



LOCAL DEVELOPMENT PLAN PREPARATORY STUDIES

PAPER NO. 8 - PUBLIC UTILITIES INFRASTRUCTURE

SEPTEMBER 2015
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Public Utilities Infrastructure

Purpose:

To provide the Council with an overview of matters relating to public utilities and implications for land use in the Mid and East Antrim Council Area (MEA).

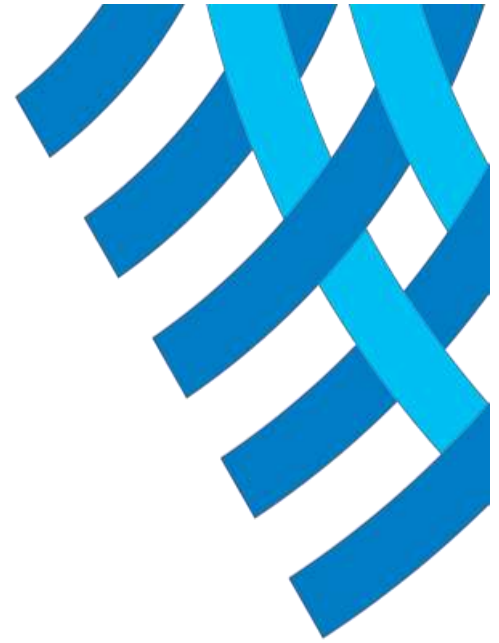
Content:

The paper provides:

- I. The regional policy context for public utilities in the Mid and East Antrim Borough.
- II. An overview of public utilities in Mid and East Antrim
- III. An outline of the main proposals for public utilities over the plan period.
- IV. Implications of flood risk in Mid and East Antrim.
- V. Implications for the Local Development Plan.

Recommendation:

That the Members note the findings and consider how this preparatory study shall be used to inform subsequent policies and proposals in the Local Development Plan.



1.0 Introduction

1.0 Introduction

- 1.1 The availability of public utilities such as water and sewerage services, energy supply and telecommunications is a prerequisite to facilitating development. It is therefore incumbent upon the Council, as the planning authority, to consider the availability of such services at various locations, when planning for new development, through the Local Development Plan (LDP).
- 1.2 The fundamental purpose of this Paper is to inform Members on the existing infrastructure and spare capacity, as well as any known planned provision within the Borough over the Plan period.
- 1.3 This Paper is based on initial consultations which have been carried out with a number of relevant central and local government departments and statutory undertakers. Their responses are relevant, particularly in the consideration of broad options for housing growth and economic development at the Preferred Options stage of the LDP process. Further detailed site specific consultations will be necessary at later stages in the Plan process.
- 1.4 This Paper also addresses Flood Risk and Drainage, Cemetery provision and Waste/Recycling services within Mid and East Antrim.



2.0 Regional Policy Context

2.0 Regional Policy Context

- 2.1 The Regional Policy context is provided by the Regional Development Strategy (RDS) 2035 and DOE regional Planning Policy Statements (PPSs). A summary of these documents as they pertain to plan making and utilities policy is provided in the following sections.

Regional Development Strategy (RDS) 2035

- 2.2 Infrastructure is a key consideration when allocating housing and economic growth. Strategic planning places emphasis on the importance of the relationship between location of housing, jobs, facilities, and services and infrastructure. The RDS sets out clear policy aims and objectives regarding public utilities including:

Telecommunications

- 2.3 Policy RG3 of the RDS 2035 acknowledges that Northern Ireland currently enjoys a first class telecommunications network but that in such a fast moving market, competitive advantage can soon be lost if continued development is not facilitated. Therefore it is important to continually improve international and internal connectivity.
- 2.4 The RDS 2035 envisages that next generation broadband services will be available to provide support for 85% of businesses.
- 2.5 Policy SFG14 of the RDS 2035 also recognises that rural areas can be disadvantaged by their remote location in terms of access to essential services and important information technologies. In this regard, it is important to ensure that telecommunication services in rural areas are not neglected.
- 2.6 Therefore, the key policy aims of the RDS 2035 regarding telecommunications are:
- Invest in infrastructure to facilitate higher broadband speeds, whilst also considering the impact such infrastructure may have on the environment.
 - Increase the use of broadband.
 - Improve telecommunications services in rural areas to reduce rural/urban imbalance.
 - Utilise existing connectivity with North America and mainland Europe in order to further aid foreign and direct investment.

Energy Supply

- 2.7 Policy RG5 of the RDS 2035 recognises that there is a need to promote a range of renewable energy sources in order to ensure a more diverse and secure supply of energy for the future. Development consisting of infrastructure to provide renewable energy will be the subject of a Strategic Environmental Assessment or an Environmental Impact Assessment and decision makers will have to balance the impact on the environment against the benefits of a secure, renewable energy source.
- 2.8 Therefore, the key policy aims of the RDS 2035 regarding renewable energy are:
- Increase the contribution of renewable energy sources to the overall energy mix. This will require an increase in the amount of renewable energy and renewable heat installations, both onshore and off shore.
 - Encourage new gas infrastructure including provision of natural gas to further enhance the provision of energy supply.
 - Strengthen the grid to in order to support the increasing number of renewable electricity installations.
 - Develop smart grid initiatives to improve the responsiveness of the electricity grid. Smart grids are modernized electricity grids which use information and communication technology to monitor data relating to customer behavioural trends and therefore improve the efficiency and sustainability of production.

Climate Change

- 2.9 Policy RG9 of the RDS highlights the need to reduce our carbon footprint and facilitate mitigation and adaption to climate change whilst improving air quality.
- 2.10 Consideration needs to be given to how energy consumption can be reduced and a move to more sustainable methods of energy production encouraged.
- 2.11 The RDS identifies mitigation measures that can be deployed to lessen the effects of climate change, including:
- Reduce greenhouse gas emissions from transport;
 - Reduce noise and air pollution from transport;
 - Use more energy efficient forms of transport;
 - Improve the energy efficiency and adaptability of buildings;
 - Increase the use of renewable energies;
 - Utilise local production of heat and/or electricity from low or zero carbon energy sources;
 - Develop strong linkages between policies for managing air pollution and climate change;

- Protect Air Quality Management Areas.

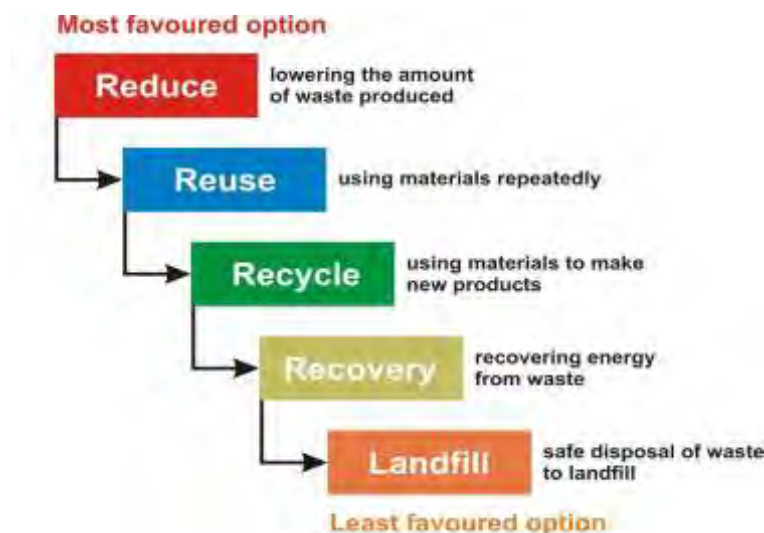
2.12 The RDS also identifies adaptation measures, namely;

- Re-use land, buildings and materials;
- Adopt grey water recycling;
- Minimise development in areas at risk from flooding from rivers, the sea and surface water run-off;
- Protect soils;
- Protect and extend the ecosystems and habitats that can reduce or buffer the effects of climate change;
- Identify key assets and areas that are at risk through climate change.

Waste Management

2.13 Policy RG10 of the RDS 2035 promotes the implementation of the European Union’s revised Waste Framework Directive¹. Article 4 of this Directive promotes a 5 step approach to dealing with waste, with each step being ranked according to its environmental impact – the “waste hierarchy.”

2.14 As seen in the figure below, the “waste hierarchy” promotes waste minimisation as the first four options and states that waste disposal should only happen as a fifth and final option.



2.15 As well as promoting the “waste hierarchy,” the RDS 2035 also promotes the “proximity principle” which states that waste should be dealt with as close as

¹ Revised EU Waste Framework Directive (WFD) – Directive 2008/98/EC

possible to the point of generation in an effort to minimise the negative effects of waste transportation.

Water, sewerage and flood risk

- 2.16 Policy RG12 of the RDS 2035 advises that increased population, changes in household formation and climate change are putting pressure on our water resources and drainage systems. Therefore, the planning for the provision of water and sewage infrastructure and treatment facilities is both a practical and environmental necessity for regional development.
- 2.17 Government policy in regard to securing a sustainable water sector in Northern Ireland is currently being progressed through the “Sustainable Water” Strategy (DRD/DfI, 2016)
<https://www.infrastructure-ni.gov.uk/sites/default/files/publications/drd/sustainable-water-a-long-term-water-strategy-for-northern-ireland-2015-2040.PDF>
- 2.18 As part of the RDS housing evaluation framework, the “resource test” states that when assessing land to be potentially zoned for housing, consideration must be paid to the water, sewerage and waste infrastructure of an area to ensure that it is adequate to support the provision of future housing.
- 2.19 Therefore, the key policy aims of the RDS 2035 regarding water and sewerage are:
- The integration of water and land use planning. Land use planning should be informed by current water and sewerage infrastructure and the capacity of that infrastructure to absorb future development. This will involve the planning authority working in conjunction with NI Water.
 - Manage future water demand by reducing waste and increasing efficiency in water supply. To help manage future water demand in new developments, initiatives such as grey water recycling and rainwater harvesting should be promoted.
 - Encourage sustainable surface water management. This will involve promoting initiatives such as Sustainable Development Systems (SuDS) in new development proposals. SuDS are designed to manage excess rainwater where it falls rather than the traditional approach of channelling it through drains and piped infrastructure to waterways. Examples include ponds, reed beds, swales and porous driveways. The use of SuDS has been shown to reduce flood risk, improving water quality and to have other environmental, economic and social benefits.
- 2.20 In relation to development and flood risk, Policy RG8 of the RDS 2035 states that residential development should not take place in areas which are known to be at risk of flooding. This policy also states that as part of the Housing

Evaluation Framework, an assessment of flood risk should be considered when allocating land for housing growth.

- 2.21 Similarly, Policy RG1 of the RDS 2035 states that when allocating land for economic growth and employment, areas which are at risk of flooding should be avoided, where possible.

Strategic Planning Policy Statement (SPPS)

Renewable Energy

- 2.22 The aim of the SPPS in relation to renewable energy is to facilitate the siting of renewable energy generating facilities in appropriate locations within the built and natural environment in order to achieve Northern Ireland's renewable energy targets and to realise the benefits of renewable energy without compromising other environmental assets of acknowledged importance.
- 2.23 The regional strategic objectives for renewable energy are to:
- Ensure that the environmental, landscape, visual and amenity impacts associated with or arising from renewable energy development are adequately addressed;
 - Ensure adequate protection of the region's built, natural, and cultural heritage features; and
 - Facilitate the integration of renewable energy technology into the design, siting and layout of new development and promote greater application of the principles of Passive Solar Design.
- 2.24 The SPPS further advises that supplementary planning guidance 'Wind Energy Development in Northern Ireland's Landscapes' and other relevant practice notes should be taken into account in assessing all wind turbine proposals.

Telecommunication and other utilities

- 2.25 The aim of the SPPS in relation to telecommunications and other utilities is to facilitate the development of such infrastructure in an efficient and effective manner whilst keeping the environmental impact to a minimum. It contains five policy objectives relating to telecommunication and other utilities:
- 2.26 The regional policy objectives relating to telecommunication and other utilities are to:
- Ensure that where appropriate new telecommunications development is accommodated by mast and site sharing;

- Ensure that the visual and environmental impact of telecommunications and other utility development is kept to a minimum;
 - Minimise, as far as practicable, undue interference that may be caused to radio spectrum users (see footnote) (for example mobile phone services, media broadcasting and wireless broadband services) by new telecommunications development; and
 - Encourage appropriate provision for telecommunication systems in the designs of other forms of development.
- 2.27 In relation to power lines, the SPPS states that exposure to powerline Electro Magnet Fields (EMFs) should comply with the 1998 International Commission on Non-Ionizing Radiation Protection (ICNIRP). A voluntary Code of Practice (DECC, July 2013) has been agreed by the Department of Energy and Climate Change, the Department of Health, the Energy Networks Association, and the devolved Governments.
- 2.28 Development proposals for electricity power lines and other overhead cables are currently assessed under Policy PSU11 of the Planning Strategy for Rural Northern Ireland.
- 2.29 Proposals for the development of new power lines will be considered having regard to potential impacts on amenity and should avoid areas of landscape sensitivity, including Areas of Outstanding Natural Beauty (AONBs).

Waste Management

- 2.30 The SPPS highlights that the 5 step waste management hierarchy which is laid down in Article 5 of the Waste Framework Directive is a core principle of the Northern Ireland Waste Management Strategy and is also referenced in the Regional Development Strategy 2035.
- 2.31 The aim of the SPPS in relation to waste management is to support wider government policy focused on the sustainable management of waste, and a move towards resource efficiency. It contains three regional strategic objectives in relation to waste management:
- Promote development of waste management and recycling facilities in appropriate locations;
 - Ensure that detrimental effects on people, the environment, and local amenity associated with waste management facilities (e.g. pollution) are avoided or minimised; and
 - Secure appropriate restoration of proposed waste management sites for agreed after-uses.

- 2.32 The SPSS advises that Councils must assess the likely extent of future waste management facilities, with specific sites for the development of waste management facilities identified in the LDP together with key site requirements including locational criteria.
- 2.33 The SPSS further advises that LDPs should also identify the need for appropriate waste management facilities within new development. LDPs should also bring forward detailed policy for determining all proposals for waste management facilities, and identify the need for appropriate waste management facilities within new development. Particular attention should be given to the potential impacts of existing and approved waste management facilities on neighbouring areas and the need to separate incompatible land uses.

Flood risk and Drainage

- 2.34 The aim of the SPSS in relation to flood risk is to prevent future development that may be at risk from flooding or that may increase the risk of flooding elsewhere. It contains a range of regional strategic objectives in relation to flood risk and drainage:
- Prevent inappropriate new development in areas known to be at risk of flooding, or that may increase the flood risk elsewhere;
 - Ensure that the most up to date information on flood risk is taken into account when determining planning applications and zoning / designating land for development in Local Development Plans (LDPs);
 - Adopt a precautionary approach to the identification of land for development through the LDP process and the determination of development proposals, in those areas susceptible to flooding where there is a lack of precise information on present day flood risk or future uncertainties associated with flood estimation, climate change predictions and scientific evidence;
 - Manage development in ways that are appropriate to the four main sources of flood risk in Northern Ireland, i.e. fluvial, coastal, surface water and water impoundment (reservoir) breach or failure;
 - Seek to protect development that is permitted within flood risk areas by ensuring that adequate and appropriate measures are employed to mitigate and manage the flood risks;
 - Promote sustainable development through the retention and restoration of natural flood plains and natural watercourses as a form of flood alleviation and an important environmental and social resource;
 - Promote sustainable development through encouraging the use of sustainable drainage for new development and redevelopment / regeneration schemes;

- Promote public awareness of flood risk and the flood risk information that is available and of relevance to undertaking development; and
- Promote an integrated and sustainable approach to the management of development and flood risk which contributes to:
 - the safety and well-being of everyone,
 - the prudent and efficient use of economic resources,
 - the conservation and enhancement of biodiversity, and
 - the conservation of archaeology and the built heritage.

2.35 The SPPS further highlights that the following strategic policy must be taken into account in the preparation of LDPs and in the determination of planning applications:

- Development in River (Fluvial) and Coastal Flood Plains;
- Development at Surface Water (Pluvial) Flood Risk outside Flood Plains;
- Development in Proximity to Reservoirs;
- Protection of Flood Defence and Drainage Infrastructure; and
- Artificial Modification of Watercourses.

Climate Change

2.36 The SPPS states that the planning system should therefore help to mitigate and adapt to climate change by shaping new and existing developments in ways that reduce greenhouse gas emissions and positively build community resilience to problems such as extreme heat or flood risk;

- promoting sustainable patterns of development, including the sustainable re-use of historic buildings where appropriate, which reduces the need for motorised transport, encourages active travel, and facilitates travel by public transport in preference to the private car;
- requiring the siting, design and layout of all new development to limit likely greenhouse gas emissions and minimise resource and energy requirements;
- avoiding development in areas with increased vulnerability to the effects of climate change, particularly areas at significant risk from flooding, landslip and coastal erosion and highly exposed sites at significant risk from impacts of storms;
- considering the energy and heat requirements of new developments when designating land for new residential, commercial and industrial development and making use of opportunities for energy and power sharing, or for decentralised or low carbon sources of heat and power wherever possible;
- promoting the use of energy efficient, micro-generating and decentralised renewable energy systems; and
- working with natural environmental processes, for example through promoting the development of green infrastructure and also the use of

sustainable drainage systems (SuDs) to reduce flood risk and improve water quality.

Existing Planning Policy Statements.

2.37 The following Planning Policy Statements currently provide the operational planning policy context for the assessment and determination of utility developments and include:

- PPS 10 - Telecommunications
- PPS 11 - Planning and Waste Management
- PPS 15 - Planning and Flood Risk (Revised)
- PPS 18 - Renewable Energy (and Supplementary Planning Guidance - Wind Energy in Northern Ireland's Landscapes)
- PPS 21 - Sustainable Development in the Countryside
- A Planning Strategy for Rural Northern Ireland (parts not superseded by subsequent PPS's)

2.38 The key issues from these policy statements relevant for the LDP preparation include:

- The need for new infrastructure, including extensions to existing facilities, must be balanced against the objectives to conserve the environment and protect amenity;
- Facilitating the continued development of telecommunications infrastructure but ensuring that visual and environmental impact is kept to a minimum, for example through mast and site sharing;
- Promoting the development, in appropriate locations, of waste management facilities to meet need as identified by the Waste Management Plan;
- Consideration of the impact of existing or proposed waste management facilities when zoning land for development and ensuring incompatibility of adjacent land uses are avoided. The COMAH Directive (EU Directive 96/82/EC) requires development plans to ensure that appropriate distances are maintained between hazardous substances and residential areas, open space and other areas of public use;
- A general presumption against development within floodplains of rivers and the sea;
- Facilitate development of renewable energy resources which will not negatively impact on the environment, landscape or amenity of nearby land uses;
- Careful consideration must be given to distinctive landscape areas;
- Integration of new electricity power lines and cables into the existing landscape and townscape;
- Development relying on non-mains sewage will only be acceptable were it does not create or add to a pollution problem.



3.0 Local Policy Context

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Ballymena Area Plan 1986-2001

3.1 The Ballymena Area Plan, published in 1989, had a general section on Public Utilities which was broken down into the following sections:

- **Telecommunications** – The Plan stated there were 10 telephone exchanges in the Borough and 5 electronic exchanges at the time. It proposed that electronic exchanges will be modernised with a new digital system and public call offices will be updated to provide enhanced facilities. (Paras 15.6-15.8)
- **Electricity** - The plan considered that the existing high voltage system was adequate to deal with the majority of the expected development to the year 2001.
- **Refuse Disposal** – The plan considered the main refuse tip at Ballymacvea was ample for 8 years after which it is hoped that land adjacent to the tip is acquired. (Paragraph 15.10)
- **Water Supply** – The plan stated that supplementation of existing provision of mains water and service reservoirs was being examined and that this extra provision meant that no difficulty is anticipated in providing water supply to new developments. (Paras 15.4-15.5)
- **Sewerage** – The plan stated Ballymena, Ahoghill and Broughshane are provided by works at Spencetown whilst the rest of the settlements have their own works, and that works at Kells and Portglenone will be monitored and improved as necessary. Planning applications within 300m of sewage treatment works will not be granted where there would be a loss of amenity from smell nuisance. (Paras 15.1-15.3)
- **Drainage** - Storm water from land zoned for development can be accommodated by existing watercourse systems. Some improvement works may be needed for significant development. (Paragraph 15.12)
- **Cemeteries** – The plan stated there were 12 public cemeteries and almost half had no further space available then. Cemetery at Toome Road will cater for demand until beyond the Plan period. Sites have been identified at Ahoghill, Cullybackey and Portglenone for use as cemeteries. (Para 15.11)

Larne Area Plan 2010

3.2 The Larne Area Plan, published in 1998, had several policies on Public Utilities including:

- **Public Utilities - Policy PU1** - The Department identified a location for a new sewage treatment works to serve Larne Town and the surrounding area.

- **Sewerage – Policy S1** – The Department identified a location for the sewage treatment works for Larne Town. **S2** – The Department will facilitate the upgrading of the existing sewage treatment works which are at or near capacity by the end of the plan period. **S3** – The Department will seek to ensure that planning permission is not granted for development which would suffer loss of amenity from smell nuisance on land within 300m for a major sewage treatment works.
- **Drainage – Policy DR1** – Development will not normally be permitted in areas known to be at serious risk from flooding, coastal erosion or land instability. **DR2** – Where a designated watercourse runs adjacent to or through a development site the Department will require the provision of a 5m wide working strip along at least one bank of the watercourse. The Department will monitor all new development proposals to ensure that storm water run-off can be adequately catered for and does not compound existing flooding problems.
- **Waste Disposal – Policy WD1** – The Department in dealing with applications for planning permission for waste management facilities, will take into account any relevant provisions of the Council's Waste Management Strategy. **WD2** – Planning permission will not normally be granted for the disposal of waste materials within the Antrim Coast and Glens AONB. Exceptionally, permission may be granted for landfilling or landraising projects involving the use of clay, sub-soil or other inert materials that are specifically intended to facilitate the reinstatement of quarries or improve land of low agricultural quality. An important consideration in this regard is that proposals will have to be compatible with any relevant nature conservation interests. Where permission is granted conditions will be imposed to control the visual appearance, height, shape and reinstatement of the new landform created.
- **Energy** – Reference to exposed upland areas including the AONB not being considered suitable for the location of wind turbine.
- **Natural Gas – Policy E1** – The Department will treat a high pressure pipeline as a hazardous installation which may place constraints on development in its vicinity.

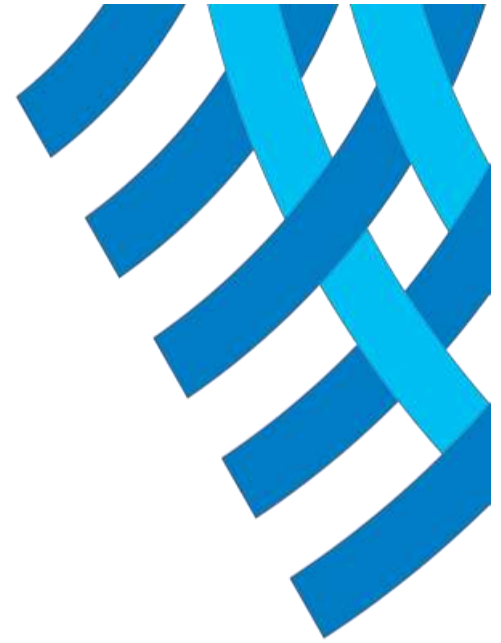
Belfast Metropolitan Area Plan 2015 (BMAP)

- 3.3 The Belfast Metropolitan Area Plan, published in 2015. Within Volume 1 Plan Strategy the following was highlighted in relation to public utilities infrastructure;
- To facilitate the delivery of infrastructure requirements and highlight appropriate constraints within key site requirements. (BMA Public Services and Utilities Strategy)

- Analysis of the waste streams arising in the ARC21 region and associated potential for waste prevention, recycling, recovery and disposal. (ARC21 Waste Management Plan)

3.4 Within the Belfast Metropolitan Area Plan there is a section on Public Services and Utilities (Part 3 Volume 1 pg.96) which was broken down into the following sections:

- **Water and Sewage** – The Plan stated there were 12 impounding reservoirs inside the Belfast metropolitan Area, with some supply coming from external areas. It was also highlighted that various schemes are programmed to upgrade the water and sewage system where required
- **Drainage and Flood Risk Management** – the Plan highlighted a number of recorded flooded areas that significantly affect particular settlement within the plan area. Flooding and Sewage is also mentioned in relation to various zonings/designations in Carrickfergus area (Part 4 Volume 4).
- **Waste Disposal** – the plan highlighted that it was part of a large waste management plan with a sub-regional waste planning body (Arc 21). This waste management plan identified 'areas of search' for the provision of necessary facilities and capacity
- **Energy** - Kilroot Power Station is one of the main electricity generating stations in Northern Ireland and has a generating capacity of 580 megawatts or 400 megawatts. It is likely that the existing landholdings within the site will cater for any development needs identified during the Plan period. The Health and Safety Executive Northern Ireland will be consulted on applications within the vicinity of the proposed/existing pipeline.
- **Telecommunications** - Within the Plan Area telecommunications provision is primarily the responsibility of British Telecom, supplemented by a number of other private companies. Several providers operate mobile telecommunication networks within the Plan Area.
- **Cemeteries** – the plan highlighted the current supply of cemeteries within the plan area. Stating that there was currently a rapidly diminishing supply of plots within existing cemeteries and a need has been identified for additional cemetery provision within the Plan period.



4.0 Utility Provision in Mid and East Antrim

4.0 Public Utilities

- 4.1 The provision of public utilities within the plan area is primarily the responsibility of number of government Departments and statutory bodies as well as the District Councils. The private sector is however, playing an increasingly important role.
- 4.2 In accordance with Department for Infrastructure (DfI) guidance, this Paper provides an evaluation of the following utilities:
- Telecommunications and Broadband
 - Recycling and Waste Management
 - Water Supply, Sewerage and Flood Risk
 - Flood risk and drainage
 - Energy Supply and Renewables
 - Cemetery provision



5.0 Telecommunications and Broadband

5.0 Telecommunications and Broadband

- 5.1 In accordance with the aims of the RDS 2035 and the SPPS, it is vital to ensure that improvement to the telecommunication network continues, in order to ensure that businesses remain competitive and rural communities do not feel cut off or isolated.
- 5.2 Whilst the development of high quality telecommunication infrastructure is essential for continued economic growth it is necessary to minimise the impact on the environment. This is reflected in both the SPPS and the preceding PPS 10 Telecommunications, which sets out the Department's proposals. PPS10 is supplemented by DCAN 14 Development Control Advice Note 14 (DCAN 14) – Siting and Design of Radio Telecommunications Equipment.
- 5.3 During the plan period the council may consult with telecommunications operators to ascertain the extent of Mobile Data Coverage and broadband facilities which are currently operational or require upgrades.

Network Coverage

- 5.4 In Northern Ireland, 98.8% of premises were in areas with outdoor 2G coverage from at least one network in May 2016 and 99.4% of households had 3G coverage from at least one provider in May 2016. Northern Ireland then had the highest proportion of premises with outdoor 4G coverage from one or more mobile networks in May 2016, at 99.3%. It is acknowledged there remains some 'not-spots' in rural areas. Thematic maps illustrating the current status of 3G and 4G coverage within Mid and East Antrim can be found in appendix A.
https://www.ofcom.org.uk/data/assets/pdf_file/0027/69651/northern_ireland_telecoms.pdf
- 5.5 Mid and East Antrim is serviced by four main providers, these include EE, 3, O2 and Vodafone. The development of Mobile Data coverage within MEA has been ongoing, some of the improvements carried out recently has made Northern Ireland's 4G coverage available to 91.1% of premises, this was the second highest in the UK, behind England.
- 5.6 The below tables illustrates the latest figures available in relation to 2G and 3G data coverage in the Mid and East Antrim area (as broken down by the historic LGDs). 2G provides the most basic type of mobile connection (phone calls and text messages) with 3G offering additional internet services. 4G is the most recent form of data connectivity and is the fastest mobile data connection available.

Administrative Area	2G Coverage by Premises (% of premises at which all operators have 3G coverage - outdoor reception)	2G Coverage by Premises: no reliable signal	2G Coverage by Geographical Area	2G Coverage by Geographical Area: No reliable signal
Ballymena	81.2%	0.0%	75.7%	2.1%
Carrickfergus	86.9%	0.1%	67.4%	6.5%
Larne	81.2%	1.6%	54.4%	12.2%

UK 2G Mobile Services Data 2013 (<http://maps.ofcom.org.uk/mobile-services/>)

Administrative Area	3G Coverage by Premises (% of premises at which all operators have 3G coverage - outdoor reception)	3G Coverage by Premises: no reliable signal	3G Coverage by Geographical Area	3G Coverage by Geographical Area: No reliable signal
Ballymena	61.0%	0.0%	27.0%	3.2%
Carrickfergus	88.6%	0.0%	55.3%	5.0%
Larne	70.4%	9.0%	26.1%	20.5%

UK 3G Mobile Services Data 2013 ([3G Mobile Services data table 2013 | Ofcom](http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr15/northern-ireland/))

Broadband

- 5.7 Northern Ireland's core communication network is of a high quality which is necessary for sustainable economic growth and investment. Access to high speed reliable digital infrastructure is seen to be one of the most important enabling infrastructures in terms of economic development and addressing social deviation. The economic and social benefits of advanced telecommunications to Northern Ireland can only be achieved if the necessary infrastructure is developed, including the networks of base stations.
- 5.8 Improvements to the existing broadband infrastructure have taken place in recent years within the MEA area. The broadband market in Northern Ireland is fully privatised with the principle provider being British Telecom (BT). Providers available within MEA include EE, SKY and Virgin Media among others.
- 5.9 The infrastructure used to deliver broadband services in Northern Ireland currently allows 77% of premises access to superfast broadband services (>30Mbits/s), which is higher than Scotland but lower than Wales and England. <http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr15/northern-ireland/>
- 5.10 The following table provides information on fixed broadband provision across MEA. This includes the average sync speed, superfast broadband availability and broadband uptake.

	Ballymena	Carrickfergus	Larne
Average sync speed (Mbit/s)	16.3	18.5	15.2
% getting less than 2 Mbit/s	15.9%	13.5%	15.8%
Superfast broadband availability	87.4%	96.9%	81.6%
Broadband uptake rate	63.50%	68.10%	62.1%

5.11 Improvements to the existing broadband infrastructure have taken place in recent years within the MEA area. The broadband market in Northern Ireland is fully privatised with the principle provider being British Telecom (BT). Providers available within the Mid and East Antrim area include EE, SKY and Virgin Media among others.

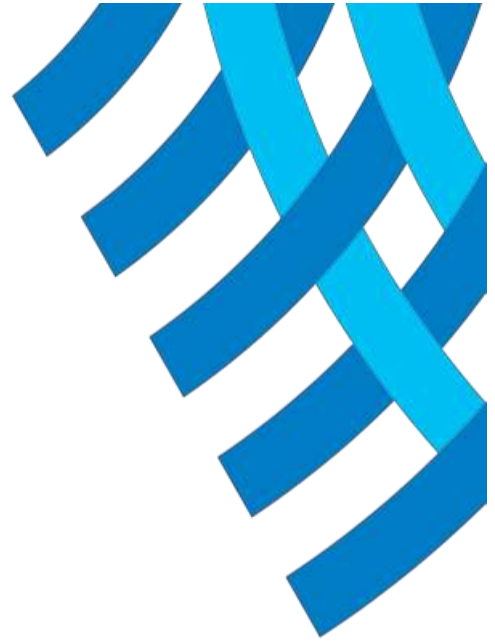
5.12 The following projects have taken place in Northern Ireland previously to improve the broadband provision across Mid and East Antrim:

- Northern Ireland Broadband Fund (2007-2013)
- Next Generation Broadband Project (completed 2011)

5.13 Currently the Broadband Improvement Project (2014-2017), is ongoing, to provide for the first time, increased or improved broadband services in certain areas. The works are set to include the following improvements:

- Access to basic broadband in areas which have no service
- Access to superfast broadband in areas which have some service
- Choose a supplier from several competing broadband companies in areas which have superfast broadband and other services such as video on demand or subscription television.

Further information relating to the Broadband Improvement Project which will be taking place in MEA is available in appendix B.



6.0 Recycling and Waste Management

6.0 Recycling and Waste Management

The Northern Ireland Waste Management Strategy 'Delivering Resource Efficiency'

- 6.1 The Department of Agriculture, Environment and Rural Affairs (DAERA) is responsible for drafting waste legislation and implementing waste management policy. It seeks to promote a more sustainable approach to dealing with waste in Northern Ireland.
- 6.2 The revised Northern Ireland Waste Management Strategy 'Delivering Resource Efficiency' (DOE 2013) sets out the policy framework for waste management within Northern Ireland. The Strategy follows the priority order for waste treatment set out in the Waste Hierarchy, a cornerstone of EU waste policy and legislation. As laid down in Article 4 of the Waste Framework Directive 2008, the new Waste Hierarchy applies the following priority order for waste management:
- Prevention;
 - Preparing for re-use;
 - Recycling;
 - Other recovery, e.g. energy recovery; and,
 - Disposal
- 6.3 The strategy contains actions and targets to meet EU Directive requirements and the Department's Programme for Government commitments, while also containing policy measures that build on the core principles of the 2006 Strategy.
- 6.4 The key principles of the Strategy are:
- Waste Hierarchy – indicates the relative priority of the different methods of managing waste;
 - Life Cycle Approach – to take into account the overall impacts that an approach or service will have throughout its whole life, that is, from cradle to grave;
 - Polluter Pays Principles – means that waste generators should pay the costs of providing services to manage their wastes;
 - Proximity Principle – emphasises the need to treat or dispose of waste as close as practicable to the point of generation, then minimise the environmental impact of waste transportation;
 - Integration of Waste Streams – encouraging the development of waste management solutions that encompass all waste.

Arc21 Waste Management Group

- 6.5 Local authorities in Northern Ireland have combined into three sub-regional waste management groups:
- arc21
 - North West Region Waste Management Group
 - Southern Waste Management Partnership
- 6.6 These groups work together to take forward the delivery and development of waste management plans and infrastructure. They also undertake benchmarking exercises and sharing of best practice. The three waste management groups have each prepared a waste management plans for their respective region for the period 2006-2020.
- 6.7 Mid and East Antrim Borough Council is part of the arc21 waste management group. Representing the six of the 11 new council areas, arc21 works on behalf of member councils to guide, support and help meet legal requirements and drive forward innovative waste management programmes.
- 6.8 The arc21 Waste Management Plan (October 2014) Plan provides a framework for waste management provision and a regional network of facilities for all controlled wastes within the arc21 Region. It establishes the overall need for waste management capacity and details the proposed arrangements to deal with the wastes produced in a sustainable manner.
- 6.9 The objectives of the Plan are:
- Meet the statutory obligations of European Directives, UK and Northern Ireland legislation;
 - Take into consideration the requirements of the Northern Ireland Waste Management Strategy 'Delivering Resource Efficiency';
 - Increase the re-use, recycling and composting of waste and reduce the quantity of waste disposed of to landfill consistent with sustainable waste management;
 - Implement an integrated waste management option for residual waste to contribute to a reduction in waste requiring disposal;
 - Encourage self-sufficiency in waste management facilities for the arc21 Region and disposal of waste in accordance with the proximity principle;
 - To reduce greenhouse gas emissions and adapt to future climate change;
 - Review existing waste treatment and disposal sites with the capacity to accommodate future waste management needs;
 - Outline an adequate integrated network of regional facilities in accordance with the principles of sustainable development, Strategic Environmental Assessment and BPEO;

- Set criteria and guidelines for the development of facilities to ensure a high level of environmental protection, and minimise the risks to the environment, human health and amenity;
- Ensure future waste management arrangements are developed and implemented in accordance with the principles of Best Value and Community Planning;
- Ensure that social needs, human rights and Equality Scheme requirements can be met in the implementation of the proposals; and
- Improve options for long term benefits and achieve economies of scale in order to reduce costs.

6.10 The plan looks at the principles of waste management and local authority collected municipal waste. It further subdivides this and takes into account commercial and industrial waste, packaging waste, hazardous waste management, agricultural waste; and construction, demolition and excavation. Waste within Mid and East Antrim

6.11 Each Council area is responsible for the collection and disposal of waste. Within Mid and East Antrim, there were 3 landfill sites located at Ballymacvea, near Kells; Bellahill Road, Ballycarry and Ballyrickard Road, Larne. All these sites are now closed. There is also a waste transfer station located at Tully Quarry, on the Moorfields Road outside Ballymena.

6.12 The Council provides a bulky household waste collection service for those who cannot transport their waste to a civic amenity site. Recycling and composting is also the responsibility of the council, with this facilitated through the provision of domestic recycle bins, bottles banks and civic amenity sites throughout the district.

6.13 In terms of existing recycling infrastructure, the Council operates 5 Household Recycling Centres which are illustrated in the table below. These sites provide a collection point for a wide range of items including car batteries, fridges and freezers, gas cylinders, large electrical appliance, and hard core, rubble and ceramics.

Recycling Centre	Location
Ballymena Household Recycling Centre	Waveney Road, Ballymena
Redlands Household Recycling Centre	Harbour Highway, Larne
Glenarm Household Recycling Centre	Dickeystown Road, Glenarm
Larne South Household Recycling Centre	Island Road Lower, Ballycarry
Carrickfergus / Sullatober Household Recycling Centre	Sullatober Lane, Marshallstown Road, Carrickfergus

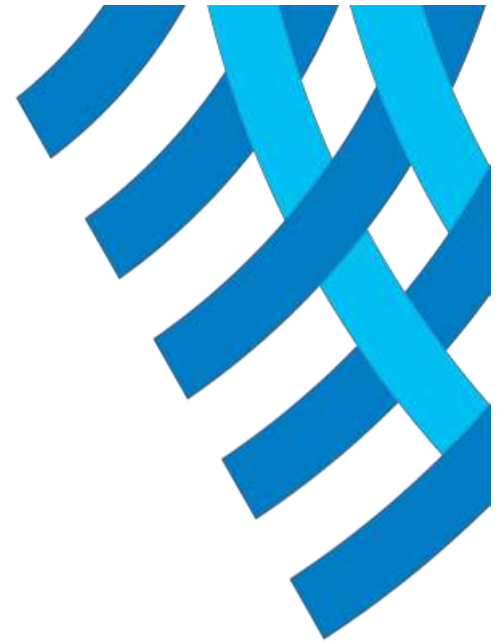
- 6.14 The Council also provides a range of 'Bring Centres' across the Borough. These are small scale recycling facilities primarily for glass, can and textiles. The distribution of these facilities are highlighted in the table below.

Location		Available Recycling Facilities
Ahoghill	Cardonaghy Road	Glass, cans, textiles
Ballygally	Coast Road	Glass, cans, textiles
Ballymena Council Offices	Waveney Road	Glass, cans, textiles, books, paper
Ballymena Sainsbury's	Larne Road	Glass, cans, textiles, books
Broughshane	Knockan Road	Glass, cans, textiles
Broughshane	Main Street	Glass, cans, textiles
Browns Bay	Car Park	Glass, cans, textiles
Carnlough	High Street	Glass, cans, textiles
Clough	Springmount Road	Glass, cans, textiles, books
Drainsbay	Coast Road	Glass, cans, textiles, small electrical
Galgorm	Creative Gardens, Galgorm	Cans
Glenarm	Coast Road	Glass, cans, textiles
Glynn	Larne Rugby Club, Shore Road	Glass, cans, textiles, small electrical
Kells & Connor	Main Street	Glass, cans
Larne	Curran Road Car Park	Glass, cans, textiles, small electrical
Larne	Larne Town Park	Glass, cans, textiles, small electrical
Larne, Millbrook	Old Belfast Road	Glass only
Larne	Old Glenarm Road	Glass, cans, textiles, small electrical
Larne	Riverdale Car Park	Glass, cans, textiles
Larne	Seacliff Road	Glass, cans, textiles, small electrical
Martinstown	Parochial Hall, Lisnamanny Road	Glass, cans, textiles, books
Moorfields	Misty Burn, Church Road	Glass, cans, textiles
Portglenone	Wild Duck Car Park	Glass, cans, textiles
Whitehead	Castleview Pavilion Car Park	Glass, cans, textiles, paper, cardboard

- 6.15 In consultation with the Council the following issues and proposals regarding future waste management have been identified as issues currently being reviewed or implemented:

- Council are currently making an application for a food waste recycling collection service under the Rethink Waste Capital Fund 2015/16.
- Sullatober Site, 10 Marshallstown Road, Carrickfergus contains both the Council Vehicle Depot as well as the Household Recycling Centre. Neither of these facilities are fit for purpose and there is potential to separate the facilities with expansion or relocation of both facilities.
- The Vehicle Depot at Victoria Road in Larne is also not fit for purpose and there is potential for relocation of this facility.
- The Waste Transfer Station/ Depot at Tully Quarry near Ballymena is in private sector ownership and operated under a long term lease. There may be future proposals to expand at the Tully site.
- The Vehicle Depot in Pennybridge Industrial Estate in Ballymena is operated under lease. There is a possibility this could be reviewed and relocated.
- MEA are part of the arc21 waste management group and are involved in the Residual Waste Project near Mullusk which includes proposals to use Mechanical Biological Treatment (MBT) and Energy from Waste (EfW) technologies. The proposal is that the Residual waste (black bin contents) will be forwarded to an MBT facility where recyclable and reusable material is recovered mechanically. The remaining material can then be used as a 'fuel' for the EfW facility to produce heat or electricity.
- In addition, the waste collections methodology is currently being reviewed in terms of refuse containers being used in connection or recyclables.

- 6.16 These issues are not strategic in nature. Rather they are local matters that can be addressed by the LDP Local Policies Plan, in due course.
- 6.17 Planning can contribute to the timely provision of an integrated network of waste facilities which are essential if EU targets are to be met. Proposals regarding waste management can continue to be dealt with by way of the development management process. In the event that the Council needs to safeguard land for waste management to cater for the municipal waste needs of the Borough over the plan period, this can be done at the Local Policies Plan Stage.
- 6.18 It is also important to note that the recycling and use of waste for energy production is a growth area in the private sector.



7.0 Water Supply, Sewage Facilities and Flood Risk

7.0 Water Supply, Sewerage Facilities and Flood Risk

Water Supply

- 7.1 The provision of water supply (including abstraction and treatment) in Northern Ireland is the responsibility of NI Water.
- 7.2 Mid and East Antrim is supplied with water from a variety of sources. The table below shows existing water supply in Mid and East Antrim.

Impounding Reservoirs/Loughs	Water Treatment Works
Dungonnell (Cargan)	Dungonnell WTW
Copeland (Carrickfergus)	Dorisland WTW
Dorisland (Carrickfergus)	
Loughmourne (Carrickfergus)	
North Woodburn (Carrickfergus)	
South Woodburn Lower (Carrickfergus)	
South Woodburn Middle (Carrickfergus)	
South Woodburn Upper (Carrickfergus)	
Killylane (Larne)	Killylane WTW
Lough Neagh ¹	Dunore Point WTW ²
Quoile Lower (Broughshane) [Out of Service]	N/A
Quoile Upper (Broughshane) [Out of Service]	N/A

¹ Located outside Mid and East Antrim Borough Council Area

² Located within Antrim and Newtownabbey Borough Council Area

- 7.3 NI Water is satisfied with the sufficiency of the water supply to the Council area over the Plan period. A multi-million pound investment is currently nearing completion at Dorisland WTW to ensure the adequacy of water quality. Further to this treatability studies will be undertaken at both Dorisland WTW and Killylane within the current Business Plan period (2015-2021) to ensure high water quality and distribution standards are maintained.

Sewerage Facilities

- 7.4 The provision of sewage treatment facilities in the Plan Area is also the responsibility of NI Water.
- 7.5 Revised Housing Growth Indicator (HGI) figures published by DRD in January 2016 and confirmed in April 2016 illustrate that 5,400 units are required for MEA covering the RDS plan period 2012 to 2025. As the LDP period runs to 2030, this figure has been adjusted on a pro rata basis to the actual number of years (i.e. 18 years in total). The net result of this calculation is that an estimated 7,477 dwelling are required over the plan period. It is therefore important to consider that this required housing increase will have an impact on the existing sewage network capacity.

- 7.6 NI Water have provided a table of Wastewater Treatment Works (WWTW) within the MEA Plan Area (appendix C). At this stage the information is limited to those Works categorised as serving settlements greater than 50 Population Equivalent.
- 7.7 The Table provides an indication of current 'Headroom' status as well as an estimation of future capacity based on applying a Settlements growth factors of 3%, 10% and 17% for the Plan duration. NI Water refreshes the applicable Planning status for each Works on an annual basis. Projected capacity based on the standard settlements growth factor should be understood as an estimation with caveat, which will need to be refined as the LDP progresses.
- 7.8 Based on the information provided, there would seem to be widespread sewerage capacity constraints associated with these works serving smaller settlements with a population equivalent of 50 – 250 persons. Although there is limited capacity at the vast majority of these small works (13 out of 15), this capacity may not accommodate all proposed properties within significant multi-unit developments. Therefore the NI Water default position is to class these works as 'Capacity Limited – Restrictions on New Connections' and NI Water will assess each multi-unit application in accordance with available capacity at the respective receiving works. Whilst there is current capacity in most works serving populations greater than 250, capacity is currently not available at Cargan, Grange and Moorfields. The numbers of works serving > 250PE with no available capacity increases as growth factors are applied – see tables in appendix C.
- 7.9 Proximity to existing WWTW will also be a factor in considering the location of new development land as part of the LDP. When selecting land for development, it is generally desirable to avoid land which is near existing treatment works as these can have adverse amenity impacts. Guidelines are in place between the Department for Infrastructure (DfI) and NI Water regarding what can be considered acceptable distances between development and WWTW's. For example, a WWTW with a design equivalent population of 5,000 should not be within 300m of inhabited development.

Flood Risk and Drainage

- 7.10 The EU "Floods Directive" (2007/060/EC) came into force on the 26th November 2007 and aimed to establish a framework that will contribute to reducing the impact of flooding on communities and the environment. The Rivers Agency (Department for Infrastructure) undertook a Preliminary Flood Risk Assessment for all Northern Ireland in 2011. Areas of significant flood were identified, and

Flood Hazard and Risk Maps produced by Rivers Agency, which are continuously updated.

<http://riversagency.maps.arcgis.com/apps/webappviewer/index.html?id=fd6c0a01b07840269a50a2f596b3daf6>

7.11 Flood Directive manages flood risk by:

- **Prevention:** avoiding construction of houses and industries in flood-prone areas; by adapting future developments to the risk of flooding; and by promoting appropriate land-use, agricultural and forestry practices.
- **Protection:** taking measures, both structural and non-structural, to reduce the likelihood and impact of floods.
- **Preparedness:** informing the public about flood risk and what to do in the event of a flood.

7.12 The multi-layered strategic flood maps provide information on flood defences, historical flood events and predicted extreme flood events for river and coastal flooding as well as the potential for surface water flooding.

7.13 At present there are three proposals in Mid and East Antrim area to carry out improvement schemes on watercourses/flood defences. It is important to note that subject to viability, flood alleviation schemes can take several years from identification of the requirement through to completion of works. The proposed schemes in MEA are:

- Carnlough Flood Alleviation Scheme – upgrading existing culvert to alleviate flooding issue at Housing Executive properties;
- Carnlough Floodwall Repairs at Marine Road – carrying out improvement work to existing flood defence; and
- Ahoghill – Village Stream Flood Alleviation Scheme – Design is underway by Rivers Agency section and a business case is being reviewed.

7.14 Minor works which have also been proposed for the area include drainage infrastructure (<25k):

- Carnlough – New Pipeline and channel improvements
- Ballyvallagh – Replacement accommodation bridge
- Broughshane – Shoal removal
- Portglenone – Grille upgrade

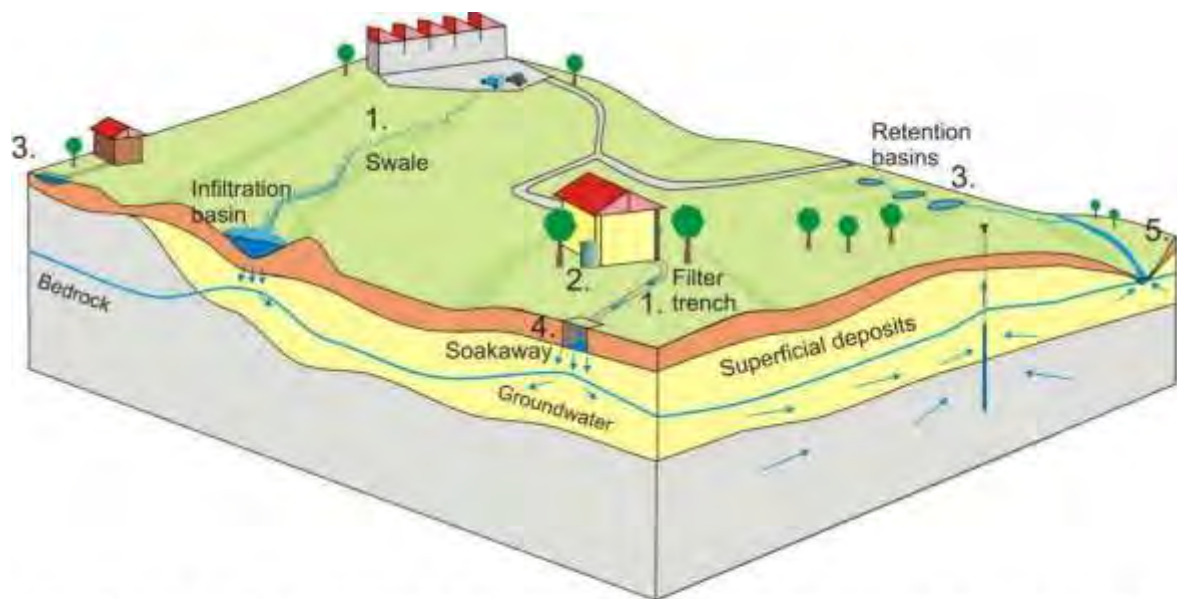
<https://www.infrastructure-ni.gov.uk/sites/default/files/publications/dard/ancillary-works-2016-17.pdf>

7.15 Settlements that have areas considered to be at significant risk of flooding in the council area are Ahoghill, Gracehill, Ballymena, Carrickfergus and Kilroot Power Station, Larne and Ballygalley. They are included in the suite of Flood Hazard and Risk maps for Northern Ireland. Settlements that are being considered in the Council area for further study in relation to Flood Risk are Ahoghill, Ballygalley, Gracehill and Larne. See appendix D for details on areas

within Mid and East Antrim with a 0.5 - 1% chance of river flooding or coastal in any given calendar year.

- 7.16 Lands that are currently defended by Flood defences within the Council area are in Ballymena, Galgorm, Cullybackey, Glarryford, Kells and Connor, Lisnacrogher and McGregor's Corner.
- 7.17 The fundamental policy message arising from the SPPS is that the most effective means of managing flood risk is to avoid the risk, by locating new buildings and infrastructure outside the flood risk area.
- 7.18 The LDP should ensure that land identified as being at risk of flooding is not zoned for development. Such development would be at an unacceptable risk of flooding, may cause flooding elsewhere and impair the natural function of the floodplain in storing flood water.
- 7.19 The Council should adopt a precautionary approach to the identification of land through the LDP process and the determination of development proposals, in those areas susceptible to flooding where there is a lack of precise information on present day flood risk or climate change flood risk.
- 7.20 In March 2016, the Department for Infrastructure (DfI) published a long term strategy entitled Sustainable Water: A Long-Term Water Strategy for Northern Ireland (2015-2040) on the best way forward for managing the water sector in Northern Ireland.
<https://www.infrastructure-ni.gov.uk/sites/default/files/publications/drd/sustainable-water-a-long-term-water-strategy-for-northern-ireland-2015-2040.PDF>
- 7.21 The Strategy highlights that planning policies should promote sustainable water and sewerage services by making appropriate space in development plans for water and sewerage infrastructure. Future local development plans should make provision for both waste water treatment facilities and sustainable drainage systems.
- 7.22 The strategy identifies four key sections:
- Drinking Water Supply and Demand
 - Flood Risk Management and Drainage
 - Environmental Protection and Improvement
 - Water and Sewage Services
- 7.23 Each of these sections sets out aims, policies and actions to achieve Sustainable Water within the lifetime of the Strategy, some of which have been identified to be implemented through the Local Development Plans (LDP), including:

- Make space for surface water management in LDPs – e.g. when zoning suitable land, large surface water drainage schemes such as lakes, wetlands and wet woodland could be created to meet the future drainage needs of the proposed development in an area.
- LDP policy could require, either generally or for specific zonings, that schemes are put in place at design stage so as to minimise surface water runoff. It is preferable that a range of Sustainable Drainage System (SuDS) solutions be employed as these are more sustainable and often less costly than using traditional piped infrastructure. They also offer multiple benefits such as recreation and amenity provision. Examples of such are green roofs, permeable paving, soakaways, ponds and wetlands. The Diagram below shows how Sustainable Drainage Systems work.



During a storm event, surface water flows through swales and filter trenches that remove entrained pollutants (1). The peak river discharge is delayed and reduced by; storage of water for re-use (2), storage in ponds (3), or infiltration of water to the ground through infiltration basins and soakaways (4). This process improves the quality of water in rivers and decreases peak river discharge (5).

<http://www.bgs.ac.uk/research/engineeringGeology/urbanGeoscience/suds/what.html>



8.0 Reservoirs

8.0 Reservoirs

- 8.1 The Reservoirs Act (Northern Ireland) 2015 applies to “Controlled Reservoirs” i.e. reservoirs that impound 10,000 cubic metres or more. There are 132 controlled reservoirs in Northern Ireland.
- 8.2 Where development is proposed within the inundation area of a Controlled Reservoir, PPS 15 FLD 5 and SPPS use a two-step approach, with the first step requiring the applicant to provide assurance that the reservoir is in good condition, well maintained and safely managed in compliance with industry standards. If condition assurance cannot be obtained for a given reservoir by the applicant, in the interests of public safety it is not safe to permit development in the inundation area of said reservoir. If condition assurance is obtained the developer will be required to submit a detailed flood risk assessment to show how the identified flood risk to the development, and elsewhere as a result of it, can be managed and migrated.
- 8.3 Because of the particular flood risks associated with reservoirs, coupled with the substantial onus that will be placed upon developers, the LDP should carefully consider whether it is appropriate to allocate land for development within reservoirs inundation areas.
- 8.4 In the Mid and East Antrim area, there are 18 “controlled reservoirs” (i.e. an impoundment $\geq 10,000$ cubic metres) and these are detailed in the table below. Most of these reservoirs are in, or close to, rural settlements.

NAME OF RESERVOIR	LOCATION
Clough	Cloughmills
Duneoin Road	Glarryford
Dungonnell	Cargan
Glenrock	Rasharkin
Killylane	Larne
Kilwaughter Pond	Larne
Lough Mourne	Carrickfergus
Newmills Hydro	Ballycarry
North Woodburn	Carrickfergus
Quoile Lower	Broughshane
Quoile Upper	Broughshane
Raloo Trout fishery	Larne
South Woodburn Lower	Carrickfergus
South Woodburn Middle	Carrickfergus
South Woodburn Upper	Carrickfergus
Wild Life Ponds	Carrickfergus
Copeland	Carrickfergus
Dorisland	Carrickfergus



9.0 Energy Supply

9.0 Energy Supply

Electricity

9.1 Energy in the District is primarily produced by the use of fossil fuels to generate electricity. Northern Ireland has three major electricity generating stations:

- Ballylumford Power Station, Islandmagee, Co Antrim (gas fired) (operated by AES Group);
- Coolkeeragh Power Station, Co. Londonderry (Combined Cycle Gas Turbine (402MW) with an additional 53MW oil) (operated by ESB International);
- and Kilroot Power Station, Carrickfergus, Co Antrim (dual coal/oil fired) (operated by AES Group)

9.2 These power stations supply electricity to a wholesale market known as the Single Electricity Market (SEM - a wholesale market across the island of Ireland). Mutual Energy Limited also supplies electricity via the Moyle interconnector. To underpin economic growth, Mid and East Antrim needs a modern and sustainable economic infrastructure including robust electricity connections. The Energy Licences currently held within the Mid and East Antrim area are detailed in appendix E.



Existing energy infrastructure in NI

Source: www.economy-ni.gov.uk

Electricity Connection for Renewables

- 9.3 The capacity of the existing electricity grid to accommodate new generation (either renewable or conventional) is currently subject to severe constraint. The Utility Regulator Determination that planning permission could no longer be a pre-requisite of application for a generation connection to the Distribution System, has triggered a significant increase in applications. The level of connected and committed renewable generation already exceeds the capacity of the Transmission System and some areas of the Distribution System, while demand growth in Northern Ireland is not expected to increase significantly in the near future.
- 9.4 The publication of the NIE Alternative Connection Application and Offer Process Proposal Decision Paper (May 2016) is welcome. The decision paper outlines that NIE have set a queue integration date of 17th of June 2016. Applications received before this date with full planning permission or relevant consent will be considered in allocating remaining capacity at that point. It is expected that connection offers for Phase 1 will be issued between July and September 2016. This is in anticipation of the increased applications for connection to the grid, due to the closure of the Renewable Obligation Certificate (ROC) in March 2017. [http://www.nienetworks.co.uk/documents/Generation/Alternative-Connection-Application-and-Offer-P-\(1\).aspx](http://www.nienetworks.co.uk/documents/Generation/Alternative-Connection-Application-and-Offer-P-(1).aspx)
- 9.5 Since the introduction of increased Renewable Obligation Certificate (ROC) incentives for small scale generation in April 2010, there has been a large increase in the amount of small scale generation either connected to, or committed to connect to the 11kV network. NIE have recently produced their latest 11kV network heat map (February 2015) to provide guidance on capability of the 11kV network to accept further small scale generation (see appendix H). This heat map identifies where investment is currently required. This map is a simple visual representation which displays that in the Mid and East Antrim Plan Area locations such as Larne, Carrickfergus and to the north east of Ballymena are already at saturation point.
- 9.6 The existing energy infrastructure needs to be overhauled to ensure it will be fit for purpose. This includes strengthening the grid and developing smart grid initiatives. The upgrading of the electricity grid will involve more overhead power lines and power installations. The following table provides details of the various projects presently underway or planned in NI to aid renewables integration into the electricity network:

Short Term Plan (STP)
Increasing capacity of existing 110kV network by using Dynamic Line Rating techniques combined with selective up-rating- Work Completed

Medium Term Plan (MTP)

Series of individual projects designed to reinforce 110kV network to increase capacity & remove bottlenecks-Work ongoing

Renewable Integration Development Plan (RIDP) & Network 25

The RIDP has identified the issues which will arise due to the connection of renewable generation (in the north and west of NI) & in 2013 the project had arrived at a preferred overall scheme option. The scheme involves new extra high voltage, 275 and 110 kV infrastructure and the uprating of some existing circuits. However, phase 4 of the RIDP is now focused on the preparation of a transmission plan for the whole of NI (Network 25) supported by an associated SEA.

Generation Cluster Infrastructure

To facilitate the connection of renewable generation to the grid NIE will 'cluster' their arrangements for the connection of generators (generally onshore wind farms) so that generators will share transmission network infrastructure as far as possible. Clustered connections generally involve the construction of a 110/33kV substation, connection to the 110kV network & individual 33kV generation connections. There are to be at least 7 cluster substations developed before 2020.

North South Interconnector (NSI)

The proposed interconnector will require the construction of a new 275/400kV substation & a new 400kV overhead line between Turleenan (Dungannon) and Woodlnd (Meath). A planning application, ref O/2009/0792/F, was submitted in December 2009. The Environment Minister referred the application to the Planning Appeals Commission and a Public Inquiry commenced and was adjourned due to legal challenges brought by objectors in March 2012. An updated planning application, ref O/2013/0214/F, relating specifically to the works associated with the construction of overhead lines and towers was submitted to the Department of Infrastructure (formerly DOE) in April 2013. Following a period of public consultation, this application has been returned to the PAC for re-commencement of the Inquiry.

The Department of Infrastructure (DfI) has requested the Planning Appeals Commission (PAC) to reconvene the public inquiry for the interconnector proposal and to run it jointly with a public inquiry into the associated works proposal. In view of the length of time which has passed and the changes to the proposal it was necessary to start the inquiry process over again with fresh evidence.

The inquiry is being held in two stages. Legal and procedural issues were considered in the first stage and the commissioners have reported on those issues to the Department for Infrastructure. Release of the report is a matter for the Department for Infrastructure. The Planning Appeals Commission is now awaiting a written indication from the Department for Infrastructure as to whether it is satisfied that the applications are ready to proceed to the second stage for discussion on the merits of the proposals.

<https://www.pacni.gov.uk/soni-limited-proposed-tyronecavan-electricity-interconnector>

Potential Transmission Connections Mid and East Antrim Borough

9.7 Compressed Air Energy Storage (CAES) Project

A major CAES project is proposed at Island Magee, close to Ballylumford 275/110kV substation. This project will require transmission infrastructure to connect this project to the existing transmission system. The final connection method is still to be determined.

9.8 Tidal Generation Projects

There are two tidal generation projects proposed off the North Antrim coast at Fair Head and Torr Head off the North Antrim coast. Although the actual tidal projects are outside the Mid and East Antrim Borough Council area there is the potential for development of transmission infrastructure within the council area to facilitate connection.

9.9 Kells Cluster Project

To minimise the overall extent of network infrastructure when connecting generation, consideration is being given to developing a single solution for groups or “clusters” of generation. NIE have identified the need for such cluster infrastructure in the area east of Ballymena and north of Kells. This is to accommodate generation connections (mostly wind farms) at distribution level which are at various stages in the planning process.

9.10 Kells Photovoltaic (PV) Project

A potential large scale PV farm is under consideration in the vicinity of Kells 275/110kV substation. The developer is currently proposing a transmission connection for this PV therefore transmission infrastructure will be required to connect the PV project back to the existing transmission system.

Potential transmission developments not associated with third party connections.

9.11 Reinforcement north of Kells

There is a major transmission substation east of Kells from which there is a single 110kV overhead circuit that connects to Coleraine. Due to increasing levels of generation, NIE anticipate that a further circuit will be required. NIE have yet to determine the routing and the technology that will be employed.

9.12 Reinforcement from Ballylumford to Carnmoney

A double circuit 110kV towerline extends from Ballylumford PowerStation through Islandmagee and on to Eden and then to Carnmoney. Due to increasing powerflows on this circuit during certain outage and generation conditions NIE anticipate that this double circuit will require to be uprated.



10.0 Renewable Energy

10.0 Renewable Energy

- 10.1 The European Commission's Renewable Energy Directive (2009/28/EC) establishes overall policy for the production and promotion of energy from renewable sources in the EU and specifies national renewable energy targets for each country. The Strategic Energy Framework (DETI 2010) states that Northern Ireland will seek to achieve 40% of electricity consumption from renewable sources by 2020.
- 10.2 In line with this, the Northern Ireland Executive's Programme for Government set a target that by 2015, 20% of all electricity will be generated from renewable sources, which was met.
- 10.3 The latest Dept. for Economy statistics for the 12 month period April 2015 to March 2016 showed that 25.4% of total electricity consumption in Northern Ireland was generated from renewable sources located in Northern Ireland. This represents an increase of 5.5 percentage points on the previous 12 month period (April 2014 to March 2015). Therefore continued development of renewable energy resources is vital to facilitating the delivery of international and national commitments on both greenhouse gas emissions and renewable energy.
<https://www.economy-ni.gov.uk/sites/default/files/publications/economy/Issue-5-Electricity-Consumption-and-Renewable-Generation-in-Northern-Ireland-April-2015-to-March-2016.pdf>
- 10.4 The main sources of renewable energy are the wind, the sun (solar), moving water (hydropower), heat extracted from the air, ground and water (including geothermal energy) and biomass (wood, biodegradable waste and energy crops).
- 10.5 The Northern Ireland Housing Executive (NIHE) is designated as Northern Ireland's only Home Energy Conservation Authority (HECA). In its 2015 HECA report, the NIHE stated that they were committed to installing a range of renewable energy source across their housing stock. The report stated that they had installed a range of renewable energy installations in their properties and that the most effective of these were wood pellet boilers and photovoltaic solar panels. The main renewable energy installations provided by NIHE throughout Northern Ireland are as follows:
- Solar water heating panels – 2,032
 - Solar Photovoltaic (PV) panels in 32 homes
 - Solar air heating and ventilation systems in 55 homes
 - Biomass wood pellet boilers in 53 homes

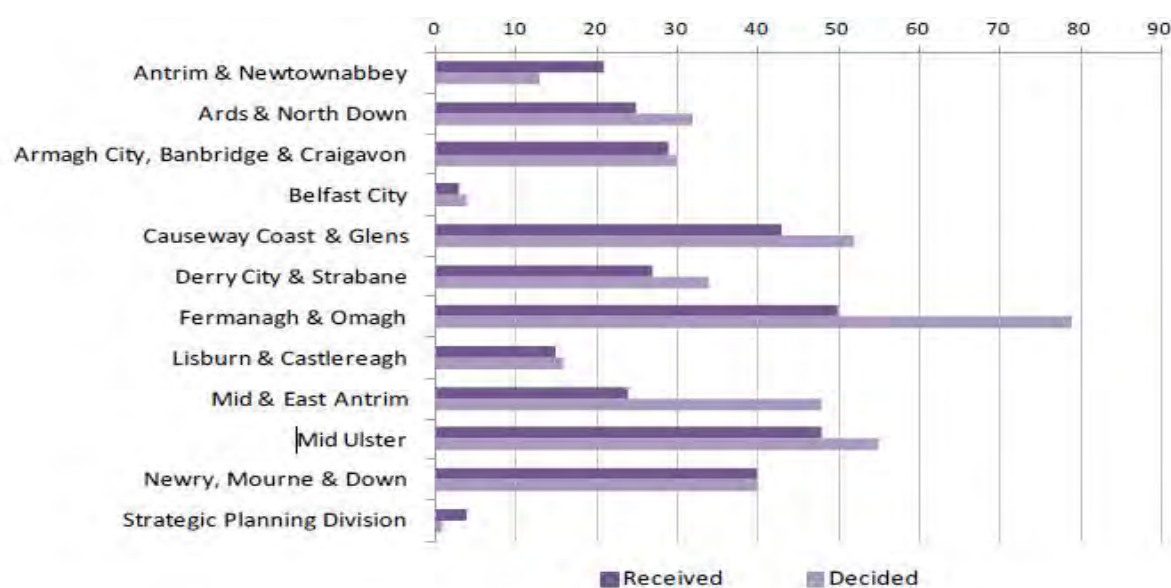
- Micro wind turbine in 1 home
- Field trial of micro-CHP systems in 10 homes
- Field trial using bio-fuel which is a mix of kerosene oil and vegetable oil but produces 21% less carbon emissions than kerosene

http://www.nihe.gov.uk/home_energy_conservation_nineteenth_annual_report.pdf

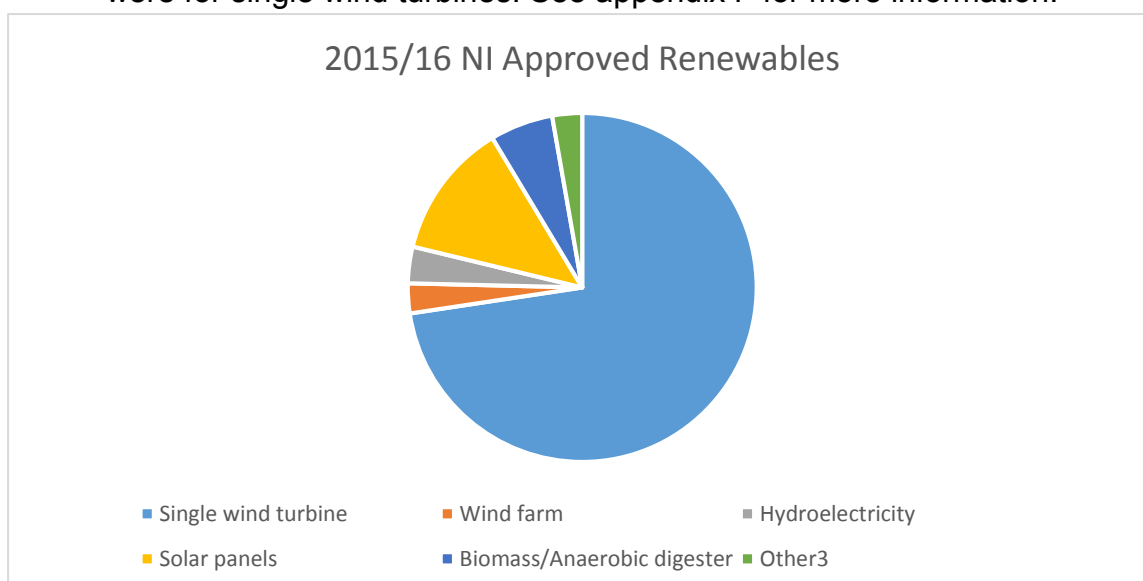
- 10.6 The Northern Ireland Renewables Obligation (NIRO) is the main mechanism for incentivising renewable electricity generation in Northern Ireland is the Northern Ireland Renewables Obligation (NIRO). The NIRO provides non-competitive support to renewable technologies, which would otherwise be unable to compete on a cost basis with conventional generation. Under Electricity Market Reform (EMR), NIRO along with the Renewable Obligations in other parts of the UK will close to all technologies by 31 March 2017. NIRO closed to new large scale onshore wind projects on 31 March 2016. Further consultation on new small scale onshore wind closed on 9 May 2016 and the Minister is currently considering options. The NIRO will close to all new non-wind technologies on 31 March 2017.
- 10.7 Future support for renewable energy within Northern Ireland could come in the form of the Contracts for Difference (CfD) Scheme, which was introduced in GB in 2014, as part of Electricity Market Reform, to support renewable electricity generation post the Renewables Obligations (ROs). Unlike the ROs, the CfD scheme is based on UK-wide competitive auctions and there is no guarantee that there would be any deployment in NI. If introduced here, NI consumers would face significant bill increases with no guaranteed benefits. Over 95% of renewable generation in Northern Ireland is from onshore wind. The UK Government's manifesto commitment to stop future subsidies for onshore wind in 2016 will be a major influence, therefore, on future support for renewables post NIRO closure.
- 10.8 The Department for Energy and Climate Change (DECC) in GB announced that onshore wind will not be included in the CfD allocation round in 2016. Given its decision to close the ROs to new onshore wind in 2016 i.e. one year early, onshore wind may not be included in future CfD allocation rounds. The NI Executive will be asked to consider NI's participation in the CfD scheme later in 2016. DfE will commence work to identify and consider options on how best to support renewable energy later in 2016.
- 10.9 In 2015/16, more than 7 out of every 10 renewable energy applications were for single wind turbines (245 of 329). Although single wind turbines continue to dominate renewable energy applications, over the last year applications have decreased by 41.8% (or 176 fewer applications). The number of renewable energy applications received has been rapidly decreasing since 2011/12 which peaked at 820. This is following a period of sustained growth from the beginning

of the previous decade, with a surge in applications from 2009/10. The recent decreases may, in part, be due to a reduction in government funding available and also a lack of capacity on the grid to allow for new connections.

10.10 The figure below shows the number of applications received by the 11 councils in Northern Ireland for 2015/16. Mid and East Antrim have received 24 renewable energy applications in 2015/16.



10.11 The figure below shows NI Renewables by type. There was 325 renewable applications approved in Northern Ireland in 2015/16, the majority of which were for single wind turbines. See appendix F for more information.



<https://www.infrastructure-ni.gov.uk/publications/northern-ireland-planning-renewable-energy-monthly-statistics-april-2015>

10.12 Key information regarding the various renewable energy sources is also outlined below:

Wind

- 10.13 Electricity generated by onshore wind farms is the most established, large scale source of renewable energy in NI. Of all renewable electricity generated within Northern Ireland over the 12 month period April 2015 to March 2016, 90.2% was generated from wind.
- 10.14 Wind is the dominant source of renewable electricity generation in Northern Ireland, such reliance on this source does mean that monthly renewable electricity generation volumes in Northern Ireland can be prone to large fluctuations, due to changing weather conditions.
<https://www.economy-ni.gov.uk/sites/default/files/publications/deti/energy-northern-ireland-2016.pdf>
- 10.15 The majority (approx. 75%) of energy derived from wind in Northern Ireland comes from large scale generation as opposed to small scale or micro generation. Large scale generation consists of wind farms whilst small scale or micro generation consists of a range of renewable technologies including single turbines or even micro turbines.
- 10.16 The number of wind energy applications processed in MEA is detailed below:
Single Turbines
- Between 1st April 2015 – 31st March 2016 there were 46 single wind turbine applications decided in MEA (36 approved and 10 refused).
 - Since 2002 there have been a total of 277 single wind turbine applications in MEA decided, with 237 granted planning permission.
- Wind Farms
- Between 1st April 2015 – 31st March 2016 there were 2 wind farms approved within MEA.
 - Since 2002 there have been 10 wind farm applications in MEA with 5 approved, 4 refused, and 1 still under consideration.
- The current status of wind energy development within MEA can be seen in appendix G.
- 10.17 It appears that public attitude towards wind energy development may be changing. There are concerns regarding the proliferation of turbines and the resulting visual intrusion, safety and the increasing size and massing of turbines in some areas of the Borough. Mid and East Antrim is home to some of Northern Ireland's most important landscape areas including the Antrim Coast and Glens Area of Outstanding Natural Beauty (AONB) and the associated. Important tourism assets such as Slemish, the Gobbins, and the Causeway Coastal Route need to be protected from development which may have an adverse impact on them.

Solar

- 10.18 Active solar photovoltaic (PV) technologies generates electricity from daylight. The most common form of device is a solar panel or module typically 0.5 to 1m² in size, dark in colour and having low reflective properties. Although roof mounted is most common, modules can be mounted on sides of buildings, or on free standing support structures on the ground. A number of modules are usually connected together in an array to produce the required output, which can vary from a few square metres to several hundred square metres. In most cases involving dwelling houses, providing the building is not listed or in a conservation area and the installation complies with the relevant constraints, PV will be 'permitted development' and a planning application will not be required.
- 10.19 Passive Solar Design (PSD) is an environmentally benign approach to ensure that domestic scale buildings capture maximum light and heat from the sun whilst being positioned in the landform to act as a buffer against the worst of the elements.
- 10.20 Within Mid and East Antrim, there has been a total of 35 approvals since 2002 for solar development, including 5 large scale developments with a combined potential output of 113M.

Water

- 10.21 Water flowing from a higher to a lower level drives a turbine which produces mechanical energy. This mechanical energy is usually turned into electrical energy by a generator. There has been a total of 19 approvals since 2002 for hydro development within the Borough. Future hydro developments are anticipated to be generally small in scale. Fisheries considerations for this type of renewable energy development can be a significant concern and impacts will need to be carefully assessed.

Heat

- 10.22 Ground source heat pumps operate by circulating water (or another fluid) through pipes buried in the ground. The water temperature in the pipes is lower than the surrounding ground and so it warms up slightly. This low grade heat is transferred to a heat pump, which raises the temperature to around 50°C.
- 10.23 Water source heat pumps operate in a similar way, with the pipes being submerged in water. Air source heat pumps extract heat in the air and use a

fan to draw air over coils that extract energy. Air-source heat pumps can be located in the roof space or on the side of a building. They are similar in appearance to air conditioning boxes.

- 10.24 The Northern Ireland Renewable Heat Incentive (RHI) non-domestic and domestic schemes were introduced following the introduction of parallel schemes for the rest of the UK. They were central to the action to meet an Executive target (PFG) of having 4% of Northern Ireland's heating needs met from renewable sources by 2015, and a further target in the Strategic Energy Framework of achieving 10% renewable heat consumption by 2020. There are now over 4,700 renewable heating installations under both schemes.
- 10.25 The current assessment is that over 6% of Northern Ireland's heating needs are now provided by renewable technologies. Increased demand coupled with a reduction in RHI funding arising from the Chancellor's November 2015 statement has meant that the available budget for new RHI applications has been exhausted and both RHI schemes had to be closed to new applications from 29 February 2016. A review of the RHI is now being undertaken which will inform the consideration of any new scheme going forward.
- 10.26 There has been a total of 7 approvals since 2002 for ground/water/air source heat pumps within the Borough.

Biomass

- 10.27 Biomass fuels, including wood and energy crops, can be utilised to provide energy either by combustion or fermentation / digestion technologies. There are currently three main categories of biomass plant:
- Plant designed primarily for the production of electricity
 - Combined heat and power plant (CHP)
 - Plant designed for the production of heat.
- 10.28 Emissions and waste products from biomass energy production include airborne emissions, emissions to watercourses and ash. Anaerobic digestion (AD) is a process which bacteria break down organic material in the absence of oxygen to produce a methane rich biogas. This can be combusted to generate electricity. Thermal processes can also be used extract energy from waste. These processes use a high temperature to release the chemical energy in the fuel. Planning issues from these renewable energy developments that require consideration include:
- Visual intrusion-the plant is an industrial feature with a chimney;
 - Noise from plant and traffic operations;
 - Any effects on health, local ecology or conservation from the plant and air / water borne emissions;

- Traffic to and from the site in order to transport biomass fuel and subsequent by-products.

10.29 Since 2002 there have been a total of 14 applications for Biomass/anaerobic digesters decided within Mid and East Antrim, 13 obtained consent with 1 refusal.



11.0 Natural Gas

11.0 Natural Gas

- 11.1 Natural gas was first introduced to Northern Ireland via the Scotland to Northern Ireland gas pipeline in 1996. Initially, natural gas was made available to customers in Greater Belfast, the immediate surrounding area and Larne where the gas distribution network has been developed by Phoenix Natural Gas.
- 11.2 According to the Utility Regulator's Quarterly Report (February 2016) to the Dept. of Economy, at the end of 2015, natural gas is available to circa 313,000 properties in Northern Ireland, with approx. 187,000 actually connected to natural gas.
- 11.3 Firmus energy is engaged in developing the natural gas market outside the Greater Belfast and Larne licence area. This work involves rolling out the gas distribution network in the 10 towns and cities. To date, Firmus energy has connected around 28,000* customers in the '10 towns' licence area. Firmus anticipate up to 60,000 connections in total within their 30 year licence period.
- 11.4 A map of gas licence areas in Northern Ireland showing existing and planned main gas pipelines is attached (appendix I). However, it should be noted maps showing local gas distribution networks within individual towns or cities may be available from the licence holder responsible for the development of gas networks in each licence area.
- 11.5 MEA area falls across two gas distribution licence areas.
- Greater Belfast and Larne Licence Area
Larne and Carrickfergus fall within the Greater Belfast and Larne licence area where local gas networks have been developed by Phoenix Natural Gas since 1996. Phoenix Natural Gas continues to connect around 8,000 new gas consumers each year across its license area. SSE Airtricity Gas Supply Ltd (who bought over Phoenix Supply Ltd in 2012) is the incumbent (main) gas supplier in Greater Belfast and Larne. However, the gas supply market in this area has been fully open to competition for some years. For domestic and small business customers, SSE Airtricity is the main gas supplier with a market share of circa 72%. Firmus energy, who entered this market in 2010, has a market share of circa 28%. For medium to large businesses, SSE Airtricity is again the main gas supplier but the company has a range of competitors - Energia, Firmus energy, VAYU, Electric Ireland, LCC Power, and Flogas.
 - '10 Towns' Licence Area
Ballymena and Broughshane fall within the '10 towns' licence area where gas distribution networks are being developed by Firmus energy. Part 3 of

the company's gas conveyance licence contains details on Firmus energy's development plan for the '10 towns'. In particular, Annex 2 to Part 3 of the licence sets out the annual target for gas connections in each of the main towns. The licence is available on the Utility Regulator's website at:

[http://www.uregni.gov.uk/uploads/licenses/2014-03-28_BGE\(firmus\)_Conveyanc_Licence_final.pdf](http://www.uregni.gov.uk/uploads/licenses/2014-03-28_BGE(firmus)_Conveyanc_Licence_final.pdf)

Firmus energy is also the main gas supplier in the '10 towns'. The gas supply market in this area opened to competition in respect of large business customers in October 2012. SSE Airtricity Gas Supply is active in this market as a competitor to Firmus. The gas supply market in respect of small to medium-sized businesses and domestic customers opened to competition from April 2015. However, no gas supply companies have yet entered the gas supply market as competitors to Firmus for domestic customers in the '10 towns'.

Gas Extensions

- 11.6 Gas distribution companies in Northern Ireland (such as Phoenix Natural Gas, Firmus energy, or SGN) may apply to the Utility Regulator at any time for an extension to an existing gas conveyance licence in order to develop gas networks to further towns and villages, or for a licence to take gas to a new area. New gas networks are provided where it is considered economically viable, hence, there will be areas in Northern Ireland where there are insufficient business gas loads and/or population density to make gas network extension commercially feasible.

Gas Storage

- 11.7 Islandmagee Storage Limited (IMSL) was granted planning permission for the above ground facilities for a natural gas storage facility at Islandmagee, Co Antrim, in October 2012. IMSL plans to create seven caverns, capable of storing up to a total of 500 million cubic metres of gas in Permian salt beds almost a mile beneath Larne Lough.



12.0 Cemetery Provision

12.0 Cemetery Provision

- 12.1 The majority of cemeteries in the Borough are provided by local churches of various denominations. However, public cemeteries are also provided and maintained by the local council. Below details the number of deaths registered within MEA compared to the number of Burials for the financial year 2014/15;

	Deaths Registered 2014/15	Burials 2014/15
Ballymena	616	295
Carrickfergus	366	204
Larne	284	261
Mid and East Antrim	1266	760

- 12.2 Information supplied by the former councils would indicate that the public cemeteries in the former Ballymena Borough will be capable of coping with demand throughout the fifteen year plan period. Additional land will be needed during the plan period to allow for cemetery provision in the Larne and Carrickfergus area.
- 12.3 Ballymena Cemetery extension on the Cushendall Road will provide an additional 875 new plots which could accommodate 2625 graves spaces. With the burial rate at 120 per year, there is ample capacity well beyond the fifteen year plan period.
- 12.4 Cemeteries at Ahoghill (new), Ballee, Cullybackey and Portglenone each have capacity greatly in excess of the estimated need over the plan period based on their respective average burial rates per year.
- 12.5 Kirkinriola is at capacity and Clough has less than 2 years supply. Council may decide to either seek interest from surrounding land owners to extend these cemeteries or allow burials to take place at the Cushendall Road cemetery.
- 12.6 Cemeteries at Racavan, Ballyclug, Ahoghill (Old) and Kirkhill are currently closed and have no further plots available, although around 1-5 burials a year still take place at these cemeteries in the form of re-openings of existing plots.
- 12.7 In the Carrickfergus area there is one council maintained cemetery at Victoria Road. There remains a maximum of 1516 graves for sale. Council envisage closure of new grave sales by approximately 2023, assuming average sales which will not suffice for the incoming plan period. The Council may wish to seek additional land in Carrickfergus to meet the required cemetery provision over the plan period and beyond.
- 12.8 There are closed cemeteries at North Road and Fort Road where burials are by re-opening of family graves only.

12.9 In Larne the public cemetery is at Craigyhill Road. There are ongoing investigations into acquiring new land for additional cemetery provision in this area though the suitability of the land in question has not yet been determined. With only 189 unused plots remaining and burial rates averaging 200 per year the provision for new burial ground for Larne is a very high priority. There are however strips of land around the margins of the cemetery, not yet been marked out in plots, which could yield a further 500 plots extending overall provision to approximately 3 years.

12.10 In Glenarm cemetery there are 206 plots remain which is estimated to give 10 years provision, however it should be noted that there are large trees, poor ground conditions and poor graveyard layout which could reduce the number of plots available. Consideration should therefore be given to exploring other options within Glenarm or the wider Borough.

12.11 The cemetery at Ballycarry has 275 plots remaining which should give 17 years provision based on average burial rates. The council also own adjacent land which could be considered as a possible cemetery extension. Islandmagee has 4 years provision but council have acquired land for a cemetery extension which is currently being developed and will give 30-40 years provision.

Cemetery	Average Burials Per Year	Unused Plots
Larne	200	189
Glenarm	18	206
Islandmagee	25	103
Ballycarry	16	275

*unused plots only refers to areas of the graveyard that have been market out in plots.

12.12 When planning for new cemetery provision it is important to consider the impact such development will have on the groundwater supply at the site in question. Cemetery development can lead to groundwater becoming contaminated and this is particularly important if there is a groundwater or surface water fed drinking water source in the locality.

12.13 Proposals to zone land for future cemetery development should be considered in liaison with NIEA Water Management Unit. In considering such proposals consideration should be given to the following documents;

- Planning Guidance Note: Cemeteries. A Guidance Note for Planning Officers and Applicants Seeking Planning Permission for New Cemeteries and Extensions to Existing Cemeteries;
- Pollution Prevention Guidelines (PPG's), namely PPG 1, 4 & 5; Cemeteries, Burials and the Water Environment Guidance Note.

12.14 Alternatively, the council may decide not to zone land but to allow any application for such development to be assessed on its own merits against existing planning practices.



13.0 Conclusion

13.0 Conclusions

- 13.1 This paper has provided an overview of utility provision within Mid and East Antrim including existing provision and anticipated spare capacity of public utilities over the plan period until 2030. Utility provision in the Local Development Plan must take account of the regional planning framework set out by the Regional Development Strategy 2035 and the SPPS. It will be an important factor informing judgements on the allocation of housing and economic growth, including both the scale and location of such growth. The provision of public utilities within the plan area is primarily the responsibility of a number of government Departments and statutory bodies as well as the Council. However the private sector is playing an increasingly important role. It is therefore important in progressing the LDP to recognise that external providers have their own long term strategies and investment plans subject to budget constraint
- 13.2 The LDP will not designate or zone specific sites for public utilities. However in accordance with regional and operational planning policy it will seek to locate new developments which maximise the efficient use of existing utility infrastructure whilst keeping the environmental impact to a minimum.
- 13.3 Where proposals to develop new or replace existing public utilities are known, these should be identified in the Plan. Where provision of an existing public utilities is limited and there are no known plans to upgrade during the plan period, development may be constrained as a result of this.
- 13.4 Whilst the policy approach of the LDP cannot be prescribed at this early stage in the Plan process; there are several broad issues arising out of this Paper that will be very likely to inform thinking on future emerging strategy. Examples include the following:
- The need to facilitate the further development of telecommunications and energy supply (including renewables), while balancing the impacts on the environment, landscape and rural character; particularly in sensitive areas which will be identified or designated through the LDP;
 - They need to maximise the use of existing infrastructure, for example water supply and sewerage, in considering the distribution of future housing and economic, through the LDP;
 - The need to minimise the flood risk in considering the location of new development through the LDP;
 - The promotion of sustainable development in new development, including sustainable drainage and energy conservation.



14.0 Appendices

14.0 Appendices

Appendix A – 3G and 4G Thematic Maps

Appendix B – Broadband Improvement Project (MEA)

Appendix C – Waste Water Treatment Works

Appendix D – Areas within Mid and East Antrim with 1% chance of river or coastal flooding in any given calendar year.

Appendix E – Energy Providers for Mid and East Antrim

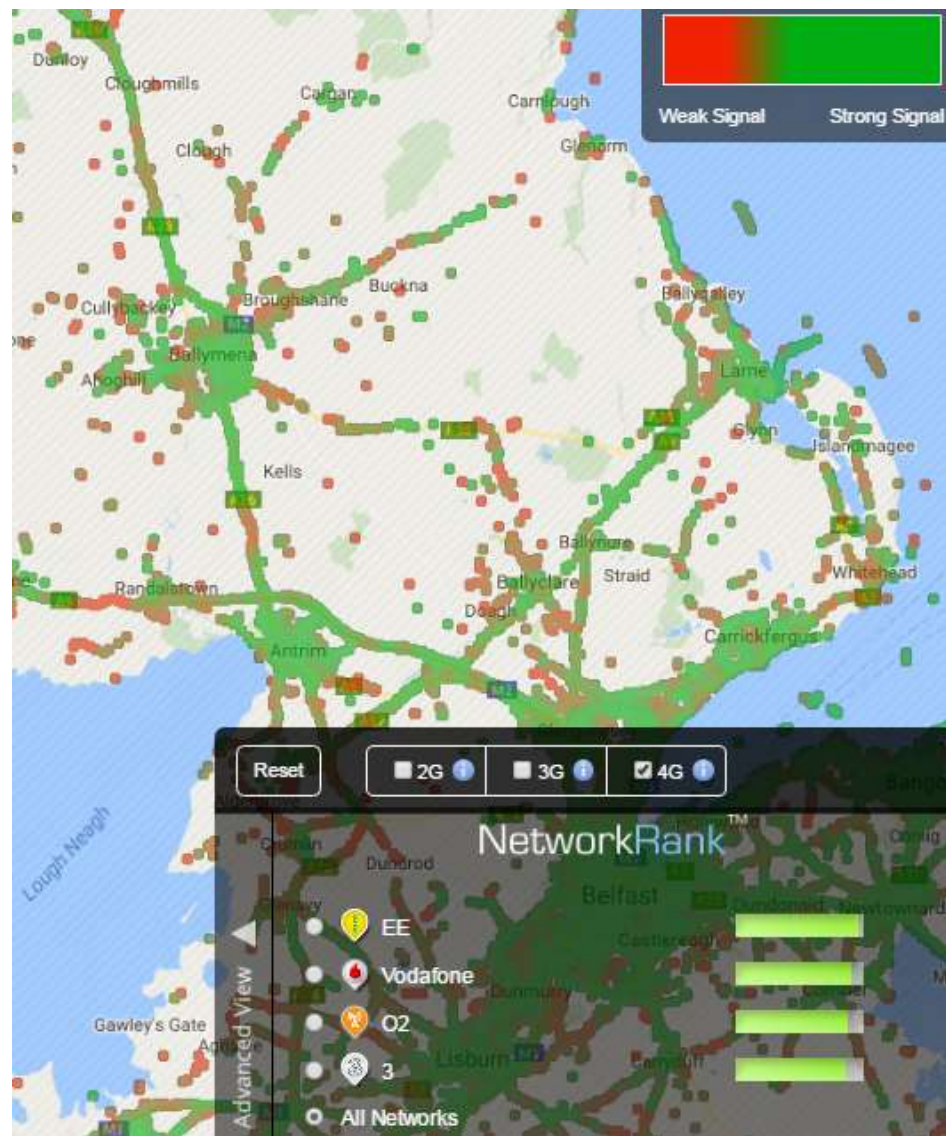
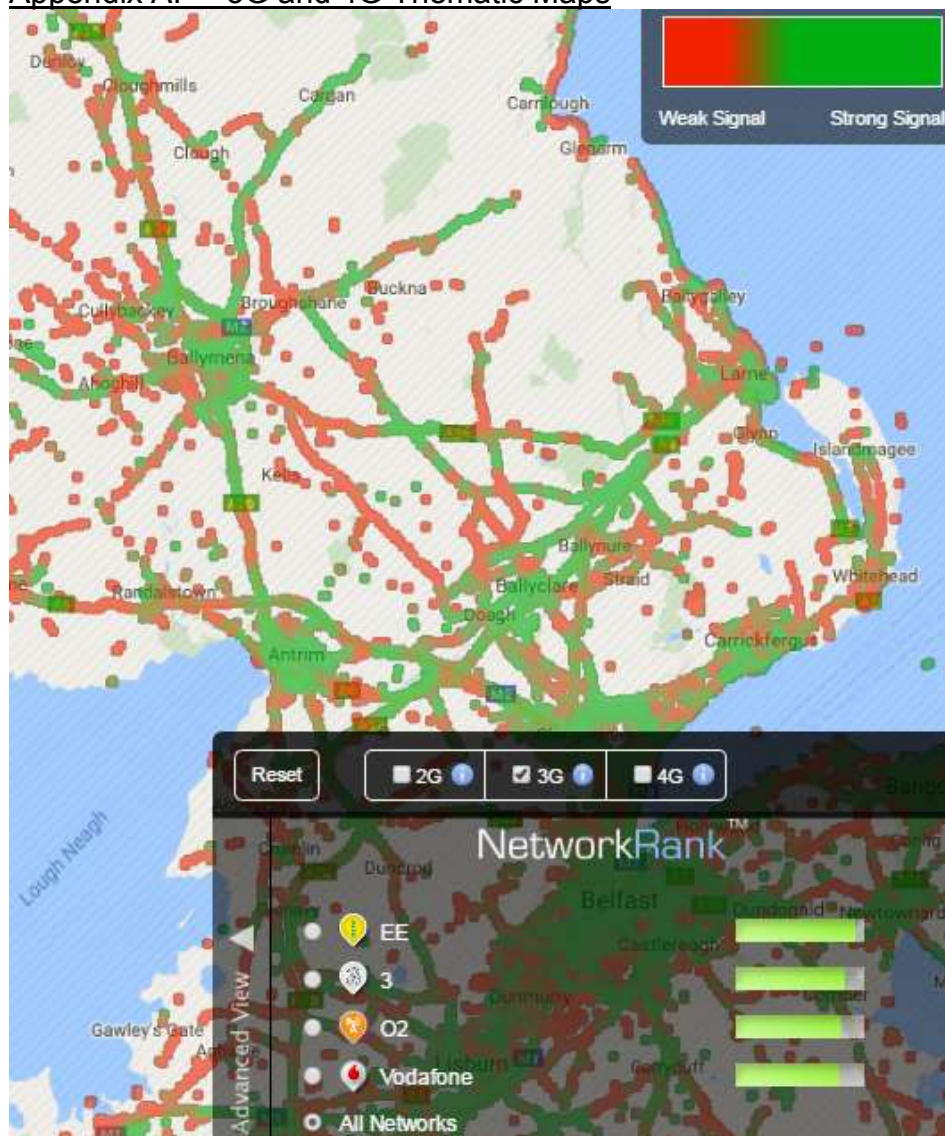
Appendix F – Northern Ireland Planning Renewable Energy Statistics

Appendix G – Wind Energy Development 2002/03 – 2015/16

Appendix H – Heat map showing capacity of the 11kv network across Northern Ireland

Appendix I – Natural Gas Availability in Northern Ireland

Appendix A. – 3G and 4G Thematic Maps



Appendix B – Broadband Improvement Project (MEA)

The areas within Mid and East Antrim which have been impacted by the development or will have works completed over the next few years include:

Postcode sectors where work will be completed by December 2016	Postcode sectors where work will be complete by June 2017	Postcode sectors where work will be completed by December 2017
BT38 7	BT38 9	BT41 3
BT38 8	BT40 1	BT42 1
	BT40 2	
	BT40 3	

<https://www.economy-ni.gov.uk/sites/default/files/publications/deti/SRP-postcode-table.pdf>

Appendix C - Waste Water Treatment Works

Wastewater Treatment Works	Current Planning Status	Estimation of Capacity based on Growth Factor			Map	Comment
		3%	10%	17%		
Ballystrudder		✓	✓	✓	1a & 1b	Ballystrudder catchment includes Whitehead
Carrickfergus		✓	⊖	x	2	
Ballylumford Cottages		⊖	⊖	⊖	3	No.27 on Rural Wastewater Improvement Programme Priority List for upgrade.
Greenisland		✓	✓	✓	4	
Mullaghboy		✓	⊖	x	5a & 5b	
Larne		✓	✓	✓	6a & 6b	Larne catchment includes Carncastle, Ballygalley, Glynn and part of Magheramorne
Ballycarry		✓	✓	✓	7	
Ballynafie		x	x	x	8	
Buckna		⊖	⊖	⊖	29	
Cargan		x	x	x	9	
Carnalbanagh		⊖	⊖	⊖	10	
Clogh		⊖	⊖	x	11	
Craigyywarren		⊖	⊖	⊖	12	
Duneany		⊖	⊖	⊖	13	
Glarryford		⊖	⊖	⊖	14	
Glenoe		✓	✓	✓	15	
Grange (Taylorstown)		x	x	x	16	No.3 on Additional Funding Priority List for upgrade during PC15 period (2015-2021).

Killygore		⊖	⊖	⊖	17	
Magheramourne		⊖	⊖	⊖	18	No.46 on Rural Wastewater Improvement Programme Priority List for upgrade.
Martinstown		x	x	x	19	
Moorfields		x	x	x	20	No.21 on Additional Funding Priority List for upgrade during PC15 period (2015-2021).
Mounthill		⊖	⊖	⊖	21	Mounthill catchment includes Crosshill.
Newtown-Crommelin		x	x	x	22	No.18 on Rural Wastewater Improvement Programme Priority List for upgrade.
Portglenone		✓	✓	⊖	23a & 23b	
Procklis		⊖	⊖	⊖	24	
Slaght		⊖	⊖	⊖	25	
Straid (Ballymena)		⊖	⊖	⊖	26	
Ballymena		✓	✓	✓	27	Ballymena catchment includes Broughshane, Cullybackey, Ahoghill, Kells & Connor and Woodgreen.
Tully Road		✓	✓	✓	28a & 28b	Tully Road catchment includes Carnlough, Glenarm & Straidkilly.
Milltown						There is no public sewerage network serving Milltown Settlement.
Raloo						There is no public sewerage network serving Raloo Settlement.

Key to Current Planning Status



New connections permitted - Capacity Available



Restriction on new connections - Capacity Limited



New connections refused - No Capacity

Key to Local Development Planning



Works has 'Reasonable Capacity'



Works is 'At or reaching Capacity'



Works has 'Insufficient Capacity'

Appendix D - Areas within Mid and East Antrim with 1% chance of river or coastal flooding in any given calendar year.

Settlements in Ballymena District	Area of flood risk
Ballymena	<ul style="list-style-type: none"> • Lands to the north east of Ballymena encompassing the ECOS Centre and the north side of Raceview Rd. Also lands to the east of Woodside Road. • Lands to the south west of Ballymena encompassing Galgorm Golf Course and across to Gracehill.
Ahoghill	<ul style="list-style-type: none"> • North & South of Galgorm Road on approach to the village • Between Old Portglenone Road and Glenhugh Road.
Cullybackey	<ul style="list-style-type: none"> • South of the village at old cattle market site. • North of village to rear of properties at bottom of Shellinghill Road.
Broughshane	<ul style="list-style-type: none"> • Between Knowehead and Knockan Roads.
Kells/Connor	<ul style="list-style-type: none"> • North of Greenfield Rd crossing Station Road to Church Road.
Portglenone	<ul style="list-style-type: none"> • Strategic floodplain east & west of River Bann along its length from Lough through Portglenone
Cargan	<ul style="list-style-type: none"> • River to North West and south of village with minimal floodplain.

Settlements in Larne District	Area of flood risk
Larne	<ul style="list-style-type: none"> • South of Harbour Highway to Bank Road
Villages	
Carnlough	<ul style="list-style-type: none"> • Lands to the west of Bay Road
Ballystrudder	<ul style="list-style-type: none"> • None
Ballycarry	<ul style="list-style-type: none"> • None
Ballygalley	<ul style="list-style-type: none"> • None
Glynn	<ul style="list-style-type: none"> • South of the village
Glenarm	<ul style="list-style-type: none"> • West side of the river between watercourse and Munie Rd
Small settlements	
Mullaghboy	<ul style="list-style-type: none"> • None
Mill Bay	<ul style="list-style-type: none"> • North of settlement
Glenoe	<ul style="list-style-type: none"> • None
Magheramorne	<ul style="list-style-type: none"> • None
Mounthill	<ul style="list-style-type: none"> • None
Carncastle	<ul style="list-style-type: none"> • West of settlement
Browns Bay	<ul style="list-style-type: none"> • South east of settlement
Carnageer	<ul style="list-style-type: none"> • None
Carnalbanagh	<ul style="list-style-type: none"> • None
Crosshill	<ul style="list-style-type: none"> • None

Deerpark	<ul style="list-style-type: none"> • None
Drumcrow	<ul style="list-style-type: none"> • None
Ferris Bay	<ul style="list-style-type: none"> • None
Feystown	<ul style="list-style-type: none"> • None
Garron Point	<ul style="list-style-type: none"> • None
Kilwaughter	<ul style="list-style-type: none"> • None
Raloo	<ul style="list-style-type: none"> • None
Straidkilly	<ul style="list-style-type: none"> • None

Settlements in Carrickfergus District	Area of flood risk
Carrickfergus	<ul style="list-style-type: none"> • Number of areas north of Marine Highway, mainly running through existing housing. • Area south of Larne Road adjacent to Kilroot.
Whitehead	<ul style="list-style-type: none"> • Small pockets in centre of town around Railway Preservation Society property.
Smaller settlements	
Knocknagulliagh	<ul style="list-style-type: none"> • None
Trooperslane	<ul style="list-style-type: none"> • None

Appendix D - Areas within Mid and East Antrim with 0.5 - 1% chance of river or coastal flooding in any given calendar year.

Settlements in Carrickfergus District	Area of flood risk
Carnlough	<ul style="list-style-type: none"> • Small pocket directly to the south of the harbour area. • Substantial area breaching Bay Rd to the south of the village.
Glenarm	<ul style="list-style-type: none"> • Large area to east of the Glenarm River located around the former fish factory site. • Small pocket to the east of Glenarm Castle. • Narrow linear line both sides of the Glenarm River and to the rear of Altmore St.
Ballygally	<ul style="list-style-type: none"> • Small pocket to the north west of Cairncastle Rd.
Larne	<ul style="list-style-type: none"> • Small radial pocket located at the junction of Branch Rd and the Coast Road. • Large areas located between main St and Narrow Gauge Rd. • Substantial areas of the Harbour and to the south east of Oldfleet Rd and Coastguard Rd. • Area surrounding Larne Enterprise and Development Centre, Bank Rd.
Glynn	<ul style="list-style-type: none"> • Large area located to the east of Main Rd and north of Glynn. • Substantial area located to the east of Shore Rd, Glynn.
Whitehead	<ul style="list-style-type: none"> • Small pocket located around public car park area Old Castle Rd.
Carrickfergus	<ul style="list-style-type: none"> • Small linear line south of Kilroot Power Station.
	<ul style="list-style-type: none"> • Areas to the north and west of Carrickfergus Castle and Harbour.
	<ul style="list-style-type: none"> • Small sporadic pockets to the west of Rhanbuoy Court.
	<ul style="list-style-type: none"> • Linear line following the path of the Shore Rd south of Green Island.

(The lists under the above tables are not exhaustive. Please note that NI Flood maps are constantly evolving so it is recommended to regularly refer to them for the most up to date flood risk information)

Appendix E - Energy Providers for Mid and East Antrim

Energy Licences Type	Company
Conveyance Licence	Belfast Gas Transmission Limited (BGTL)
	BGE UK (Transmission)
	Premier Transmissions Limited (PTL)
	Northern Ireland Energy Holdings Limited
	Firmus Energy Ltd
	Scotia Gas Networks Northern Ireland Ltd
Supply Licences	Firmus energy Ltd – Ten Towns
	Firmus Energy Ltd – Greater Belfast Area
	Vayu Limited
	Electricity Ireland
	Go Power
	Flogas Natural Gas Limited
	Power NI Energy Limited
	SSE Airtricity Energy Supply (NI) Ltd
	SSE Energy Supply Limited
	Viridian Energy Limited
	British Gas Trading Limited
	Power Ni Energy Limited (formally NIE plc)
Storage Licence	Islandmagee Storage Limited

Appendix F - Northern Ireland Planning Renewable Energy Statistics

	2002/03		2003/04		2004/05		2005/06	
	Appr oved	Total Decid ed	Approv ed	Total Decide d	Appr oved	Total Decid ed	Approv ed	Total Decid ed
Single wind turbine	8	8	25	25	30	31	65	67
Wind farm			2	2	1	1	5	5
Hydroelectricity			1	1			1	2
Solar panels	1	1	1	1	3	3	11	11
Biomass/Anaerobic digester	1	1	1	1	1	1		
Other ³								
Total	10	10	30	30	35	36	82	85
	2006/07		2007/08		2008/09		2009/10	
	Appr oved	Total Decid ed	Approv ed	Total Decide d	Appr oved	Total Decid ed	Approv ed	Total Decid ed
Single wind turbine	103	109	147	154	224	239	102	121
Wind farm	6	6	12	13	10	11	14	17
Hydroelectricity	2	2	4	4			5	6
Solar panels	23	23	43	43	32	32	13	13
Biomass/Anaerobic digester			4	4	4	4	5	5
Other ³					8	8		
Total	134	140	210	218	278	294	139	162
	2010/11		2011/12		2012/13		2013/14	
	Approved	Total Decid ed	Approv ed	Total Decid ed	Approv ed	Total Decid ed	Approv ed	Total Decid ed
Single wind turbine	117	145	266	326	499	574	385	443
Wind farm	13	13	10	12	11	16	11	12
Hydroelectricity	5	5	12	12	16	16	26	27
Solar panels	3	3	24	24	97	98	90	91
Biomass/Anaerobic digester	8	8	23	23	56	56	36	42
Other ³	1	1	4	4	2	2	4	4
Total	147	175	339	401	681	762	552	619

	2014/15		2015/16		Total	
	Approved	Total Decided	Approved	Total Decided	Approved	Total Decided
Single wind turbine	366	467	236	306	2,573	3,015
Wind farm	13	21	9	16	117	145
Hydroelectricity	14	15	11	12	97	102
Solar panels	51	51	41	42	433	436
Biomass/Anaerobic digester	15	17	19	19	173	181
Other ³	5	5	9	9	33	33
Total	464	576	325	404	3,426	3,912

Appendix F - Northern Ireland Planning Renewable Energy Statistics

		Mid and East Antrim	Northern Ireland
Received	Apr – Jun 2015	9	143
	Jul – Sep 2015	5	96
	Oct Dec 2015	7	49
	Jan – Mar 2016	3	41
	2015/16	24	329
	2014/15	48	536
	Change over Year 2014/15 – 2015/16	-24	-207
All Decided	Apr – Jun 2015	11	56
	Jul – Sep 2015	11	96
	Oct Dec 2015	5	144
	Jan – Mar 2016	21	108
	2015/16	48	404
	2014/15	n/a	576
	Change over Year 2014/15 – 2015/16	n/a	-172
Approved	Apr – Jun 2015	11	52
	Jul – Sep 2015	7	82
	Oct Dec 2015	4	105
	Jan – Mar 2016	20	86
	2015/16	42	325
	2014/15	n/a	464
	Change over Year 2014/15 – 2015/16	n/a	-139
Approval Rate	Apr – Jun 2015	100%	92.9%
	Jul – Sep 2015	63.6%	85.4%
	Oct Dec 2015	80.0%	72.9%
	Jan – Mar 2016	95.2%	79.6%
	2015/16	87.5%	80.4%
	2014/15	n/a	80.6%
	Change over Year 2014/15 – 2015/16	n/a	-0.2
Withdrawn	Apr – Jun 2015	4	8
	Jul – Sep 2015	4	21
	Oct Dec 2015	2	23
	Jan – Mar 2016	1	21
	2015/16	11	73
	2014/15	n/a	86
	Change over Year 2014/15 – 2015/16	n/a	-13
Average Processing Times (weeks)	Apr – Jun 2015	54.4	47.9
	Jul – Sep 2015	48.6	40.2
	Oct Dec 2015	49.6	53.0
	Jan – Mar 2016	45.9	51.2
	Year to Date	49.6	49.4

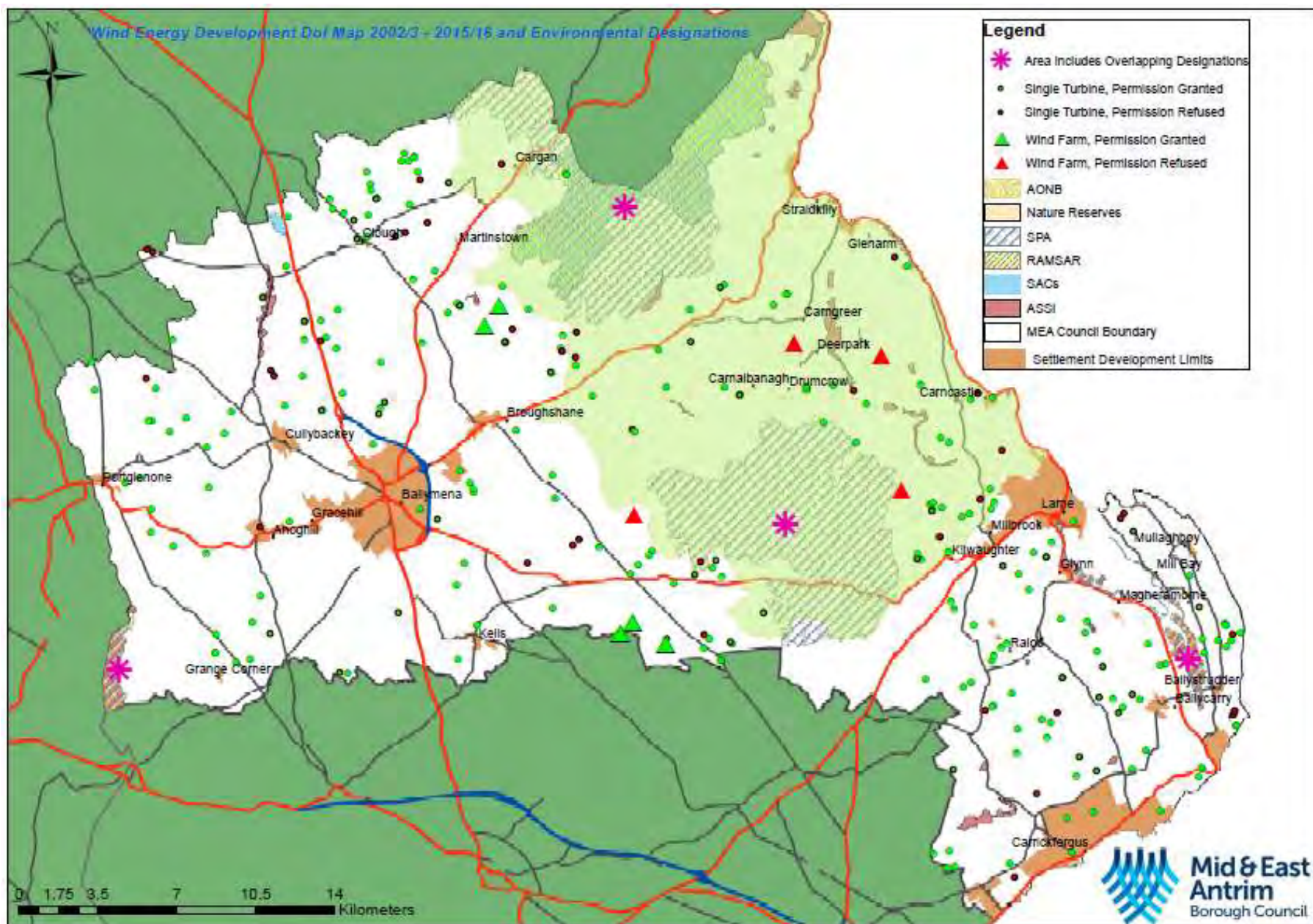
<https://www.infrastructure-ni.gov.uk/publications/northern-ireland-planning-renewable-energy-monthly-statistics-april-2015>

Appendix F - Northern Ireland Planning Renewable Energy Statistics

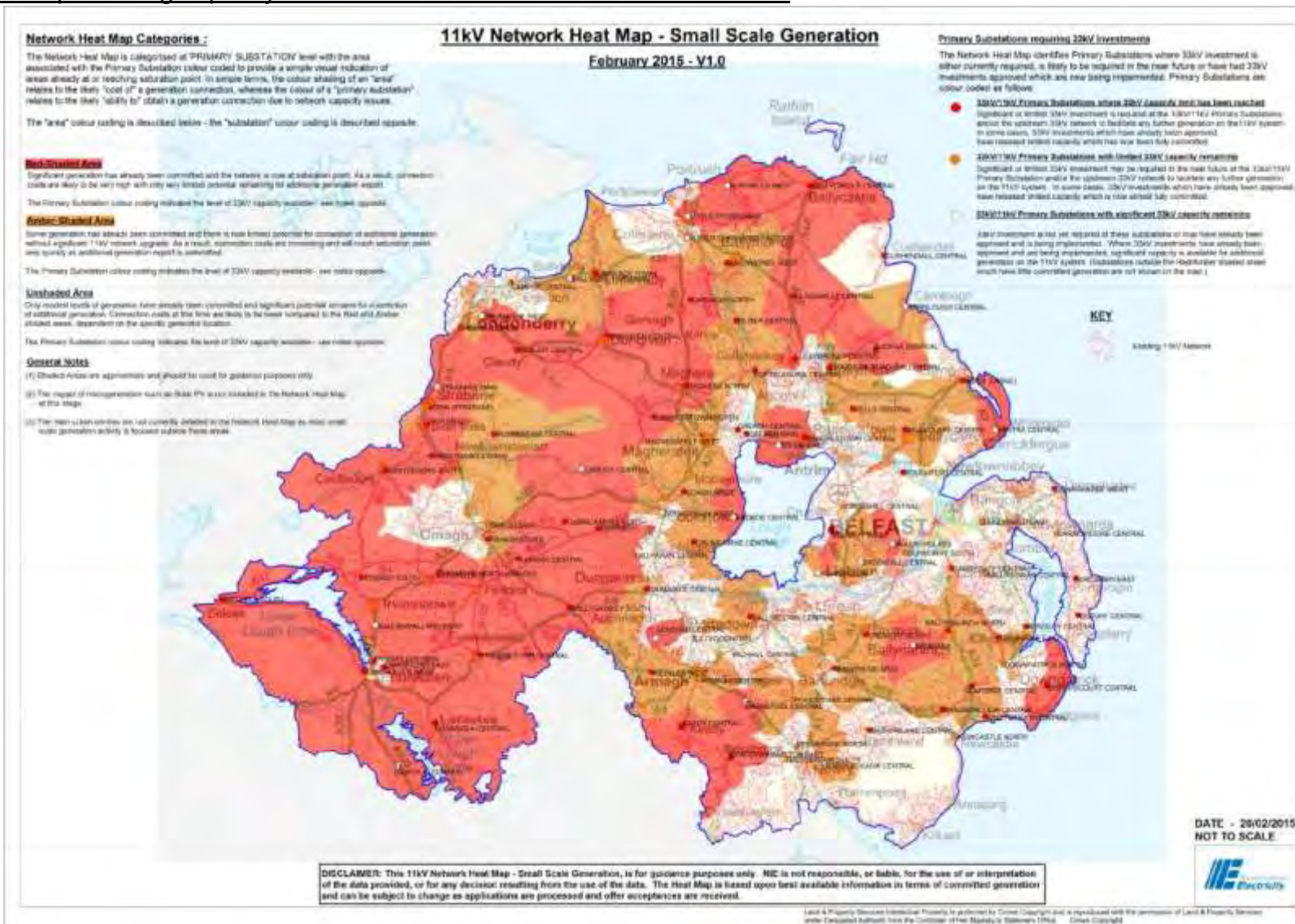
		Single wind turbine	Wind farm	Hydroelectricity	Solar panel	Biomass/ anaerobic digester	Other ⁶	All applications
Position at 30th June 2015	< 6 mnths	216	8	5	34	7	2	272
	6 - 12 mnths	141	4	7	6	4	2	164
	> 1 yr	182	27	17	0	10	3	239
	All	539	39	29	40	21	7	675
	Proportion of Applications > 1 yr	33.8%	69.2%	58.6%	0.0%	47.6%	42.9%	35.4%
Position at 30th September 2015	< 6 mnths	189	7	1	18	9	2	226
	6 - 12 mnths	162	6	7	12	3	2	192
	> 1 yr	182	21	18	1	11	3	236
	All	533	34	26	31	23	7	654
	Proportion of Applications > 1 yr	34.1%	61.8%	69.2%	3.2%	47.8%	42.9%	36.1%
Position at 31st December 2015	< 6 mnths	100	5	4	14	9	1	133
	6 - 12 mnths	155	6	4	14	3	0	182
	> 1 yr	172	21	16	2	7	3	221
	All	427	32	24	30	19	4	536
	Proportion of Applications > 1 yr	40.3%	65.6%	66.7%	6.7%	36.8%	75.0%	41.2%
Position at 31st March 2016	< 6 mnths	45	9	6	15	7	1	83
	6 - 12 mnths	131	4	0	7	4	0	146
	> 1 yr	170	17	20	5	7	0	219
	All	346	30	26	27	18	1	448
	Proportion of Applications > 1 yr	49.1%	56.7%	76.9%	18.5%	38.9%	0.0%	48.9%

<https://www.infrastructure-ni.gov.uk/publications/northern-ireland-planning-renewable-energy-monthly-statistics-april-2015>

Appendix G – Wind Energy Development 2002/03 – 2015/16



Appendix H - Heat map showing capacity of the 11kv network across Northern Ireland



Appendix I – Natural Gas Availability in Northern Ireland

