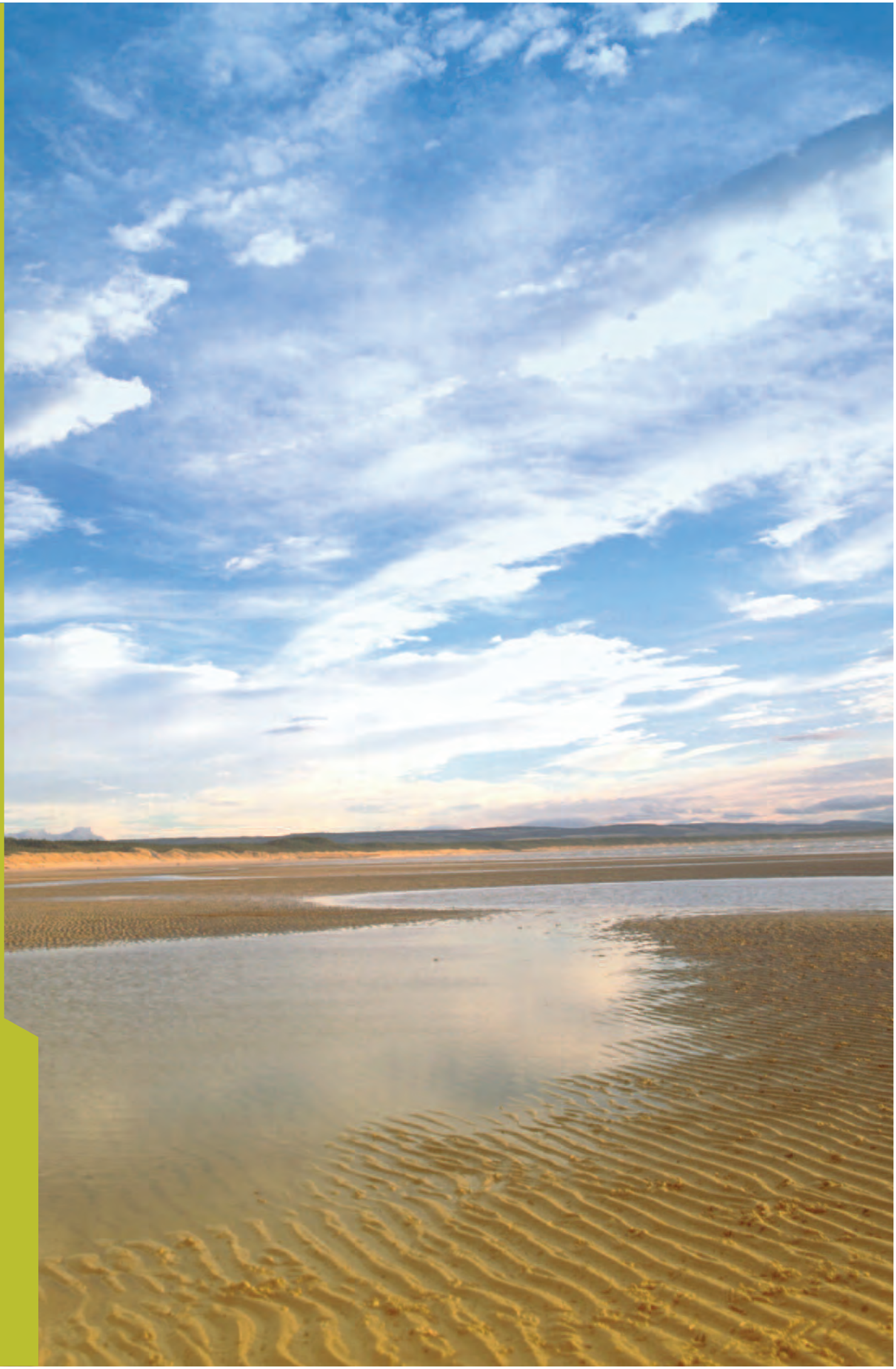
SUPPLEMENTARY GUIDANCE

CLIMATE CHANGE

MORAY LOCAL DEVELOPMENT PLAN



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Introduction

The Climate Change (Scotland) Act 2009 introduced ambitious targets to reduce Scotland's greenhouse gas emissions by at least 80% by 2050 with an interim target of a 42% reduction by 2020. Achieving these targets requires action to adapt the built environment, to reduce energy and other resource requirements, to reduce the need to travel and to provide for and promote active travel and travel by public transport. New development should also be planned around maximising the opportunities to harness renewable energy on a local and community scale.

Role and Purpose of Document

Scottish Planning Policy (SPP) identifies the important role planning has in supporting the achievement of sustainable development through its influence on location, layout and design of new development.

PP2 – Climate Change

In order to contribute to reducing greenhouse gas emissions, developments of 10 or more houses and buildings in excess of 500 sq m should address the following:

- Be in sustainable locations that make efficient use of land and infrastructure,
- Optimise accessibility to active travel options and public transport,
- Create quality open spaces, landscaped areas and green wedges that are well connected,
- Utilise sustainable construction techniques and materials and encourage energy efficiency through the orientation and design of buildings,
- Where practical install low and zero carbon generating technologies,
- Prevent further development that would be at risk of flooding or coastal erosion,
- Where practical, meet heat and energy requirements through decentralised and local renewable or low carbon sources of heat and power,
- Minimise disturbance to carbon rich soils and in cases where it is agreed that trees can be felled, incorporate compensatory tree planting.

Proposals must be supported by a Sustainability Statement that sets out how the above objectives have been addressed within the development.

How to Use this Document

The main aim of this document is to support the transition to a low carbon future by reducing greenhouse gas emissions, using resources efficiently and securing development that is resilient to the impacts of climate change. Developers are required to demonstrate through a sustainability statement how their development has been designed to reduce greenhouse gas emissions and adapt to the impacts of climate change.

This guidance provides an overview of the main issues that need to be taken into consideration. A sustainability statement template can be found in Appendix 3 which sets out requirements and two examples have been prepared showing the level of information needed. The level of detail required will be commensurate to the scale of the development with modest small scale development providing basic information and large scale development providing more detailed analysis of how sustainability has been embedded into the development.

It is expected that a sustainability statement will be provided at the time of submission of any planning application. The sustainability requirements set out in this guidance should have been taken into account in the early design stage of the development. Proposals that do not demonstrate compliance with this guidance may be REFUSED planning permission.

Site Layout and Design

The Moray Local Development Plan has set a spatial strategy that seeks to direct development to existing settlements in Elgin, Forres, Buckie, Keith and Lossiemouth as the main development areas. This is seen as the most sustainable model, supporting growth in key centres and reducing the need to travel to work, school, shops and services. It is a priority that local people live in an attractive, natural and built environment that is enhanced for future generations. The promotion of higher density development in Moray's first tier settlements can and make better use of available land and infrastructure while providing better quality residential areas.

This approach should be accompanied by good design to avoid over development and instead promote high design standards and provision of quality, well connected open space. The Council will promote the creation of landscape frameworks and masterplans and the inclusion of landscape at the earliest stages of planning and development feasibility. Densities should be varied to take account of local conditions, site characteristics and tenure of development. Where possible brownfield sites should be developed in preference to greenfield sites. The development of brownfield land is more sustainable as it reduces demand for greenfield land, enhances the viability of public transport and maximises the use of existing infrastructure.

What to aim for

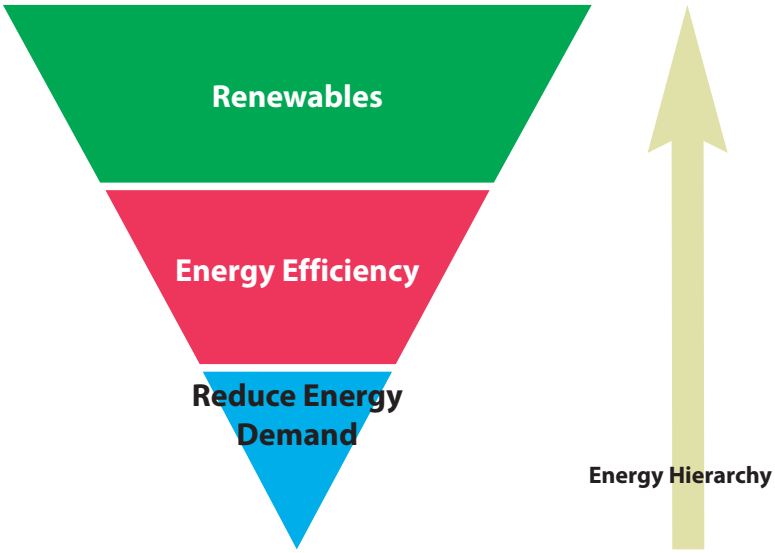
- Development of brownfield sites
- Proximity to services and employment
- Connectivity to public transport network
- Creation of quality open spaces
- Appropriate density levels to make efficient use of land while reflecting site conditions

Sources of further information

Creating Places www.scotland.gov.uk/Resource/0042/00425496.pdf

Architecture and Design Scotland www.ads.org.uk/sust

Energy Efficiency and Renewables

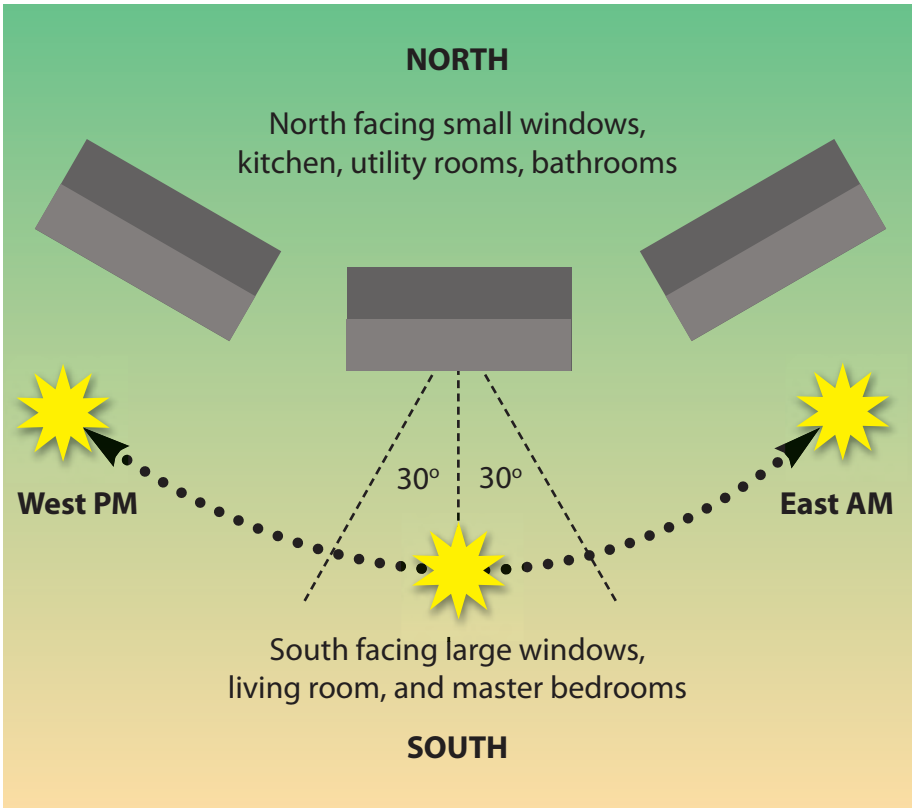


All developments should be designed in accordance with the energy hierarchy. Reducing energy demand is a priority followed by energy efficiency measures and then the use of renewable technologies. The most cost effective ways to minimise energy demand are through good design, high levels of insulation and air tightness.

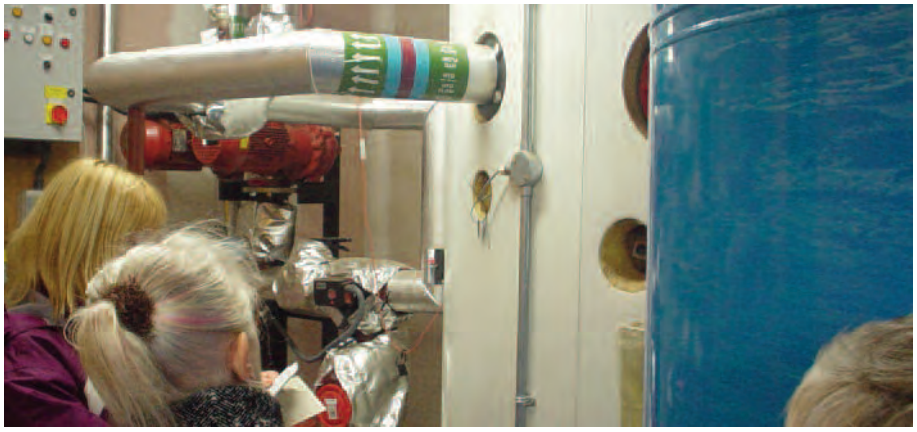
There are a number of energy efficiency measures and renewable technologies that can be used and these are set out in the table below:

Passive Energy efficiency measures	**Operational energy efficiency measures**	**Renewable technologies**	**Emerging technological measures**
Orientation	Heating systems	Photovoltaic	Hydrogen fuel cells
Day lighting	Insulation	Solar water heating	Anaerobic digestion
Natural Ventilation	Lighting and Appliances	Micro wind	
Air Tightness	Glazing	Micro hydro	
Using natural features of site for shelter etc	Building materials	Biomass	
	Mechanical Ventilation /Heat recovery	Ground and air source heat pumps	

Development Layout – The orientation of a building has a significant impact on the amount of passive solar gain. Passive solar design uses the suns energy for heating living spaces. The key considerations regarding passive design are determined by the characteristics of the buildings site. The most effective designs will be based on an understanding of a sites wind patterns, terrain, vegetation and solar exposure.



Renewable Technologies



Renewable energy is any source of energy that effectively replenishes itself and is inexhaustible. Currently most energy comes from finite and unsustainable fuel sources such as natural gas, coal and nuclear power. There needs to be a transition away from the reliance on finite fossil fuels to harnessing renewable energy sources.

The appropriate use of renewable technologies is promoted within the Moray Local Development Plan. It is important to consider the appropriate low or zero carbon generating technology to fit the use, type and scale of development, in order to achieve the greatest reduction in energy consumption and carbon emissions. Larger developments may be able to make use of decentralised and local renewable or low carbon sources of heat and power which can yield higher emission reductions than the installation of LZCGT on site.

The opportunities for utilising this type of heat and power and the development of heat networks should be explored in the preparation of masterplans.

The table in Appendix 1 provides some basic information in relation to various technologies that should be taken into account at the outset when designing a development.

A Low Carbon Place

SPP promotes the transition to a low carbon economy and the delivery of the efficient supply of low carbon and low cost heat. This is seen as being vital to reducing greenhouse gas emissions and creating significant opportunities for communities.

At present gas infrastructure in Moray is constrained due to the northern transmission line running from Aberdeen to Inverness being at capacity. A 2014 report entitled Socio-Economic Impacts of Mains Gas Supply Extension across North of Scotland commissioned by Highlands and Islands Enterprise (HIE) identified that there is demand for more gas along the route, notably from distillers in the whisky sector, many of whom are located within Moray and want to expand production and/or switch from current heavy fuel oil to mains gas. There are other large industrial energy users who would also benefit from the availability of more mains gas.

Industrial users would not be the only potential beneficiaries of the increased availability of mains gas. Communities within Moray currently not connected to the gas network include Burghead, Cummingston, Duffus, Findhorn, Dyke, Hopeman, Garmouth, Kingston, Urquhart, Bogmoor, Nether Dallachy, Dallas, Rafford, Rothiemay and Tomintoul.

A transition from oil to gas presents opportunities to significantly reduce greenhouse gas emissions and unlock opportunities for economic growth in our rural communities. The provision of mains gas also has the potential to attract future businesses and new housing to make the area more sustainable. Furthermore the switch from oil to gas is likely to reduce the number of households living in fuel poverty. The distilling industry is a large employer in Moray and the availability of a gas network will bring economic benefits in terms of increased productivity and expansion.

Potential local distribution networks identified within the 2014 Report that would connect all villages off mains gas if developed are identified and mapping of potential routes set out in Appendix 4. These networks also include connections to a number of distilleries and maltings.

- **Archiestown, Carron, Tamdhu, Knockando Cardhu**
  (158 properties and Carron Imperial, Knockando, Tamdhu and Cardhu distilleries
- **Burghead, Cummingston, Duffus, Hopeman, Roseisle, Findhorn** (2,189 properties and Roseisle Distillery and Burghead Maltings)
- **Garmouth, Kingston and Urquhart** (542 properties)
- **Bogmoor**, and **Nether Dallachy** (124 properties)
- **Dallas** and **Rafford** (361 properties)
- **Dyke** (92 properties)
- **Tomintoul** (201 properties) ***Rothiemay** (70 properties) * Rothiemay is the only property within Moray included within a larger Aberdeenshire based network.

Based on the conversion from oil to gas on average domestic consumption per annum from these 3,738 households the carbon dioxide savings equate to just over 20,000 tonnes.

Built Heritage

Traditional built structures need to improve energy efficiency and reduce fuel consumption. There are things that can be done to improve their performance. It is important to understand how traditional buildings were designed to work. Older properties especially historic buildings need to "breathe" allowing moisture to escape preventing damp. Alterations and installations need to be properly considered to ensure that the asset is not adversely affected. Modern materials such as concrete or plastic are often inappropriate for use in older houses, harming aesthetics and durability.

Many historic buildings or places lend themselves well to some form of micro-renewable energy generation. Different types of micro-renewable technology suit different locations and sometimes more than one type can be used in combination. The energy efficiency of the fabric should be optimised before considering installation of micro-renewable technology. The Moray Local Development Plan has a policy to promote the sensitive introduction of microrenewables.

Policy BE4 - Micro-renewables on Listed Buildings and in buildings in Conservation Areas

Alterations and proposals involving the sensitive introduction of energy efficiency measures and/or micro renewable installations to Listed Building or within their curtilage and buildings in Conservation Areas will be supported, where the proposals ensure that the character of the Listed Building, Conservation Area and their setting are preserved or enhanced.

What to aim for

- Improve the performance of traditional buildings in a way that is sympathetic to their character and construction type.
- Micro-renewable installations must be designed be planned carefully to maintain the historic character of each site and to make the best use of available energy sources.

Sources of further information

www.historic-scotland.gov.uk/microrenewables.pdf

http://conservation.historic-scotland.gov.uk/publication-detail.htm?pubid=6947

Green Infrastructure and Biodiversity

Examples of green infrastructure are parks, open spaces, playing fields, woodlands, wetlands, road verges, allotments and private gardens. Green infrastructure provides important functions such a shelter, access and travel, sustainable drainage, pollution mitigation and food production and when linked together these components form green corridors. On this basis there are clear climate change related benefits associated with green infrastructure. Landscaping and open space are also highlighted within the Urban Design Guide as essential components for consideration when designing new development.

New developments should link into the wider green and blue networks improving the physical connections between places. Developers should think about how the development can link to existing green spaces and look beyond the site boundaries and ownership. There are a number of benefits to integrating green infrastructure in terms of improving the image of a place, reducing emissions by encouraging short journeys, acting as sustainable drainage systems and absorbing heavy rainfall to avoid flooding and creating green spaces. Allotments, community gardens and private gardens can provide access to fruit and vegetables and lower food miles. There is a growing demand for allotments.

The importance of Green Infrastructure and Biodoversity is also set out in PP3 Placemaking

PP3 – Placemaking

All development must incorporate the key principles of Designing Streets, Creating Places and the Council's supplementary guidance on Urban Design.

Developments should;

- Create places with character, identity and a sense of arrival
- Create safe and pleasant places, which have been designed to reduce the fear of crime and anti social behaviour
- Be well connected, walkable neighbourhoods which are easy to move around and designed to encourage social interaction and healthier lifestyles
- Including buildings and open spaces of high standards of design which incorporate sustainable design and construction principles
- Have streets which are designed to consider pedestrians first and motor vehicles last and minimise the visual impact of parked cars on the street scene
- Ensure buildings front onto streets with public fronts and private backs and have clearly defined public and private space
- Maintain and enhance the natural landscape features and distinctive character of the area and provide new green spaces which connect to green and blue networks and promote biodiversity
- The Council will work with developers and local communities to prepare masterplans, key design principles and other site specific planning guidance as indicated in the settlement designations.

What to aim for

The sustainability statement should demonstrate how opportunities have sought to enhance the developments biodiversity value through the retention/inclusion of green infrastructure. This can be achieved by undertaking the following.

- Retain any existing trees and green spaces on site
- Design green infrastructure into every development
- Plant native species
- Create green spaces on flat roofs
- Connect developed green areas to surrounding green areas

Sources of further information

Green Infrastructure – Design and Place Making
www.scotland.gov.uk/publications/2011/11/04140525

Green Networks and Development Planning
www.snh.gov.uk/planning_and_development/approach/snh_devt_planning

Active Travel

New developments should aim to minimise the need for occupants to use their own transport. New housing developments should do this by linking in with existing public transport networks and incorporating provision for cyclists and pedestrians. Where necessary greenfield developments will be expected to create new or enhance public transport corridors. Paths and cycle ways can provide safe off road routes for walkers, joggers and cyclists away from vehicles and emissions. The development of, and enhancement of, a walkable neighbourhood has the potential to reduce the significant greenhouse gas emissions related to everyday journeys. The Council has adopted a number of Active Travel Plans which promote non vehicular traffic around settlements.

What to aim for

- Creation of safe off road routes linking to existing walking/cycling networks.
- Where appropriate prepare travel plans.

Sources of further information

Cycling By Design
www.transportscotland.gov.uk/strategy-and-research/publications-and-consultations/cycling-by-design

Essential Guide to Travel Planning
http://ways2work.bitc.org.uk/pool/resources/essential-guide-to-travel-planning-final-mar-08.pdf

Resource Efficiency

New development should promote resource efficiency.

Materials – Buildings should be designed to use materials effectively and therefore use less material. The materials chosen must be robust, low maintenance and long lasting to suit the location and intended use. Care should also be given to sourcing materials sustainably and there a numerous certification schemes available for a variety of different materials. Developers are encouraged to utilise locally sourced and produced materials in an effort to reduce energy use associated with transportation. Using building elements created off-site rather than built on-site can also reduce carbon emissions.

Water – Climate change could lead to increased periods of drought and it will become more important to reduce water demand and use water more efficiently. Developers should design water efficient devices into their development to help reduce consumption. There are many options including water efficient appliances, water butts and rainwater harvesting.

Waste –Design & Construction from individual components to the entire project should aim to produce Zero Waste to landfill. Good site management will wherever possible ensure that there is the minimum of unavoidable waste which should be reused or recycled on site. Other useful material that cannot be used on site should be segregated on site for recycling and local outlets should be used for reprocessing. For large scale developments where a Site Waste Management Plan is required it should be adhered to throughout the entire construction process.

Carbon Rich Soils - Carbon storage is one of the many beneficial properties of soil. The importance of this varies across soil types, and a map of the relative carbon richness of soil (using 1:250,000 soil data) is available to view on the Scotland's Soils website - http://www.soils-scotland.gov.uk/data/soil-carbon.

Developments should seek to avoid locating on the most carbon rich soils (defined as Categories 6 and 5 on the online map) so that carbon is not released by their disturbance. Where it is demonstrated that a development located on such carbon-rich soil is necessary, proposals will be assessed against the requirements of Policy ER6 Soil Resources.

A method statement should set out how soil disturbance will be minimised and the structure of the peat retained during handling, storage and reinstatement, e.g. avoidance of drying out, and maintenance of surface vegetation.

Policy ER6 Soil Resources

Where peat and other carbon rich soils are present disturbance to them may lead to the release of carbon dioxide contributing to the greenhouse gas emissions. Developers should assess the likely effects associated with any development work and aim to mitigate any adverse impacts arising.

For major developments, minerals and large scale (over 20MW) renewable energy proposals, development will only be permitted where it has been demonstrated that unnecessary disturbance of soils, peat and any associated vegetation is avoided. Evidence of the adoption of best practice in the movement, storage, management and reinstatement of soils must be submitted along with any relevant planning application, including if necessary measures to prevent the spread of invasive non-native species.

Major developments, minerals and large scale renewable energy proposals on undisturbed areas of deep peat (defined as 1.0m or more) will only be permitted for these uses where:

a) the economic, social and/or environmental benefits of the proposal outweigh any potential detrimental effect on the environment (in particular with regard to the release of carbon dioxide into the atmosphere); and

b) it has been clearly demonstrated that there is no viable alternative.

Where development on undisturbed peat is deemed acceptable, a peat depth survey must be submitted which demonstrates that the areas of deepest peat have been avoided. Where required, a peat management plan must also be submitted which demonstrates that unnecessary disturbance, degradation or erosion of peat is avoided.

Large scale commercial peat extraction will not be permitted.

What to aim for

- Promoting the use of sustainably sourced/low impact materials.
- Best practice in soil handling during construction, especially in regard to carbon-rich and prime agricultural soils
- Reducing waste through the reuse and recycling of demolition and construction waste and the incorporation of accessible recycling facilities within new development.
- Design in water efficient measures.

Sources of further information

British Research Establishment Website www.bre.co.uk

Scotland's Soils website - www.soils-scotland.gov.uk/

SNH website www.snh.gov.uk/planning-and-development/advice-for-planners-and-developers/soils-and-development/

Good practice for soil treatment during construction works
www.gov.uk/government/publications/code-of-practice-for-the-sustainable-use-of-soils-on-construction-sites

Water Efficiency Standards October 2013
www.gov.scot/resource/buildingstandards/2013Domestic/chunks/ch04s28.html

Water efficiency in the house
www.scottishwater.co.uk/you-and-your-home/your-home/water-efficiency

Climate Change Adaptation

To adapt to climate change, development will need to be resilent to more frequent extreme weather events, rising temperatures and changes in rainfall. Parts of Moray are susceptible to flooding and new development should be directed wherever possible to areas with the lowest risk of flooding and coastal erosion. Where flood management is required opportunities for habitat creation and natural flood management should be sought.

Taking into account the impacts of climate change, buildings should be designed to be as adaptable as possible. Buildings need to be fit for purpose and building performance will be challenged by a changing climate, needing to cope with more extreme weather events. The use of a building may need to change over time and therefore layouts should be designed to be flexible and lend themselves to conversion from one use to another.

What to aim for

- Development should be avoided in areas that are vulnerable to the effects of climate change including areas at significant risk from flooding, landslip and coastal erosion.
- Demonstrate how the proposed development will be adaptable to potential future changes in use or occupancy.

Sources of further information

Adaption Scotland website www.adaptationscotland.org.uk/1/1/0/Home.aspx

Sustainable Urban Drainage

Climate change means that intense and /or prolonged rainfall and storms are more likely to occur, and this could result in existing drainage failing to cope with the volume of surface water. Policy EP 5 – Surface Water Drainage: Sustainable Urban Drainage Systems (SUDS) states that all sites should be drained by a sustainable drainage system.

The term Sustainable Urban Drainage Systems covers the whole range of sustainable approaches to surface water drainage management and appropriate levels of treatment (1,2,or 3 levels). SUDS aim to mimic natural drainage processes and remove pollutants from run-off at source, and comprise a wide range of techniques, including permeable paving, swales, detention basins, filter strips, filter drains, infiltration systems, bio-retention, ponds and wetlands. SUDS differ from conventional drainage methods because they manage runoff flow rates, protect or enhance the water quality, are sympathetic to the environmental setting and can provide a habitat for wildlife.

The Council will prepare supplementary guidance on flood risk and drainage inpact assessments for new developments.

What to aim for

- Maximise site specific opportunities using water management measures such as SUDS.
- Measures to consider include rainwater harvesting, permeable paving, ponds and swales, green roofs and roof gardens.
- Proposals should be integrated with the landscaping for the development.
- Where a development is adjacent to watercourse buffer strips and tree planting will be required to reduce run off and sedimentation that can impact on watercourses.

Sources of further information

SEPA
www.sepa.org.uk/water/water_regulation/regimes/pollution_control/suds.aspx

Scottish Water www.scottishwater.co.uk/business/our-services/new-connections/sewers-for-scotland-and-suds

Appendix 1
Outline of Key Renewable Technologies

Technology	Application	Considerations
Heat Pumps (ground and air) Generates heat	Utilises heat from earth or air that is transferred via pipes to buildings	Very effective heat generation works well with underfloor heating but can work with radiators. Grounds source has vertical and horizontal application so can be used in confined urban settings.
Biomass Generates heat	Biomass boilers use chipped or pelleted wood products to supply heat. Technology has been successfully applied in various buildings from schools to houses.	Various options available depending on budget. Relatively low maintenance. Need to source good dry fuel products as this will affect efficiency and performance of boiler. Potential for district heating systems Eligible for Renewable heat Incentive (RHI)
Solar Thermal Heats hot water	Harnessing the solar energy through flat plates collectors or evacuated tubes to heat water.	To optimise performance needs to be located on a south facing orientation and avoid shading. Beneficial where there is a high demand for hot water (i.e. bed and breakfast, leisure centre). Can be used in domestic setting and result in boiler being switched off April to September.

Wind Turbines Generates electricity	Conversion of wind energy through turbines to create electricity. Free standing turbines can generate a good amount of energy.	Depending on the scale of turbine can be expensive. Needs to be sited on area with good wind resource and free of obstructions (buildings, trees etc). Difficult to apply in an urban setting as ideally need large area of open space free of obstructions. Eligible for Feed in Tariff.
Solar Photovoltaic Generate electricity	Photovoltaic panels convert solar radiation into electricity.	Simple reliable technology with no moving parts. Eligible for Feed in Tariffs To optimise performance needs to be located on south facing orientation and avoid shading.
CHP Generates heat and electricity	Simultaneously generates heat and power in a single process.	Very efficient and can be fitted to small and large scale buildings.
Hydro	Production of electricity through the use of gravitational force of falling or flowing water.	Very site specific and requires expert advice. Needs to be customised to location. Reliable and effective technology in right location.

Appendix 2
Overview of what to aim for

Resource Efficiency

What to aim for

- Development of brownfield sites
- Proximity to services and employment
- Connectivity to public transport network
- Creation of quality open spaces
- Appropriate density levels to make efficient use of land while reflecting site conditions

Energy Efficiency and Renewables

What to aim for

- Development is designed in accordance with the energy hierarchy.
- Insulation and air tightness in buildings should be maximised.
- Passive solar design principles incorporated into development
- Installation of on site renewable technologies

Green Infrastructure

What to aim for

- Retain any existing trees and green spaces on site
- Design green infrastructure into every development
- Plant native species
- Create green spaces on flat roofs
- Connect developed green areas to surrounding green areas

Active Travel

What to aim for

- Creation of safe off road routes linking to existing walking/cycling networks.
- Where appropriate prepare travel plans.

Resource Efficiency

What to aim for

- Promoting the use of sustainably sourced/low impact materials.
- Reducing waste through the reuse and recycling of demolition and construction waste and the incorporation of accessible recycling facilities within new development.
- Design in water efficient measures.
- Best practice in soil handling during construction, especially in regard to carbon-rich and prime agricultural soils

Climate Change Adaptation

What to aim for

- Development should be avoided in areas that are vulnerable to the effects of climate change including areas at significant risk from flooding, landslip and coastal erosion.
- Demonstrate how the proposed development will be adaptable to potential future changes in use or occupancy.

Flooding and Surface Water Drainage

What to aim for

- Maximise site specific opportunities using water management measures such as SUDS.
- Measures to consider include rainwater harvesting, permeable paving, ponds and swales, green roofs and roof gardens.
- Proposals should be integrated with the landscaping for the development.
- Where a development is adjacent to watercourse buffer strips and tree planting will be required to reduce run off and sedimentation that can impact on water.

Appendix 3
Sustainability Statement Examples

PP2 – Climate Change

In order to contribute to reducing greenhouse gas emissions, developments of 10 or more houses and buildings in excess of 500 sq m should address the following:

- Be in sustainable locations that make efficient use of land and infrastructure,
- Optimise accessibility to active travel options and public transport,
- Create quality open spaces, landscaped areas and green wedges that are well connected,
- Utilise sustainable construction techniques and materials and encourage energy efficiency through the orientation and design of buildings,
- Where practical, install low and zero carbon generating technologies,
- Prevent further development that would be at risk of flooding or coastal erosion,
- Where practical, meet heat and energy requirements through decentralised and local renewable or low carbon sources of heat and power.
- Minimise disturbance to carbon rich soils and , in cases where it is agreed that trees can be felled, to incorporate compensatory tree planting.

Proposals must be supported by a Sustainability Statement that sets out how the above objectives have been addressed within the development.

Sustainability Checklist

How to use the checklist

A checklist is required for residential development of 10 or more houses and non domestic buildings in excess of 500 sq m.

Developers should complete the checklist which will be used as the basis of a sustainability statement to ensure the proposed development meets the essential criteria identified within this guidance and compliance with PP2. The evidence section of the checklist should explain what consideration has been given to specific issues and how this has been integrated into the proposal.

In exceptional circumstances where the essential criteria cannot be met a reasoned justification for this should be set out. In these cases it should be demonstrated how this has been compensated for in other aspects of the development. For example where there is a deficiency in one area a proposal could be designed to go beyond the essential criteria and meet desirable outcomes elsewhere.

The Council intends to take a balanced view of the development of the site and on this basis it will have to be demonstrated that all efforts have been made to address climate change within the proposals.

Developers are advised to make early contact with the Planning Authority to discuss the proposal and ensure all the relevant issues are identified and addressed within the development.

Checklist Proforma

Site Layout and Design

Essential	Desirable	Policy Cross Reference
Minimise energy demand through orientation and passive solar gain Maximise the thermal performance of the building. For example through the use of insulation, thermal mass, shelter and glazing Installation of efficient heating and lighting systems and controls to lower energy consumption. Utilisation of natural or mechanical ventilation.	Heat recovery.	

Evidence

Renewables

Essential	Desirable	Policy Cross Reference
Submit an energy statement setting out renewable energy technologies being utilised. If no renewables proposed, evidence practical issues preventing installation	Decentralised community renewable energy proposals are taken forward (i.e. district heating systems).	

Evidence

Green Infrastructure

Essential	Desirable	Policy Cross Reference
Open Space is provided to the standards set out in Policy E5 – Open Spaces. Proposals contribute to biodiversity on the site through habitat creation, new native tree and shrub planting. Existing trees and green spaces on site are retained and any trees lost are replaced. Where possible connection to offsite blue and green networks.	Creation of green spaces on roofs. Provide opportunities for food cultivation i.e. allotments/ community orchards	Policy E5 – Open Spaces Future SPG on Open Space Policy E4 – Trees and Development Trees and Development SPG ER2 – Development in Woodlands

Evidence

Active Travel

Essential	Desirable	Policy Cross Reference
Explain what has been done to minimise car use. (The practicality of use of public transport in more remote rural areas will be taken into account however applicants should consider innovative solutions to access public transport). Provide safe off road routes linking to existing walking and cycling networks (i.e. connectivity to core paths network).	Design in facilities for bicycles and electric vehicles including secure bike parking and electric charging points.	Policy T2 - Provision of Access

Evidence

Resource Efficiency

Essential	Desirable	Policy Cross Reference
WATER Minimising water consumption and maximising water recycling (i.e. water efficient appliances	Greywater harvesting, green roofs and roof gardens	
WASTE Minimising waste and promote recycling, during construction. Large scale applications should provide site waste management plans. Identification of suitable space for storage of waste and recyclables on site once buildings are occupied.		EP2 – Recycling Facilities
MATERIALS Use sustainable materials whenever possible and make the most sustainable use of other materials. Reuse materials from derelict buildings such as stone and slate within development.	Use locally sourced materials to minimise environmental cost of transportation and bring benefit to the local economy Maximise the use of materials derived from recycled materials and reused content in products and materials used.	Using Local Timber – Contributing to Sustainable Construction. Guidance for North of Scotland
OTHER Existing redundant or derelict buildings on site are converted or restored where possible. If not justification should be provided. Avoid unnecessary disturbance to peat, soils and vegetation.	Certification of products (i.e. timber certified by the Forest Stewardship Council FSC)	

Evidence

Climate Change Adaptation

Essential	Desirable	Policy Cross Reference
Designing buildings flexibly from the outset to accommodate a variety of possible future uses (i.e. lends itself to future extension, allows for homeworking).		Policy ER6 – Soil Resources

Evidence

Surface Water Management and Flooding

Essential	Desirable	Policy Cross Reference
Development is avoided in areas that are vulnerable to flooding. Flood resilience measures are incorporated where required. Avoid the use of large areas of impermeable hard standing. Integration of design and SUDS into the development.	Creation ponds and wetlands within developments.	EP5 – Surface water Drainage: Sustainable Urban Drainage Systems (SUDS). EP7 – Control of Development in Flood Risk Areas

Evidence

Sustainability Checklist 10 House Example

Site Layout and Design

Essential	Desirable	Policy Cross Reference
Minimise energy demand through orientation and passive solar gain Maximise the thermal performance of the building. For example through the use of insulation, thermal mass, shelter and glazing Installation of efficient heating and lighting systems and controls to lower energy consumption. Utilisation of natural or mechanical ventilation.	Heat recovery.	

Evidence

The layout of the plots has been designed to maximise the opportunities for solar passive gain and ensures well used rooms within the building benefit from the most daylight.

The thermal efficiency of the houses has been improved by providing insulation levels in excess of the current building standards. The design of the houses has sought to minimise thermal bridging and maximise air tightness.

High efficiency condensing boilers have been installed and outside drying areas have been provided within private garden areas.

Renewables

Essential	Desirable	Policy Cross Reference
Submit an energy statement setting out renewable energy technologies being utilised. If no renewables proposed, evidence practical issues preventing installation	Decentralised community renewable energy proposals are taken forward (i.e. district heating systems).	

Evidence

Solar thermal panels are to be installed to heat water

Green Infrastructure

Essential	Desirable	Policy Cross Reference
Open Space is provided to the standards set out in Policy E5 – Open Spaces. Proposals contribute to biodiversity on the site through habitat creation, new native tree and shrub planting. Existing trees and green spaces on site are retained and any trees lost are replaced. Where possible connection to offsite blue and green networks.	Creation of green spaces on roofs. Provide opportunities for food cultivation i.e. allotments/ community orchards	Policy E5 – Open Spaces Future SPG on Open Space Policy E4 – Trees and Development Trees and Development SPG ER2 – Development in Woodlands

Evidence
The existing trees on the site will be retained and supplemented by avenue planting along the frontage of the site as well as additional boundary planting. Open space provision of 15% is identified in the form of a central green space within the development overlooked by all houses.

Active Travel

Essential	Desirable	Policy Cross Reference
Explain what has been done to minimise car use. (The practicality of use of public transport in more remote rural areas will be taken into account however applicants should consider innovative solutions to access public transport). Provide safe off road routes linking to existing walking and cycling networks (i.e. connectivity to core paths network).	Design in facilities for bicycles and electric vehicles including secure bike parking and electric charging points.	Policy T2 - Provision of Access

Evidence
Links are provided into existing pedestrian and cycle network including a designated core path. The development is within walking distance of the town centre and public transport services.

Resource Efficiency		
Essential	**Desirable**	**Policy Cross Reference**
WATER Minimising water consumption and maximising water recycling (i.e. water efficient appliances	Rainwater Harvesting Greywater harvesting, Green roofs and roof gardens	
WASTE Minimising waste and promote recycling, during construction. Large scale applications should provide site waste management plans. Identification of suitable space for storage of waste and recyclables on site once buildings are occupied.		EP2 – Recycling Facilities
MATERIALS Use sustainable materials whenever possible and make the most sustainable use of other materials. Reuse materials from derelict buildings such as stone and slate within development.	Use locally sourced materials to minimise environmental cost of transportation and bring benefit to the local economy	Using Local Timber – Contributing to Sustainable Construction. Guidance for North of Scotland
OTHER Existing redundant or derelict buildings on site are converted or restored where possible. If not justification should be provided. Avoid unnecessary disturbance to peat, soils and vegetation.	Maximise the use of materials derived from recycled materials and reused content in products and materials used. Certification of products (i.e. timber certified by the Forest Stewardship Council FSC)	Policy ER6 – Soil Resources

Evidence

Waste:	Sufficient space is made available to store the bins required for Local Authority collection. During the construction phase materials will be ordered correct quantities to reduce waste. Any waste that cannot be recycled on site will be recycled and processed locally.
Water:	Water efficiency measures including dual flush toilets and flow reducing/aerated taps are being installed.
Materials:	Wood cladding is proposed and this is Scottish larch that is FSC certified.
Other:	The disturbance of soil is being kept to a minimum. Soil excavated during construction process will be reuse around the site for landscaping and green space in the centre of the development.

Climate Change Adaptation

Essential	Desirable	Policy Cross Reference
Designing buildings flexibly from the outset to accommodate a variety of possible future uses (i.e. lends itself to future extension, allows for homeworking).		

Evidence

There are rooms within the houses that can be used a home office and the bungalows have been designed to allow the roof space to be converted to living accommodation.

Surface Water Management and Flooding

Essential	Desirable	Policy Cross Reference
Development is avoided in areas that are vulnerable to flooding. Flood resilience measures are incorporated where required. Avoid the use of large areas of impermeable hard standing. Integration of design and SUDS into the development.	Creation ponds and wetlands within developments.	EP5 – Surface water Drainage: Sustainable Urban Drainage Systems (SUDS). EP7 – Control of Development in Flood Risk Areas

Evidence
A drainage impact assessment has been submitted and SUDS designed as part of this area of hard standing and other impermeable surfaces have been minimised. There is a low probability of flooding as the site is not located within an area of flood risk as identified in the SEPA flood maps.

Sustainability Checklist 50 House Example

Site Layout and Design		
Essential	**Desirable**	**Policy Cross Reference**
Minimise energy demand through orientation and passive solar gain Maximise the thermal performance of the building. For example through the use of insulation, thermal mass, shelter and glazing Installation of efficient heating and lighting systems and controls to lower energy consumption. Utilisation of natural or mechanical ventilation.	Heat recovery.	

Evidence

This is a brownfield site with buildings to sill height in place the full extent of which is unknown. The reuse of brownfield land as opposed to greenfield is inherently more sustainable.

The houses have been designed and orientated to maximise passive solar gain and the main living rooms (living room, kitchen and dining rooms) are south facing where feasible. This orientation will reduce energy consumption by maximising natural daylight into rooms and reducing lighting requirements.

The benefits of the passive solar gain combined with insulation exceeding the minimum building standards should have a positive impact on energy requirements for heating.

Renewables

Essential	Desirable	Policy Cross Reference
Submit an energy statement setting out renewable energy technologies being utilised. If no renewables proposed, evidence practical issues preventing installation	Decentralised community renewable energy proposals are taken forward (i.e. district heating systems).	

Evidence
All properties have solar thermal for hot water heating or solar PV for electricity creation. There are also properties where air source heat pumps will be installed this means that the carbon emissions will be reduced.

Green Infrastructure

Essential	Desirable	Policy Cross Reference
Open Space is provided to the standards set out in Policy E5 – Open Spaces. Proposals contribute to biodiversity on the site through habitat creation, new native tree and shrub planting. Existing trees and green spaces on site are retained and any trees lost are replaced. Where possible connection to offsite blue and green networks.	Creation of green spaces on roofs. Provide opportunities for food cultivation i.e. allotments/ community orchards	Policy E5 – Open Spaces Future SPG on Open Space Policy E4 – Trees and Development Trees and Development SPG ER2 – Development in Woodlands

Evidence
The landscaping for the development connects the existing green spaces within the development to those outside the site boundary. This creates habitats corridors and contributes to enhancing biodiversity. The structural landscaping proposed creates a settlement edge and the community woodland of native species provides an area for recreational use. The landscaping has been used to enhance the setting of the watercourse and proposed SUDs system.

Active Travel

Essential	Desirable	Policy Cross Reference
Explain what has been done to minimise car use. (The practicality of use of public transport in more remote rural areas will be taken into account however applicants should consider innovative solutions to access public transport). Provide safe off road routes linking to existing walking and cycling networks (i.e. connectivity to core paths network).	Design in facilities for bicycles and electric vehicles including secure bike parking and electric charging points.	Policy T2 - Provision of Access

Evidence
Pedestrian and cyclist links are being created that connect into existing provision. The site is on the edge of the settlement and is within 5 minutes walking distance of existing public transport provision and services. In addition to connectivity to existing infrastructure additional paths are provided to the community woodland allow access and for this to be utilised by the community.

Resource Efficiency

Essential	Desirable	Policy Cross Reference
WATER Minimising water consumption and maximising water recycling (i.e. water efficient appliances	Greywater harvesting, green roofs and roof gardens	
WASTE Minimising waste and promote recycling, during construction. Large scale applications should provide site waste management plans. Identification of suitable space for storage of waste and recyclables on site once buildings are occupied.		EP2 – Recycling Facilities

Essential	Desirable	Policy Cross Reference
MATERIALS Use sustainable materials whenever possible and make the most sustainable use of other materials. Reuse materials from derelict buildings such as stone and slate within development.	Use locally sourced materials to minimise environmental cost of transportation and bring benefit to the local economy Maximise the use of materials derived from recycled materials and reused content in products and materials used. Certification of products (i.e. timber certified by the Forest Stewardship Council FSC)	Using Local Timber – Contributing to Sustainable Construction. Guidance for North of Scotland
OTHER Existing redundant or derelict buildings on site are converted or restored where possible. If not justification should be provided. Avoid unnecessary disturbance to peat, soils and vegetation.	Assembly components off site	Policy ER6 – Soil Resources

Evidence

Water – All the appliances within the development are water efficient with push taps and aerating taps and dual flush toilets.

Waste – Salvaged materials from the remains buildings has been reused where possible and recyclable materials reprocessed locally. A site waste management plan has been prepared and will be implemented throughout development of the site.

Materials – Local sandstone has been sourced locally to reduce transportation emissions. All windows and doors are FSC durable timber as opposed to UPVC. Scottish larch will be used for the external cladding of the houses.

Other – The existing derelict buildings on site are beyond repair and reinstatement, stone from the buildings will be used to create a stone dyke entrance gateway to the development. Offsite assembly has been investigated but does not from part of this proposal. There is no peat present on site and no requirement to excavate large volumes of soil during the construction process. Soil that is surplus to requirements will be utilised as part of landscaping for the site.

Climate Change Adaptation

Essential	Desirable	Policy Cross Reference
Designing buildings flexibly from the outset to accommodate a variety of possible future uses (i.e. lends itself to future extension, allows for homeworking).		

Evidence
The large area of green space within the development is multifunctional and as well as acting a playing field/village green it has been designed with storage capacity for water in the event of extreme weather.

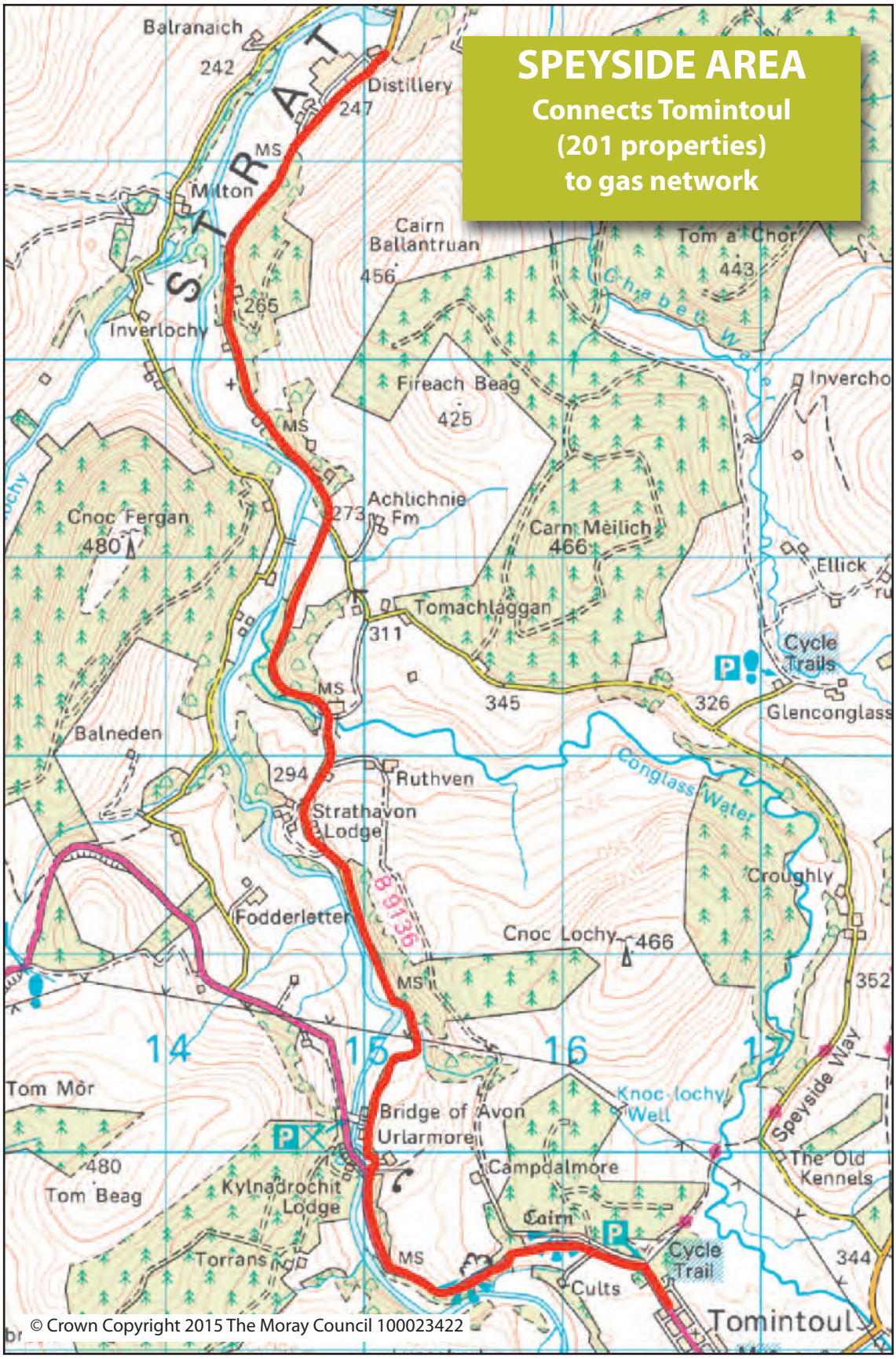
The single storey properties within the development have been designed will be constructed to allow extension into the roof space so additional accommodation can be created without increasing the footprint of the building. The houses have been designed to allow bedrooms and dining rooms to also function as a study and appropriate IT infrastructure has been put in place to facilitate this.

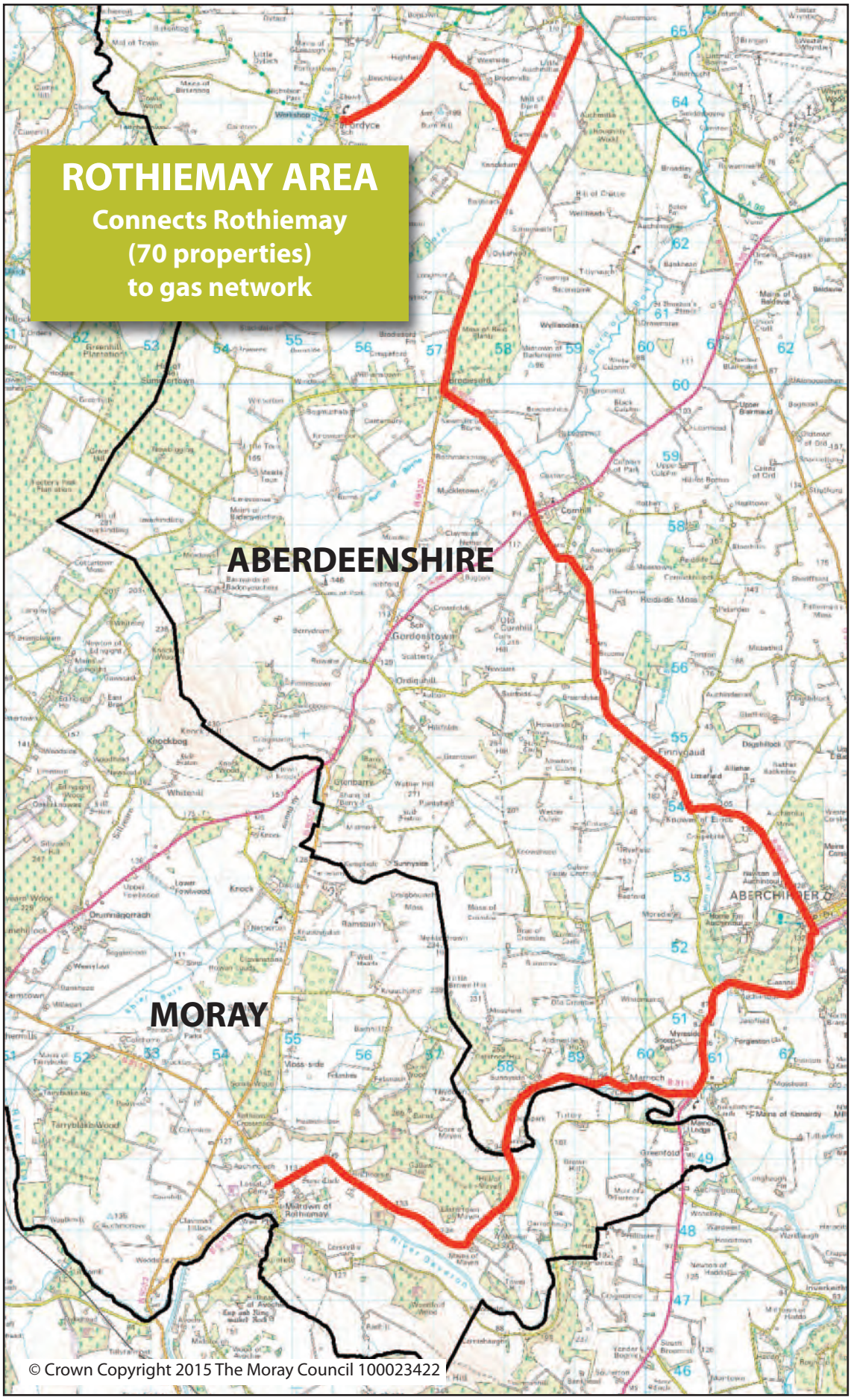
Surface Water Management and Flooding

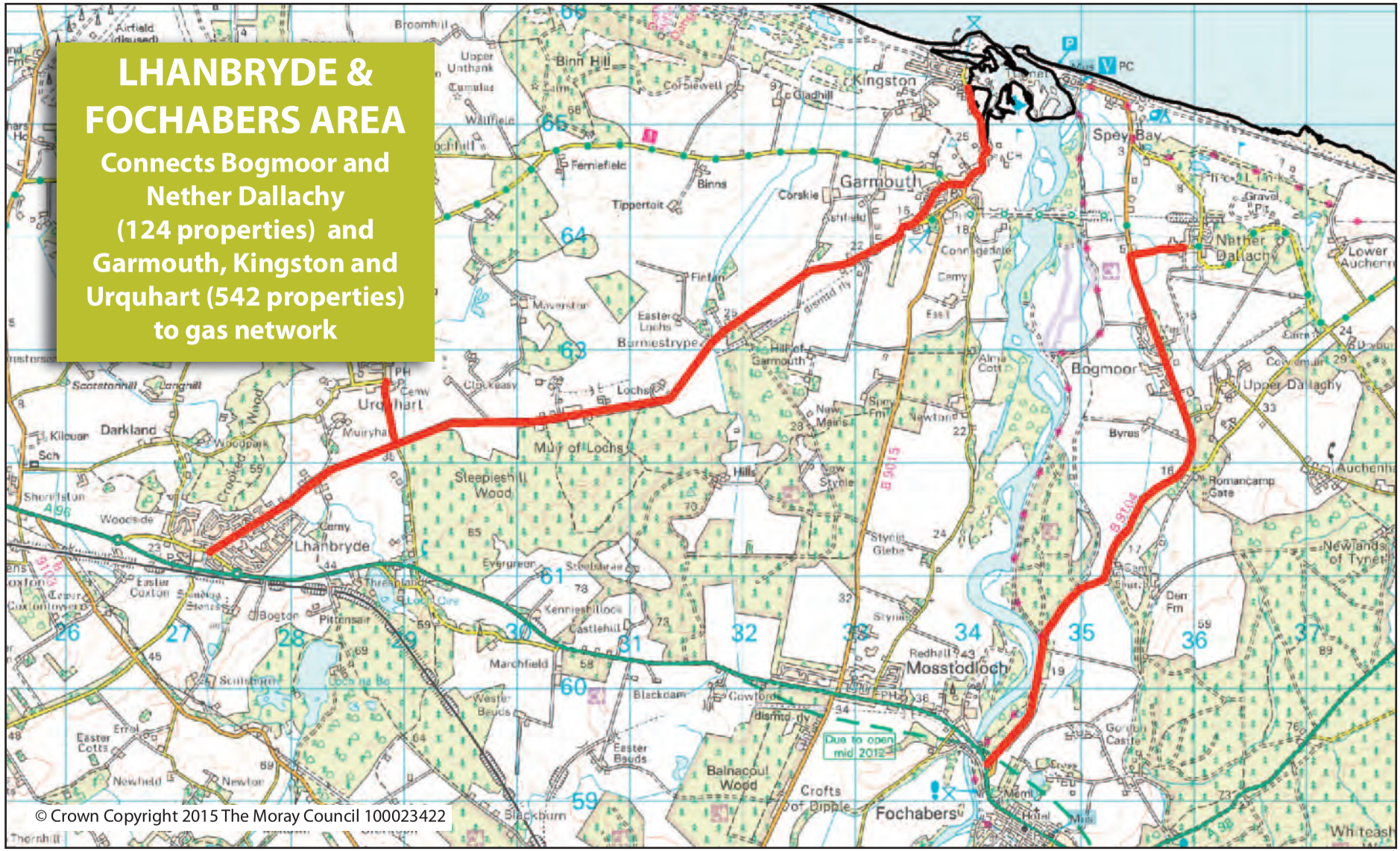
Essential	Desirable	Policy Cross Reference
Development is avoided in areas that are vulnerable to flooding. Flood resilience measures are incorporated where required. Avoid the use of large areas of impermeable hard standing. Integration of design and SUDS into the development.	Creation ponds and wetlands within developments.	EP5 – Surface water Drainage: Sustainable Urban Drainage Systems (SUDS). EP7 – Control of Development in Flood Risk Areas

Evidence
The SUDS system was a consideration in the early stages of design. The existing watercourse has been incorporated into the development and the water environment has been improved and with the opening up of the culverted watercourse.

Appendix 4
Potential Gas Routes across Moray




ROTHIEMAY AREA
Connects Rothiemay
(70 properties)
to gas network
ABERDEENSHIRE
MORAY
© Crown Copyright 2015 The Moray Council 100023422


LHANBRYDE &
FOCHABERS AREA
Connects Bogmoor and
Nether Dallachy
(124 properties) and
Garmouth, Kingston and
Urquhart (542 properties)
to gas network
Kingston
Garmouth
Spey Bay
Bogmoor
Nether Dallachy
Upper Dallachy
Lower Auchernack
Urquhart
Lhanbryde
Mosstodloch
Fochabers
Darkland
Steeplehill Wood
Muir of Lochs
Balnacoul Wood
Crofts of Dipple
Due to open mid 2012
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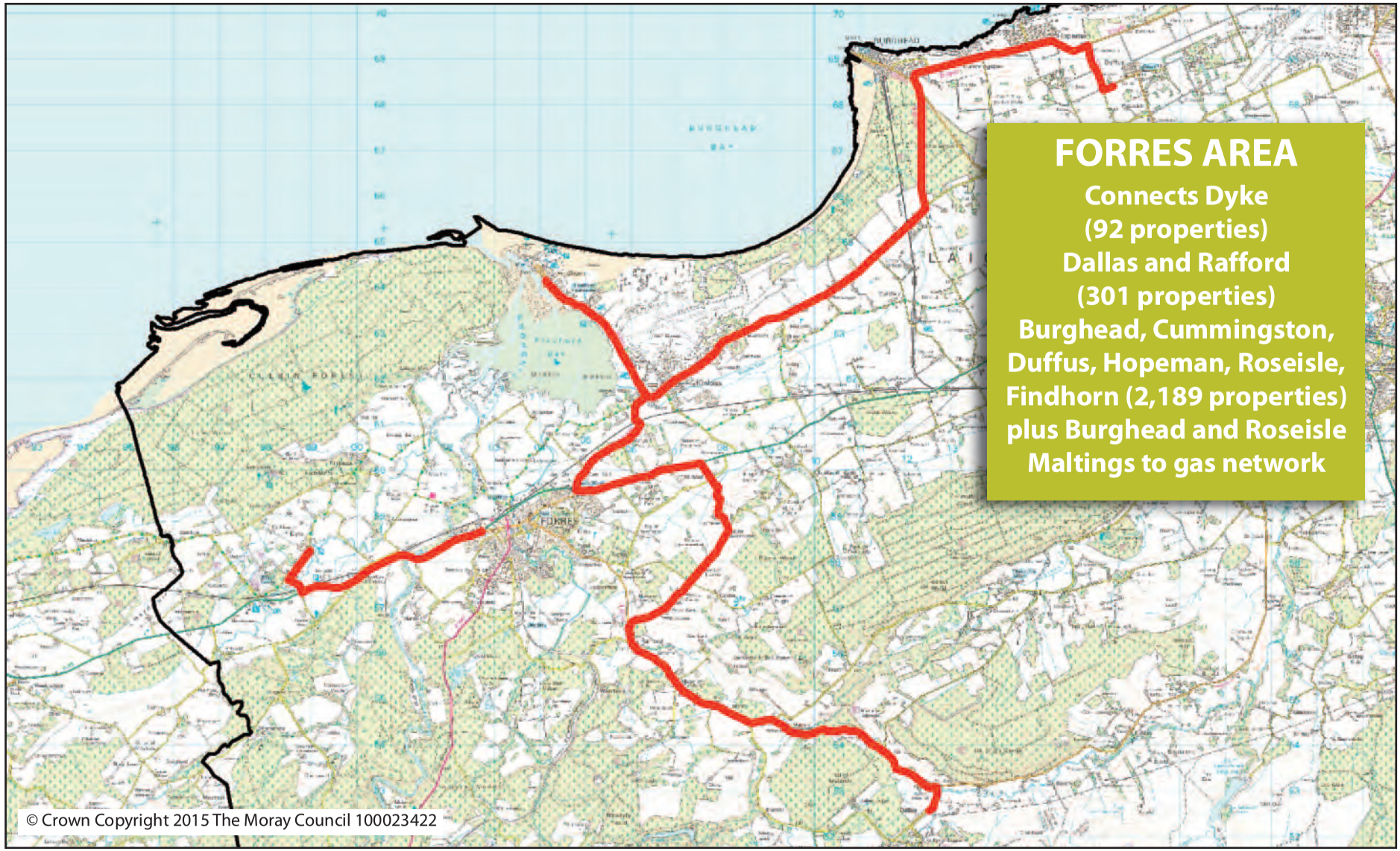
FORRES AREA
Connects Dyke
(92 properties)
Dallas and Rafford
(301 properties)
Burghead, Cummingston,
Duffus, Hopeman, Roseisle,
Findhorn (2,189 properties)
plus Burghead and Roseisle
Maltings to gas network
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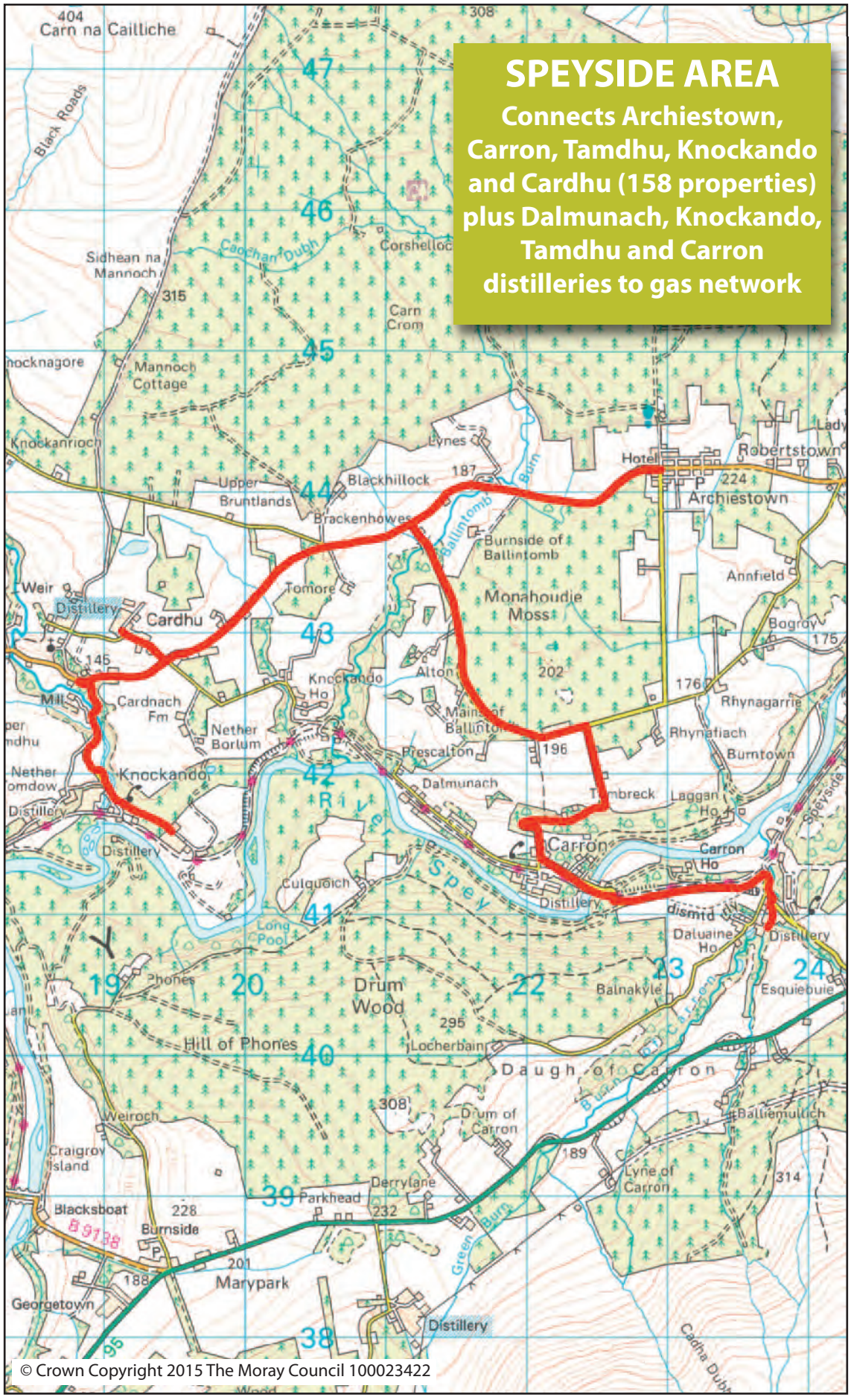
SPEYSIDE AREA
Connects Archiestown, Carron, Tamdhu, Knockando and Cardhu (158 properties) plus Dalmunach, Knockando, Tamdhu and Carron distilleries to gas network
Carn na Caillliche
Black Roads
Sidhean na Mannoch
Caochan Dubh
Corshelloch
Carn Crom
Mannoch Cottage
Knockanrioch
Upper Bruntlands
Blackhillock
Brackenhowes
Lynes
Burn
Hotel
Robertstown
Archiestown
Ballintomb
Burnside of Ballintomb
Annfield
Monahoudie Moss
Bogroy
Tomore
Weir
Distillery
Cardhu
Knockando Ho
Alton
Cardnach Fm
Nether Borlum
Mains of Ballintomb
Rhynagarrie
Rhynafiach
Burntown
Prescalton
Dalmunach
Knockando
Tamnbreck
Laggan Ho
Carron
Carron Ho
Culquoich
River Spey
Long Pool
Distillery
Dalluaine Ho
Esquiebuie
Drum Wood
Balnakyle
Hill of Phones
Locherbain
Daugh of Carron
Weiroch
Drum of Carron
Ballriemullich
Craigroy Island
Lyne of Carron
Parkhead
Derrylane
Blacksboat
B9138
Burnside
Green Burn
Marypark
Georgetown
Distillery
Cadha Dubh
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