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Planning for Sustainability Planning for Sustainability
in the Highlands in the Highlands

UNA LEE

Sustainable Development Officer

The Highland Council

Designing for Sustainability in the Highlands

Development Plan Policy Guidance

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Abundant resource

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Wind and Hydro

Activity

September 2005

Klondyke scenario

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Outdated

development

framework

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Recognition of

the need for

cleaner forms of

energy with

minimal CO₂

emissions

The need to

integrate renewables

within the existing

energy framework

Balance between

social, economic

and environmental

interests

Recognition of

energy poverty and

the aim of

eradicating it

The importance of

protecting biodiversity,

including rare and

endangered habitats and species
The importance of local involvement in any renewables industry and the retention of associated wealth

Retention of the regional diversity, scenic qualities and local distinctiveness of landscapes

The need for energy efficiency, based on cleaner energy

The aim of maximising employment and income

Utilisation of the valuable, high calibre energy resources available in

Highland
The aspiration for viable energy self sufficiency, with a reliable supply

Highland vision for

renewables

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Source MW 2005 2010 2020 2050

Hydro 300 350 500 500

Ons.Wind 200 1000 2000 3500

Biomass - 50 200 1000

Off.Wind - 10 1000 3000

Wave - - - 2000

Tidal - 10 500 3000

Local/micro <5 60 600 1900

Renewables Targets

800 1400 2900

1975

400

500

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Prospective

development

zones:

Major

on-shore

wind schemes

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Designing for Sustainability

in the

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DEVELOPMENT PLAN POLICY GUIDANCE

REVISED NOVEMBER 2005

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Proposed developments will be assessed on the extent to which they:

- *are accessible by public transport*
- *maximise energy efficiency.....*
- *make use of brownfield sites.....*
- *impact on non-renewable resources*
- *are affected by significant risk from natural hazards including flooding, coastal erosion.....*
- *contribute to the economic and social development of the community.....*

POLICY G2, *Design for Sustainability*

The Highland Structure Plan (2001)

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“We will judge development proposals against a *Design for Sustainability Statement* which developers will need to put forward with their planning applications.....”

POLICY 4.1 *Design for Sustainability*

Wester Ross Local Plan (Draft) 2004

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City of City of

Lincoln Council Lincoln Council

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NINE GUIDANCE NOTES

- 1. Enhance the Highlands’ Economy and Communities**
- 2. Make Best Use of the Site**
- 3. Design within the Highland Context**
- 4. Conserve and Enhance Highland Biodiversity**
- 5. Minimise Energy Use**
- 6. Design to Conserve Water**

7. Design in Sustainable Waste and Sewage Facilities

8. Use Sustainable Materials

9. Encourage Sustainable Transport Choices

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5 Minimise Energy Use

Proposed developments will be assessed on the extent to which they maximise energy efficiency in terms of location, layout and design, including the utilisation of renewable sources of energy.

The Highland Structure Plan (2001)

1. Use passive solar techniques

2. Insulate well

3. Use efficient heat, lighting and ventilation systems

4. Make control systems easy to use

5. Consider alternative energy sources

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Insulate roofs, walls and floors well beyond levels that exceed those set out in the Building Standards.

Choose insulation materials that are natural (e.g. wool) or recycled (e.g. made from recycled newspaper). [Chapter 8 Use sustainable materials](#)

Where practical, install insulation on the outside of dense building materials (thermal mass) to maximise the potential for using the heat they can store.

Construct the building for low air infiltration, ensuring that windows and doors are well fitted to cut draughts.

Insulate Well

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Best Practice Examples

National Trust for Scotland Visitor Centre, Glencoe

Glencoe Visitor Centre was designed and constructed to have minimal negative impact on biodiversity:

The timber frame buildings are supported on a raised steel frame substructure on concrete pad foundations to avoid the need for strip foundations, thereby minimising disturbance to the ground below.

'No go' areas were established during the construction phase to prevent building activity, storage and traffic from harming nearby wildlife, plants and habitats

The site has a wastewater management system designed to support and enhance biodiversity.

Other sustainable design features include the use of locally sourced woodfuel for heating. Fuel consumption is minimised

by high levels of insulation and energy efficiency standards. All timber used in the construction of the building is home grown and free of preservative treatment. This includes softwood for the timber frame and exterior cladding, oak for windows and doors and sycamore for flooring. Windows and doors were manufactured in the Highlands.

Architects: Gaia Architects

Completed: May 2002.

© Gaia Architects

New house near Beauly, Inverness

The simple one-and-a-half storey house matches the form and scale of many traditional Highland houses. Located close to the road that runs along one edge the site, its position is also in keeping with the adjacent settlement pattern.

Other sustainable design features include the use of natural materials, such as homegrown external timber cladding. High levels of insulation and the use of passive solar gain make it possible to meet all heating needs with a small wood-burning stove.

Architects: Simpson and Brown Architects

Completed: Spring 2002

© *Simpson & Brown Architects*

Millennium Village Hall, Ardross

The heating and hot water demands of this new village hall at Ardross in Ross & Cromarty are met by a combination of solar panels on the roof and an energy efficient condensing gas boiler, incorporating an innovative three-column heat exchanger. The solar panels serve both hot water and space heating through underfloor heating coils. This keeps energy costs to a minimum while ensuring that the building is warm enough to use at all times.

Architect: David Somerville

Completed: 2001

© *David Somerville*

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[Design in sustainable waste and sewage facilities](#)

[SQUORMS - Highland Grain Ltd](#)

- **Wormery composting waste dust**
- **Commercial worm suppliers**

The Highland Council Enhance the Highlands' Economy and Communities

Urquhart Castle Visitor Centre

- **Liaison group set up with local community**
- **Catering run by consortium of local businesses**

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NTS Glencoe Visitor Centre

- **Strip foundations avoided**
- **“No-go” areas declared during construction**
- **Wetland-based waste water management system**

Conserve and enhance the biodiversity of the Highlands

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Gusto Homes - Nottinghamshire

The Highland Council Minimise Energy Use

Ardross Village Hall

- **Solar water heating**
- **Significantly lower energy costs**
- **Passive solar design**
- **High insulation levels**
- **Heat exchanger**

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SUSTAINABLE DESIGN STATEMENT CHECKLIST

Design within the Highland context

- **Describe any site-specific hazards such as flooding, exposure, subsidence etc and show how the design will address them**

2.1, 2.5,

3.4

Energy and Building Systems

Show how the design of the development will minimise energy consumption

5.2,5.3,

5.4

Identify what the development's main energy source(s) will be 5.1,5.5

Describe how systems will be designed to ensure a healthy

indoor environment

5.3

Design to Conserve Water

Show how water use will be minimised 6.1,6.2

• **Identify the type of surface water drainage system proposed and how this will be designed to reduce flood risk and avoid pollution**

2.4,6.3

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“The scope of statements will vary according to the nature and scale of development. For most planning applications it will consist of a **short written description supported by appropriate illustrations**. As a general guide, planning applicants are expected to present the following information:

- Background Information
- Appraisal of the site and context
- Description of the sustainable design solution”

The Highland Council STRATEGY FOR MAINSTREAMING SUSTAINABLE DESIGN STATEMENTS

2. 2. Tackle the learning curve Tackle the learning curve
3. 3. Establish a test bed a test bed
1. 1. Seek early, easy wins Seek early, easy wins
4. 4. Limit requirement to Limit requirement to “major major” development development
5. 5. Guarantee a level playing field Guarantee a level playing field

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The Highland Council A SCORING SYSTEM?

SURVEY OF SUSTAINABLE DESIGN PRIORITIES: SURVEY OF SUSTAINABLE DESIGN PRIORITIES:

1. 1. Improving the way sites are selected, Improving the way sites are selected, developed and used developed and used
2. 2. Minimising energy use Minimising energy use
3. 3. Making best use of resources Making best use of resources

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What impact will all this have on the appearance of Highland buildings?