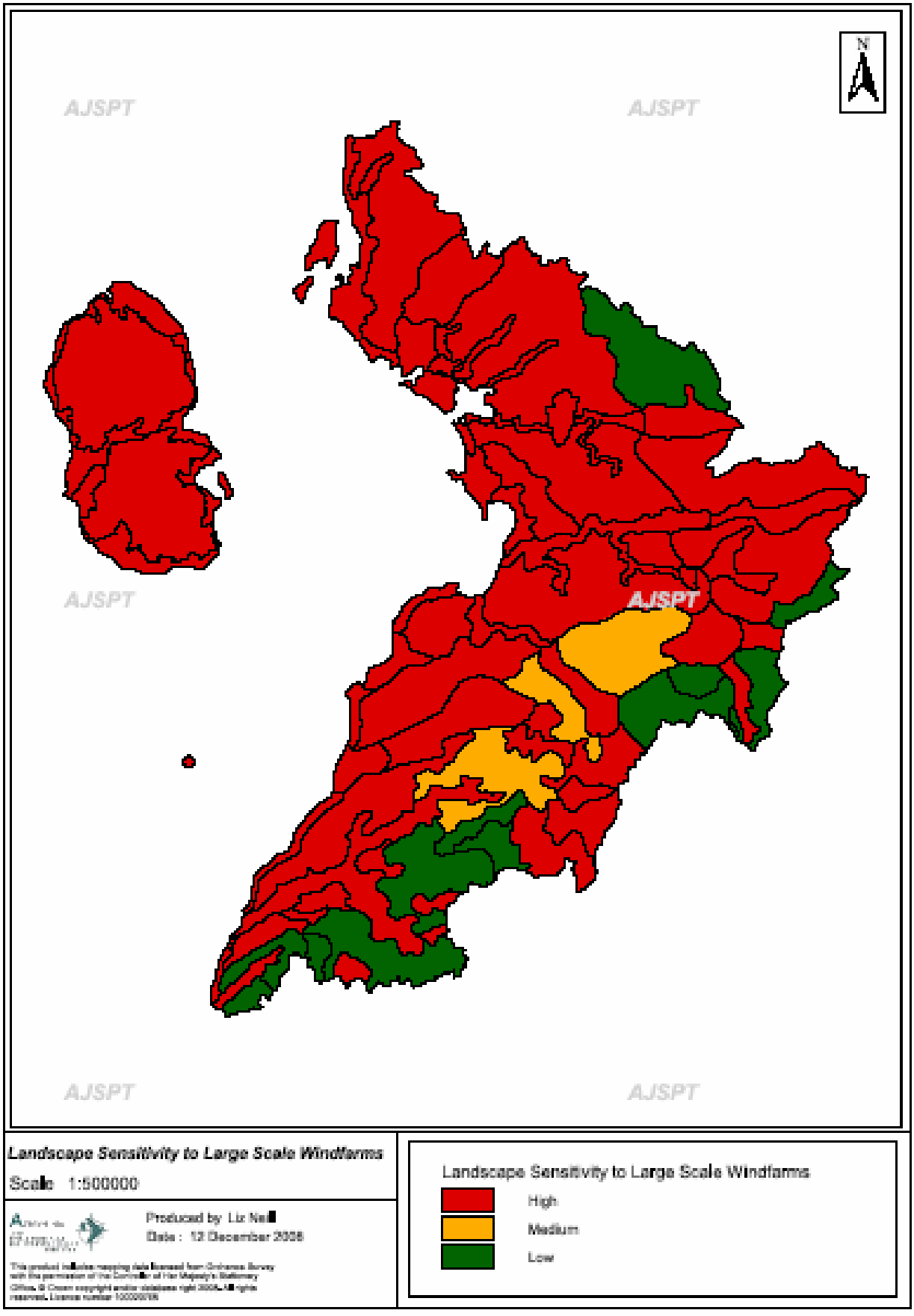
R: Plateau Moorlands	The aim of the development strategy is to conserve the open and largely undeveloped character of these moorland hills. Large parts of the plateau moorland have potential for wind power development; although this is a large scale landscape development within the unforested parts of the landscape would conflict with the untamed nature of the moorlands. It is a simple landscape dominated by horizontal elements. Modern wind infrastructure would contrast with this character, introducing vertical elements, movement and modern structures. It is likely such development will be visible over considerable distances, raising concerns about cumulative impact. Wind farm development will be encouraged to locate with in the plateau moorland (B)with forest (see below)			
R: Plateau Moorlands (b) with Forestry	Large parts of the plateau moorlands with forestry have potential for wind power development. Proposals will be encouraged to locate away from skylines. Large/Medium scale wind farms will be suitable in areas where the landform can minimise intrusion. Siting of wind towers should attempt to use adjacent forested landscapes to aid screening and back clothing. . Wind farms may be appropriate in open ground, ideally utilising existing roads. All schemes should be subject to thorough landscape and visual assessment at the design stage. The cumulative and sequential effects of wind farm developments in the plateau moorlands should be taken into account. Small scale wind developments, designed specifically for local needs, may be appropriate in more remote parts of the moorlands.			
S: Rugged Moorland Hills and valleys (a) North Ayrshire Hills	The aim of the development strategy is to conserve the untamed nature of the moorland landscape and to emphasise contrasts with surrounding lowlands. Whilst there are opportunities to develop wind farms in this landscape character type, there are likely to be significant local effects as well as broader implications for the sensitive landscapes nearby, particularly where important skylines and seascapes are affected. Small scale wind turbines could provide a means of supporting farming communities in some of the more remote parts of the hills. Medium scale wind power development may be suitable in areas where landform can minimise intrusion. The siting of turbines should use adjacent forested landscapes to aid screening and back clothing.			

S: Rugged Moorland Hills and valleys (b) South Arran Hills	The aim of the development strategy is to conserve the untamed nature of the moorland landscape and to emphasise contrasts with surrounding lowlands. Whilst there are opportunities to develop wind farms in this landscape character type, there are likely to be significant local effects as well as broader implications for the sensitive landscapes nearby, particularly where important skylines and seascapes are affected. Small scale wind turbines could provide a means of supporting farming communities in some of the more remote parts of the hills.			
T:Southern Uplands & Southern Uplands with Forestry	The aim of the development strategy is to conserve, and where appropriate, restore the character of the southern uplands landscape, promoting more natural patterns of land cover and reducing the visual impact of extensive areas of forestry. Large parts of the southern uplands have potential for wind power development. Wind farm development will be steered to those parts of the southern uplands already affected by forestry or other developments. More sensitive sites should be avoided. Medium scale wind power development may be suitable in areas where landform can minimise intrusion. The siting of turbines should use adjacent forested landscapes to aid screening and back clothing. Development should be located away from key skylines and valleys.			
U:Rugged Granitic Upland	The aim of the development strategy is to conserve and emphasise the dramatic and untamed upland landscape character of these granite uplands. Wind farm development in this landscape type would be inappropriate given the sensitivity of the landscape.			
V: Rocky Volcanic Islands	While there may be opportunities for small scale development the overall aim of the development strategy is to maintain the distinctive appearance and profile of the islands, recognising both the importance of local landscape and their wider role as landmarks in the Firth of Clyde. The islands of Holy Island and Ailsa Craig are prominent and sensitive locations for development.			

Sensitivity

High
Medium
Low

- Large wind farm developments of more than 20 MW of generating capacity
- Medium wind farm developments of 3-7 turbines with a generating capacity less than 20MW
- Small wind farm single or twin turbine developments which supply local needs and which require relatively small turbines (see 4.72 Ayrshire Landscape Assessment Final Report 1998).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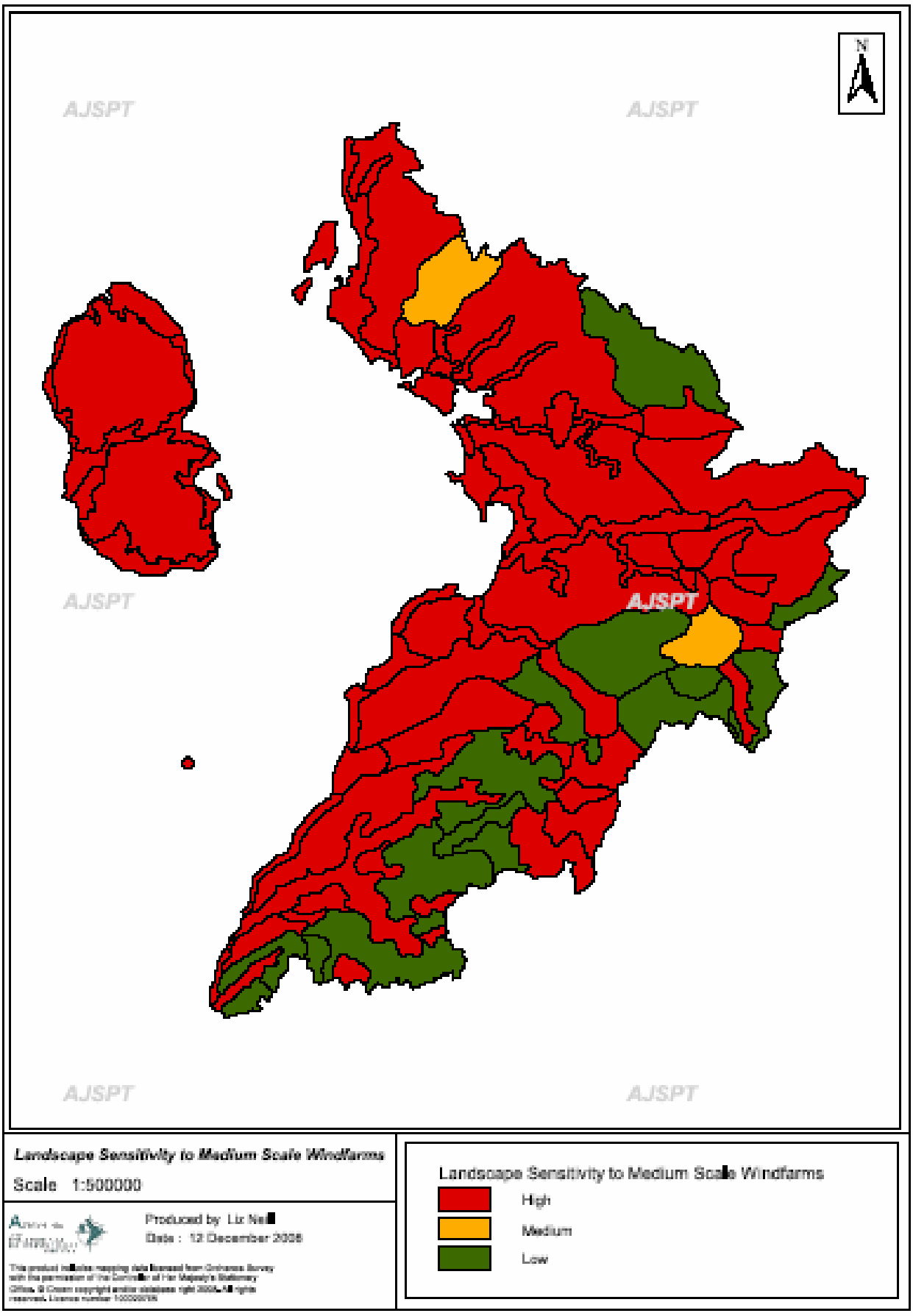
Landscape Sensitivity to Large Scale Windfarms
Scale 1:500000
Produced by Liz Neil
Date : 12 December 2008
Landscape Sensitivity to Large Scale Windfarms
High
Medium
Low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Landscape Sensitivity to Medium Scale Windfarms
Scale 1:500000
Produced by Liz Neil
Date : 12 December 2008
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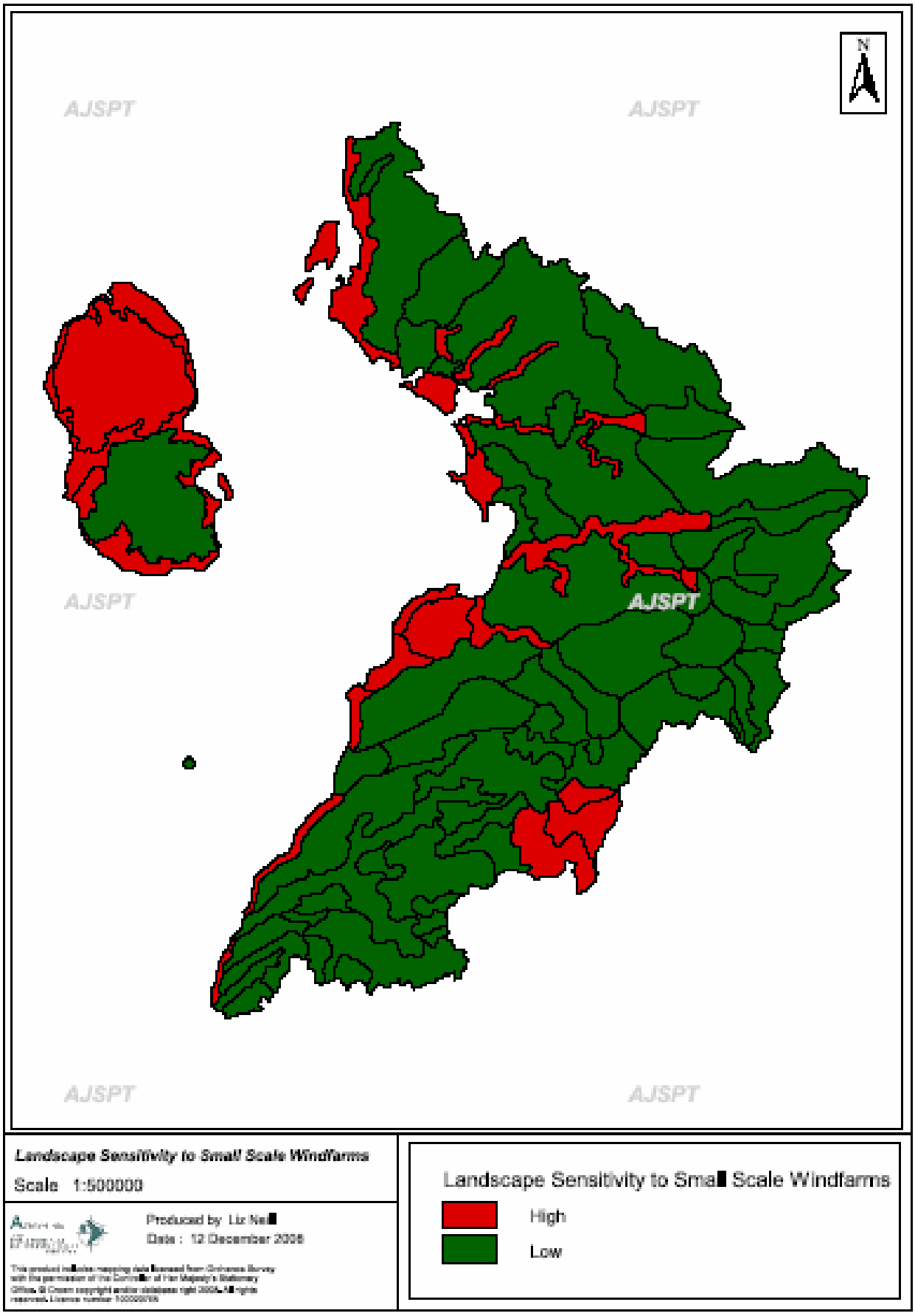
Landscape Sensitivity to Medium Scale Windfarms
High
Medium
Low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AJSPT
Landscape Sensitivity to Small Scale Windfarms
Scale 1:500000
Produced by Liz Neil
Date : 12 December 2008
Landscape Sensitivity to Small Scale Windfarms
High
Low

APPENDIX 2

SENSITIVE LANDSCAPE CHARACTER DESIGNATION - Safeguarded Interests

Landscape Character Type	Landscape as a Resource	Scenic Quality	Unspoilt Character	Sense of Place	Conservation Interest	Consensus	Overall Assessment
1. Raised Beach Coast	High	High	Medium	High	High	High	***High***
2. Lowland Coast (1)	High	High	Low	High	High	High	***High***
3. Lowland Coast (2)	Medium	Low	Low	High	Medium	Medium	***Medium***
4. Lowland Coast(3)	High	High	Medium	High	Medium	High	***High***
5. Coastal Fringe & Agriculture	High	High	High	High	Medium	High	***High***
6. Coastal Fringe & Agriculture (1)	Low	High	Low	High	Medium	Medium	***Medium***
7. Coastal Headland	High	High	High	High	Medium	High	***High***
8. Coastal Valley with Policies	High	High	High	High	Medium	High	***High***
9. Coastal Lowland Moor	High	Medium/ High	High	High	High	High	***High***
10. Ayrshire Lowlands	High	Medium	Medium /High	Medium	Low/Medium	Low/ Medium	***Medium***
11. Broad Valley Lowland	High	Medium	Medium	High	Medium	Low	***Medium***
12. Lowland River Valley	Medium	High	High	High	High	Medium	***High (Except R. Irvine beyond Kilmarnock, Medium)***
13. Upland River Valley	Medium /High	Medium /High	Low	High	High	High	***High (Except Part of R. Ayr, Medium)***
14. Lower Dale	High	High	High	High	High	High	***High***
15. Upper Dale	High	High	High	High	High	High	***High***
16. Intimate Pastoral Valley	High	High	High	High	Medium/High	High	***High***
17. Upland Glen	High	High	Medium /High	High	Medium	Medium /High	***High***
18. Upland Basin	Low	Low	Low	Low	Low	Low	***Low***
19. Lowland Hills	Medium /High	Medium/ High	Medium	High	Medium	Low	***Medium***

APPENDIX 2 Cntd

SENSITIVE LANDSCAPE CHARACTER DESIGNATION - Safeguarded Interests

Landscape Character Type	Landscape as a Resource	Scenic Quality	Unspoilt Character	Sense of Place	Conservation Interest	Consensus	Overall Assessment
20. Foothills	Medium	Medium/ High	Medium/ High	Medium	High	High	***High (Between Girvan & Stinchar Valleys, &Loch Doon)*** **Medium** ***(Around Maybole & Dalmellington)***
21. Foothills (with Forestry)	Low/ Medium	Low/ Medium	Low	Low	Medium	Medium/ High	***Medium***
22. Plateau Moorlands	High	Medium/ High	High	Medium	High	Low	***Medium (areas in SW) High (Eastern Sections)***
23. Plateau Moorlands (with Forestry)	Low/ Medium	Low/ Medium	Low	Low	Low	Low	***Low***
24. Rugged Moorland Hills & Valleys	High	High	High	High	Medium	High	***High***
25. Rugged Moorland Hills & Valleys (with Forestry)	Medium	Medium	Low/ Medium	Medium	High	Medium	***Medium***
26. Southern Uplands	High	High	High	Medium	Low	Low	***High (in all areas except adjacent to Carrick Forest - Medium)***
27. Southern Uplands (with Forestry)	Low	Medium/Low	Medium	Low	Low	Medium	***Low (western areas) Medium (eastern area)***
28. Rugged Granitic Upland	High	High	High	High	High	High	***High***
29. Rugged Granitic Upland (with Forestry)	Medium/ High	High	Medium/ High	Medium	Medium/ High	High	***High***
29. Rocky Volcanic Island	High	High	Medium/ High	Medium	High	High	***High***