Kenly Wind Farm
Introduction

• Purpose of the Presentation

• Scope of Supplementary Studies Undertaken

• Landscape and Visual Impacts on St Andrews
  ▪ Impacts on Views to the Skyline of St Andrews
  ▪ Impact on the Setting of St Andrews
  ▪ Impact on Views and Visual Amenity of Residents and Visitors to St Andrews

• Conclusion
• Present the Scope of the additional works undertaken by the University since the submission of the Planning Application

• Discuss the concerns raised within SNH’s letter to Fife Council, dated 7\(^{th}\) September 2011

• Present conclusion of additional Studies

• Seek clarification on the issues raised within SNH’s letter to Fife Council, dated 7\(^{th}\) September 2011
Key Considerations in developing the Wind Farm Layouts

• The layout of the wind farm is of a simple, geometric composition closely related in layout to the detailed ‘grain’ of the landscape from key viewpoints (West Sands, Boarhills and Kingsbarns);

• The wind farm constitutes a pleasing, balanced and coherent appearance from key viewpoints in terms of visual composition and arrangement;

• position turbine locations close to field boundaries to minimise impacts on the agricultural operation of the land holding; and

• Detailed constraints mapping was undertaken for the site, which included ecological, cultural heritage and various technical constraints. This limited the area available for the location of turbines
The following alternative design layouts and wind turbine configurations were considered:

<table>
<thead>
<tr>
<th>Layout</th>
<th>WTG Type</th>
<th>Hub Height (m)</th>
<th>Base to Tip (m)</th>
<th>Nr of Turbines</th>
<th>Site Installed Capacity (MW)</th>
<th>Capacity Factor*</th>
<th>Average Output (MW)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Enercon E33</td>
<td>44.3</td>
<td>61</td>
<td>30</td>
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<td>Vestas V52</td>
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<td>5</td>
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<td>REpower MM82</td>
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<td>Vestas V90</td>
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</table>
Detailed Constraints Mapping
Kenly Wind Farm

Scope of Supplementary Studies

Current Application Layout

Kenly Windfarm Mitigation Report
Current Application Layout
(6 x 100m turbines)

- Current Application Layout
- Current Application Layout Ellipse
- Site Boundary

Scale 1:10 000
Alternative Layout 1
Alternative Layout 2
Kenly Wind Farm

Scope of Supplementary Studies

Alternative Layout 3

Kenly Windfarm Mitigation Report
Alternative Layout 3
(6 x 80m turbines)

Alternative Layout 3 Turbines Ellipses
Site Boundary

Scale 1:10 000

University of St Andrews
Kenly Wind Farm

Scope of Supplementary Studies

Alternative Layout 4

Kenly Windfarm Mitigation Report
Alternative Layout 4
(4 x 125m turbines)

Alternative Layout 4 Ellipse

Scale 1:10 000
Alternative Layout 5 – PREFERRED ALTERNATIVE OPTION
Photowireline Images

• Photowireline images comprise of a computer generated wireline image of the wind farm layout overlaid onto a base photo from the selected viewpoint.

• In relation to Viewpoint 1 West Sands, it should be recognised that the wireline overlay shows the proposed turbines as they would appear above the bare ground level skyline, i.e. without the screening influence of the woodland blocks located along the skyline profile.

• Consequently, the extent of turbines represented within the wireline overlay does not directly relate to what would actually be seen at the VP – only the sections of turbines which appear above the wooded skyline would actually be visible from VP 1.

• This effect is shown in the photomontage images presented for the current application layout and alternative layout 5, where the influence of the intervening tree belts on partially screening sections of the turbines has been modeled to accurately represent the extent of turbines which would be actually visible.
Visibility of the Turbines – **Views enlarged by 500%**

Viewpoint 1 – West Sands
Visibility of the Turbines

Viewpoint 2 – Boarhills

Current Application Layout (6 x 100m turbines)

Alternative Layout 5 (6 x 100m turbines)
Kenly Wind Farm

Visibility of the Turbines

Viewpoint 3 – Kingsbarns
Visibility of the Turbines – **Photomontage**

![Current Application Layout Photomontage](image1)

![Alternative layout Photomontage](image2)
Visibility of the Turbines – **Photomontage enlarged by 500%**
Impacts on Views to the Skyline of St Andrews

Impact Upon the Medieval Skyline

• All comments should be based upon the recent Fife Council, St Andrews Conservation Area Appraisal & Management Plan, 2010, where Direct reference to important medieval skyline views in this document are those from the east looking westwards:

Extract from Page 31*
3.10 Views

“The skyline of St. Andrews is visible from a considerable distance outside the town, and makes a strong initial impression. The various church steeples and St. Rule’s Tower are the most prominent features on the skyline. As noted above, the 17th century view from the Kinkell Braes in John Slezer’s print remains essentially unchanged.”

*Text in blue has been extracted from the Fife Council, St Andrews Conservation Area Appraisal & Management Plan, 2010
Impacts on Views to the Skyline of St Andrews

Impact Upon the Medieval Skyline

Extract from Page 36*
Character area
19th Century areas

“These areas lie to the furthest north-west, west and south of the St. Andrews Conservation Area and are dominated by a larger-scale of building. Baroque, Scots Baronial and Gothic designs are evident, with features such as bay and oriel windows, turrets and crenellations.”
Impacts on Views to the Skyline of St Andrews

**Impact Upon the Medieval Skyline – View from South East**

This view provides a photographic snapshot of the John Slezer print of the 1600’s.
Impacts on Views to the Skyline of St Andrews

Impact Upon the Medieval Skyline – View from West (VP 13 - Strathkinness)
Impacts on Views to the Skyline of St Andrews

Impact Upon the Medieval Skyline – View from South West
In respect of the medieval skyline viewed from the West Sands, the only medieval building that is visible on the skyline from Viewpoint 1 is the tower of St Salvators – all other medieval buildings are below the skyline. It is difficult to distinguish the castle from the background at all from this viewpoint.
Impacts on Views to the Skyline of St Andrews

Impact Upon the Medieval Skyline

• The contribution of the medieval element to the view from the West Sands is relatively subservient to the principal view of the 19th century character area in the foreground and the Southern Hillside in the background.

• This viewpoint differs from key views of the town from the east and southeast and from the southwest (Strathkinness) where the association of St Rules, the cathedral and St Salvator’s tower can be argued to constitute a medieval skyline. These key viewpoints of the town’s historic skyline from the east, southeast, west and southwest views are specifically referred to in the Conservation Area Appraisal (page 31, 3.10) and the Adopted Local Plan (Section 10.1.5). The turbines are not visible in any of these identified important views.
Impacts on Views to the Skyline of St Andrews

The UNESCO World Heritage - Status Bid, March 2011 - Opinion

• The applicant considers that this aspect is important in the context of Viewpoint 1 as it helps establish the status of the medieval burgh in this context.

• The report issued in response to the town of St Andrews’ bid for World Heritage Status is therefore considered relevant to the relative value of the town’s cultural heritage status.

The report that outlines the decision of the panel, entitled, “The United Kingdom’s World Heritage, Review of the Tentative List of the United Kingdom of Great Britain and Northern Ireland”, dated March 2011, disagreed with the bid claims and in fact determined that the “Medieval Burgh and Links (Home of Golf) did not have the potential to demonstrate (Outstanding Universal Value) OUV and recommended that St Andrews – Medieval Burgh and Links (Home of Golf) was excluded from the Tentative List and any further consideration for Worlds Heritage Status.
Impacts on Setting of St Andrews

Impact Upon St Andrews Historic Core

- Looking from the West Sands, the turbines are never visible in direct relation to the historic fabric of the town. They are to the left of this view and a physically separate feature in the landscape.
Impact on Views and Visual Amenity of Residents and Visitors to St Andrews

Historic Scotland

Following Historic Scotland’s Scoping Opinion, received on the 22nd October 2012, the Applicant ensured that the Environmental Statement assessed the noted concerns.

Based upon the submitted Environmental Statement Historic Scotland's assessed the assets within their Statutory Remit for scheduled monuments and their setting, Category A Listed Buildings and their setting and gardens and designed landscapes appearing in the Inventory, Historic Scotland confirmed they had no objection to the proposed development.
Impact on Views and Visual Amenity of Residents and Visitors to St Andrews

R& A and the Links Trust – Current View from the 1st Tee (Michelin Turbines)
Kenly Wind Farm

Landscape and Visual Impacts on St Andrews

Impact on Views and Visual Amenity of Residents and Visitors to St Andrews

R&A and the Links Trust – View from the 8th Tee (Kenly Wind Farm)
Impact on Views and Visual Amenity of Residents and Visitors to St Andrews

R&A and the Links Trust – View from the 14th Tee (Kenly Wind Farm)
Impact on Views and Visual Amenity of Residents and Visitors to St Andrews

**Gleneagles – Kings Course**
(2 blades a 1 hub visible on RHS Skyline)

**Machrinishanish Golf Course**
The Tangy Windfarm, comprising 15 turbines at 75m high, is visible from most of the course,

**Turnberry – Ailsa Course**
(Around 9 turbines are almost fully visible, with around 15 blade tips visible above the skyline)
Landscape and Visual Impacts on St Andrews

Impact on Views and Visual Amenity of Residents and Visitors to St Andrews

Turbine Visibility – Influence of Meteorological Conditions

Images both taken minutes apart at 11am on Wednesday 16th May 2012

View looking North
Landscape and Visual Impacts on St Andrews

Impact on Views and Visual Amenity of Residents and Visitors to St Andrews

Turbine Visibility – Influence of Meteorological Conditions

Kenly Farm 50m Mast September 2009 Wind Data
Kenly Farm 50m Mast October 2010 Wind Data
Kenly Farm 50m Mast December 2011 Wind Data
Kenly Farm 50m Mast March 2012 Wind Data
Impact on Views and Visual Amenity of Residents and Visitors to St Andrews

Turbine Visibility – Influence of Meteorological Conditions – Effect on Kenly Wind Farm

• From the wind data collected since 2009 it is demonstrated by the Wind Frequency Rose charts that the prevailing wind direction at the proposed development site is South Westerly.

• For each Viewpoint the Photomontages, wirelines and photowirelines have been prepared to illustrate the “worst case scenario”, i.e. wind turbines face the viewpoint.

• In reality, using the empirical wind data, from VP 1 [West Sands] for the majority of time the turbines would be viewed in profile, i.e. side on. This would vastly reduce their visibility from VP1 as demonstrated within the previous slide of the Michelin Factory Turbines in Dundee.
Cultural Heritage

• Following the concern raised by SNH in their letter of the 7th September 2011 the Cultural Heritage Assessor agrees that that the St Andrew’s medieval skyline makes an extremely important contribution to the character of St Andrews but only when viewed from the east. A view which should be protected.

• When viewed from the west (Viewpoint 1) it is the 19th century development that forms the character of the west part of the conservation area and it is views of this 19th century character area that are dominant from the West Sands, not a medieval skyline.

• Therefore in conclusion we do not feel that the proposed development impacts upon the medieval skyline when viewed from Viewpoint 1 [West Sands]. Additionally, the turbines are physically separated in the landscape from the town when viewed from the West Sands.
Landscape and Visual Issues

• Whilst the alternative layout (Layout 5) achieves visual benefits in relation to the visibility of turbines from VP 1 West Sands, it results in poorer visual compositions of turbines when seen from the local communities of Boarhills and Kingsbarns.

• In the balance of considerations required to be made in determining the most appropriate layout for the wind farm, considerable importance has been placed on the view from these communities, where the proposed wind farm would form a new prominent local feature within views from these settlements.

• Consequently, it is considered that Layout 5 does not achieve such substantial visual benefits at VP1 to offset the clear reduction in visual appearance that would result at the Boarhills and Kingsbarns viewpoints, and therefore does not strike an appropriate balance of considerations.
Landscape and Visual Issues

- Based upon the additional work undertaken and presented by the Applicant it is for the Local Authority, in liaison with Statutory Consultees, to decide which option addresses the issues outlined within their letter of the 26\textsuperscript{th} October 2011.