Local Development Plan - Position Paper

Public Utilities and Energy

Ards and North Down Borough Council

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Executive Summary

This Position Paper aims to provide an overview of the baseline evidence in relation to Public Utilities in Ards and North Down Borough Council area with a view to informing members as to the key issues within the Borough. In this context 'Public Utilities' includes: telecommunications; recycling and waste management; water and sewerage services; cemeteries; energy supply and renewable energy.

It is important to stress that in compiling the position paper the best information available has been used and will be revised as necessary in light of the release of any relevant new data.

This paper and subsequently the views of members generated from the upcoming engagement event will provide a foundation for direction of the Preferred Options Paper (POP). The POP is the earliest stage of plan preparation and will form the basis for consulting with the public and stakeholders on a range of options for dealing with key issues in the Borough.

Any future decision making will need to be made within the context of a Sustainability Appraisal under the provision of Planning (Northern Ireland) Act 2011.This paper is therefore intended to generate member's ideas how planning can best meet future requirements for public services within Ards and North Down Council area.

Introduction

1.1 The aim of this paper is to provide baseline evidence which will inform members and enable meaningful participation in the Local Development Plan (LDP) workshop on Public Utilities Energy. This position paper will focus on public utilities and energy.

1.2 The baseline evidence includes the regional and local policy context, the existing Borough profile, and the need for future provision in relation to the following public utilities:

- Telecommunications;
- Recycling and waste management;
- Water and sewerage services;
- Cemeteries;
- Energy supply; and
- Renewable Energy

1.3 These public utilities and their associated infrastructure are an essential element of everyday life for people of the developed world and are inextricably linked with social and economic well-being. However they may also be associated with their potential impact on visual amenity and environmentally sensitive features and locations.

1.4 Key findings, as a result of the evidence collated, are outlined as main areas of consideration in the ongoing preparation of the Borough's new LDP. The paper concludes with a brief overview of the envisaged next steps in the process, with regard to this topic area, particularly with regard to the Preferred Options Paper and Plan Strategy stages.

Regional Planning Policy Context

Regional Development Strategy 2035 (RDS)

4.1 The RDS provides an overarching strategic framework to facilitate and guide development in the public and private sectors in Northern Ireland comprising of Regional Guidance and Spatial Framework Guidance.

Telecommunications

4.2 The regional guidance in the RDS seeks to implement a balanced approach to telecommunications infrastructure that will give a competitive advantage[1]. The core telecommunications network in Northern Ireland is recognised as being "world class" with 5 fully-fibre networks. However, given the fast pace of the market, the importance of continued investment in infrastructure is highlighted if a competitive advantage is to be maintained. Other measures include: improving services in smaller rural areas to minimise the urban/rural divide; increasing the usage of broadband; and capitalising on direct international connectivity.

Energy Supply and Renewable Energy

4.3 The regional guidance seeks to deliver a sustainable and secure energy supply[2]. The RDS highlights that decision makers will have to balance potential adverse environmental effects against the benefits of a secure renewable energy stream and the potential for cleaner air and energy for industry and transportation. Measures include: increasing the contribution that renewable energy makes to the overall energy mix; strengthening the grid to accommodate increasing numbers of renewable electricity and heat installations; provision of new gas infrastructure; working with neighbouring

[1] RDS 2035 RG3 page 36
[2] RDS 2035 RG5 page 38

jurisdictions; and developing “Smart Grid” initiatives

4.4 Regional guidance also aims to “reduce our carbon footprint and facilitate mitigation and adaption to climate change whilst improving air quality”[3]. The RDS states that consideration needs to be given on how to reduce energy consumption and the move to more sustainable methods of energy production. The use of fossil fuels and greenhouse gas emissions can be reduced by recycling waste and recovering energy from it.

4.5 A number of mitigation methods are set out in the RDS. Those most relevant to energy supply and renewables include: more energy efficient forms of transport; improving the energy efficiency and adaptability of buildings; increasing the use of renewable energies; and utilising local production of heat and/or electricity from low or zero carbon.

4.6 Relevant adaption methods include the re-use of land, buildings and materials and adopting grey water recycling;

Waste Management

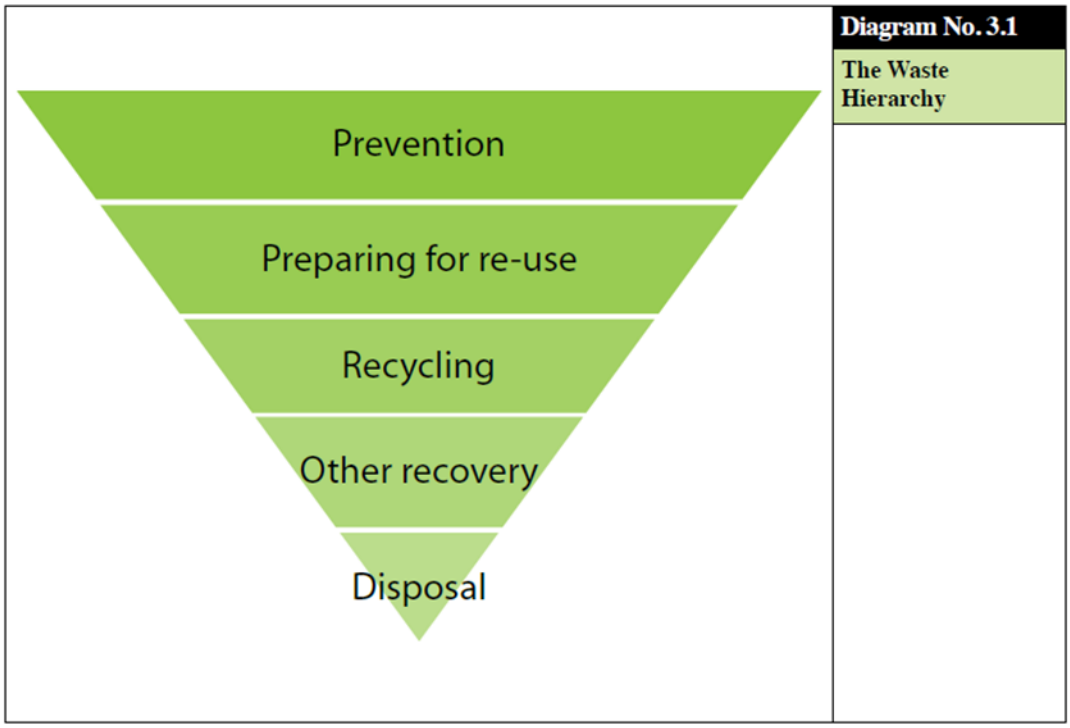
4.7 Regional guidance RG10 is to manage our waste sustainably[4]. The RDS states that managing waste is a significant part of how we treat our environment. If waste is not managed safely then it can become a serious threat to public health, and cause damage to the environment as well as being a local nuisance.

4.8 The revised Waste Framework Directive introduces a 5-step waste hierarchy (see Figure 1 below). The waste hierarchy aims to encourage the management of waste materials in order to reduce the amount of waste materials produced, and to recover maximum value from the wastes that are

[3] RDS 2035 RG9 page 45
[4] RDS 2035 RG10 page 49

produced. It is not applied as a strict hierarchy, however as a guide, it encourages the prevention of waste, followed by the reuse and refurbishment of goods, then 'value recovery' through recycling and composting. The next option is 'other recovery', including energy recovery, an important level in the hierarchy as many materials have significant embedded energy that can be recovered. Waste prevention, reuse, recycling and recovery are collectively defined by the Organisation for Economic Co-operation and Development (OECD) as waste minimisation. Finally, waste disposal should only be used when no option further up the hierarchy is possible. The less waste we introduce into the waste stream, the less harm we inflict on our environment.

Figure 1: The Waste Management Hierarchy



Source: RDS 2035

4.9 Applying the proximity principle emphasises the need to treat or dispose of waste as close as practicable to the point of generation to minimise the environmental impacts of waste transport.

Housing Evaluation Framework

4.10 The broad evaluation framework (see Figure 2 below) is set out in the RDS to assist with judgements on the allocation of housing growth in a Local Development Plan[5]. As can be seen, the location and capacity of physical utilities and infrastructure in respect of water, sewage and waste is key to identifying future housing land.

Figure 2: Housing Evaluation Framework

Resource Test	Studies should be carried out to assess and detail the existence of community assets and physical infrastructure such as water, waste and sewage, including spare capacity.
Environmental Capacity Test	An assessment of the environmental assets of the settlement, the potential of flooding from rivers, the sea or surface water run-off and its potential to accommodate future outward growth without significant environmental degradations should be made.
Transport Test	Studies should be carried out to assess the potential for integrating land use and public transport and walking and cycling routes to help reduce reliance on the car.
Economic Development Test	The potential to facilitate an appropriate housing and jobs balance and to unlock any major strategic development opportunities should be assessed and detailed.
Urban and Rural Character Test	Assessment should be made of the potential to maintain a sense of place, and to integrate new development in way that does not detract from the character and identity of the settlement.
Community Services Test	The potential to underpin and, where necessary, reinforce the community service role and function of the settlement should be assessed and detailed.

Source: RDS 2035

[5] RDS – RG 8, page 40

Strategic Planning Policy Statement (SPPS)

4.11 The Strategic Planning Policy Statement (SPPS) was published by the Department of the Environment (DOE) in September 2015. The provisions of the SPPS must be taken into account in the preparation of Local Development Plans, and are also material to all decisions on individual planning applications and appeals. The Strategic Planning Policy Statement (SPPS) will replace existing PPSs, once the Council has its Plan Strategy in place, until such time the PPS will remain a material consideration.

Telecommunications

4.12 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.

4.13 The regional strategic objectives of the SPPS in relation to telecommunications 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 (for example mobile phone services, media broadcasting and wireless broadband services) by new telecommunications development; and
- Encourage appropriate provision for telecommunications systems in the design of other forms of development.

4.14 The SPPS states that the Local Development Plan should bring forward policies and proposals to set out the detailed criteria for consideration of

new telecommunications development in their local area which should address important planning considerations such as: siting, design, and impact upon visual amenity. LDPs may in certain circumstances allocate specific sites for major new telecommunications development and it may set out requirements on operators, for example, to demonstrate the need for new development and existing network constraints.

Waste Management

4.15 The SPPS sets regional policy objectives for waste management development which are to:

- 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.

4.16 The SPPS states that, in plan-making councils should assess the likely extent of future waste management facilities for the plan area. Specific sites for the development of waste management facilities should be identified together with key site requirements including locational criteria. 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.

4.17 A presumption in favour of waste collection and treatment facilities, and waste disposal (land filling and land raising) will apply where a need for such

development is identified through the Waste Management Strategy and the relevant Waste Management Plan.

4.18 Councils should fully consider the potential impacts of all waste management proposals. Important considerations will include: the types of waste to be deposited or treated and the proposed method of disposal; impacts on human health and the environment (including environmental pollution), roads/transport considerations (particularly where facilities depend on large transfer of materials, often generating a substantial volume of traffic), flood risk, practical restoration and aftercare arrangements, where appropriate.

4.19 Many waste management facilities by reason of their size, nature or location have the potential to cause significant damage to the environment in terms of visual intrusion, habitat or heritage destruction and pollution. In assessing all proposals for waste management facilities councils will be guided by the precautionary principle that where there are significant risks of damage to the environment its protection will generally be paramount, unless there are imperative reasons of overriding public interest.

Renewable Energy

4.20 The main sources of renewable energy are wind, sun (solar), moving water (hydropower), heat extracted from the air, ground and water (including geothermal energy) and biomass (wood, biodegradable waste and energy crops such as for use in an Anaerobic Digester).

4.21 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 historic 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.

4.22 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 regions 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.

4.23 The SPPS states that Councils should set out policies and proposals in their Local Development Plans (LDPs) that support a diverse range of renewable energy development, including the integration of micro-generation and passive solar design. LDPSs must take into account both the aim and regional strategic objectives, local circumstances, and the wider environmental, economic and social benefits of renewable energy development.

4.24 The SPPS recognises that within designated landscapes such as Areas of Outstanding Natural Beauty (AONB) and their wider settings, it may be difficult to accommodate renewable energy proposals without detriment to their cultural and natural heritage assets.

4.25 The SPPS states that the wider environmental, economic and social benefits of all proposals for renewable energy are material considerations that will be given “appropriate weight”. This marks a shift in emphasis from the “significant weight” as contained within Policy RE 1 of Planning Policy Statement 18: Renewable Energy.

Relevant Operational Planning Policy

Planning Policy Statement 10: Telecommunications (PPS 10)

5.1 Planning Policy Statement 10: Telecommunications (PPS 10) sets out operational planning policy for telecommunications development. Until such time as a new Plan Strategy is adopted by the Council, the policy provisions of PPS 10 are retained along with the SPPS.

5.2 A key aim of PPS 10 is to ensure that new telecommunications infrastructure such as masts, antennas and associated equipment can be developed in a way which continues to provide Northern Ireland with world class telecommunications services, while at the same time minimising the visual and environmental impact of new or replacement equipment.

5.3 Policy TEL 2 of PPS 10 in relation to the development and interference with television broadcasting services has been cancelled following the publication of the SPPS.

5.4 Supplementary planning guidance is contained within Development Control Advice Note 14 (DCAN 14): Siting and Design of Radio Telecommunications Equipment.

Planning Policy Statement 11 (PPS 11) Planning and Waste Management:

5.5 Planning Policy Statement 11: Planning and Waste Management (PPS 11) sets out operational planning policy for waste management. A key aim of PPS 11 is to play a supporting role to ensure a co-ordinated approach in the move towards sustainable waste management and away from waste disposal as required by the relevant EC Directive targets.

5.6 The main objectives of this Planning Policy Statement are to:

- Promote the development, in appropriate locations, of waste management

facilities that meet need as identified by the relevant Waste Management Plan (WMP), or as demonstrated to the Department's satisfaction in the case of waste water treatment works (WWTWs);

- Ensure that detrimental effects on people, the environment, and local amenity associated with waste management facilities are avoided or minimised;
- Secure appropriate restoration of proposed waste management sites for agreed after-uses.

5.7 There are specific requirements in respect of polluting and potentially polluting uses, and special or hazardous wastes. The Control of Major Accident Hazards (COMAH) Directive (EU Directive 96/82/EC) came into force on 3 February 1999 and requires development plans to consider the location of hazardous installations. Development plans must consider the need to maintain an appropriate distance between establishments where hazardous substances are present and residential areas, areas of public use or areas of nature conservation interest. There are two COMAH sites within the Borough, at Craigantlet quarry and at Holywood near the boundary with Belfast City Council. Supplementary planning guidance is contained in Development Control Advice Note 12 (DCAN 12): Planning Controls for Hazardous Substances.

Planning Policy Statement 18: Renewable Energy (PPS 18)

5.8 The aim of this PPS 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. PPS 18 is largely a permissive policy in that development that generates energy from renewable resources will be permitted provided the proposal, and any associated buildings and infrastructure, will not result in an unacceptable adverse impact on:

(a) public safety, human health, or residential amenity;
(b) visual amenity and landscape character;
(c) biodiversity, nature conservation or built heritage interests;
(d) local natural resources, such as air quality or water quality; and
(e) public access to the countryside.

5.9 Supplementary planning guidance is provided within 'Wind Energy in Northern Ireland's Landscapes'. Broad, strategic guidance is set out in relation to the visual and landscape impacts of wind energy development. The guidance is based on the sensitivity of Northern Ireland's landscapes to wind energy development and contains an assessment of each of the 130 Landscape Character Areas (LCAs) in Northern Ireland by referencing the characteristics and values associated with each LCA.

Planning Policy Statement 21: Sustainable Development in the Countryside (PPS 21)

5.10 PPS 21 sets out planning policies for development in the countryside - this is defined as land lying outside of settlement limits as identified in development plans. Policy CTY 1 states that there are a range of types of development which in principle are considered to be acceptable in the countryside and that will contribute to the aims of sustainable development. These include renewable energy projects in accordance with PPS 18. It also recognises that there are a range of other types of non-residential development that may be acceptable in principle in the countryside e.g. certain utilities or telecommunications development.

Existing Local Development Plan Context

North Down and Ards Area Plan 1984-1995 (NDAAP), Belfast Urban Area Plan, draft Belfast Metropolitan Area Plan 2015 (dBMAP) and Belfast Metropolitan Area Plan 2015 (BMAP)

6.1 It should be noted that BMAP was adopted in September 2014 but was subsequently quashed as a result of a judgment in the Court of Appeal delivered on 18 May 2017. As a consequence of this, the North Down and Ards Area Plan 1984-1995, the Belfast Urban Area Plan, and Bangor Town Centre Plan 1995 are now the statutory Development Plans for the North Down area with draft BMAP remaining a material consideration.

6.2 These plans remain extant until replaced by the new Local Development Plan (LDP) for the Borough. The existing plans are an important consideration in the LDP process, as they provide a starting point for the review of our spatial planning options.

6.3 The BMA Public Services and Utilities Strategy comprises the following elements:

- to facilitate the delivery of the infrastructure requirements of the Plan Area throughout the Plan Period; and
- to highlight infrastructure constraints and requirements as appropriate within key site requirements.

6.4 DBMAP 2015 does not contain specific provision for the development of telecommunications infrastructure, waste management facilities or renewable energy generation and states that it will be considered against the prevailing regional planning policies.

Ards and Down Area Plan 2015 (ADAP)

6.5 ADAP recognises that although the provision of public services and utilities within the plan areas is primarily the responsibility of a number of Government Departments and Agencies, the Council and statutory bodies, the role of the private sector is becoming more important. The Plan recognises the main services are water and sewerage, drainage, waste disposal, cemeteries, electricity, telecommunications and natural gas but does not offer any specific provision for their development.

6.6 Policy MN 01 of ADAP considers hydrocarbon exploration and Policy COU 8 sets out the policy for designated Areas of Constraint on Mineral Developments. These are considered further in the Minerals LDP Position Paper.

Council Plans and Strategies

Ards and North Down Borough Council Corporate Plan 2015-2019

3.1 The Council's Corporate Plan sets out the overall strategic direction for the Council in the 2015-19 period. The vision outlined in the Corporate Plan is that Ards and North Down will be a place to be proud of which is more prosperous, vibrant, healthy, and sustainable, where people enjoy an excellent quality of life.

3.2 The Plan identifies objectives of People, Place and Prosperity supported by key performance measures which are allocated to service units for delivery. The success measures in relation to Public Utilities include:

- Waste and recycling levels;
- Number of residents perceiving the Borough to be clean and attractive; and
- Effective lobbying for improved digital infrastructure in rural areas.

The Big Plan for Ards and North Down 2017-2032 (The Community Plan)

3.3 The Big Plan provides an overarching framework setting out a shared vision and ambition that Ards and North Down's Strategic Community Planning Partnership has agreed to work towards over the next 15 years.

3.4 The vision outlined in the plan states the ambition of the Big Plan is 'To have empowered resilient individuals and communities; to reduce inequality; to promote good relations and sustainability; and to improve the accessibility of all public services.'

3.5 The Big Plan contains five outcomes, these are ambitious statements that the Council aspire to accurately reflect the situation of the people who live in Ards and North Down by the year 2032. The two most relevant outcomes linked to Public Services are outcomes four and five.

3.6 Outcome 4: *All people in Ards and North Down benefit from a prosperous economy.*
This outcome includes actions which will support the local economy through enhanced digital infrastructure and telecommunications

.

3.7 Outcome 5: *All people in Ards and North Down feel pride from having access to a well-managed sustainable environment.* This outcome includes actions around the quality of the physical environment and infrastructure such as waste and water.

Integrated Strategy for Ards and North Down 2018-2030: Tourism, Regeneration, Economic Development

3.8 The Integrated Strategy for Tourism, Regeneration and Economic Development takes its cues from the Borough's Community Plan and identifies thematic priorities with accompanying integrated actions. The actions relevant to public utilities include:

- Digital Network – work to improve the coverage and speeds of digital connections across the Borough, especially in more remote rural locations and positioning Ards and North Down to receive the latest advances in communications technologies; and

- Carbon Reduction Strategy – pursuit of an ambitious programme to reduce carbon emissions including switching to renewable energy sources and taking further steps to conserve energy.

Other Relevant Documents

Draft Programme for Government 2016-2021

2.1 The Draft Programme for Government is designed to help improve wellbeing for all citizens within Northern Ireland. It sets a strategic direction of travel for the work of the Executive, expressed in terms of wellbeing focused outcomes. Each of the 14 outcomes is supported by 3-5 measurable indicators.

2.2 The key measurable indicators linked to Public Utilities are as follows:

- Proportion of premises with access to broadband services at speeds at or above 30Mbps
- Usage of online channels to access public services;
- % household waste that is reused, recycled or composted;
- % water bodies at 'good' status;
- Overall Performance Assessment (NI Water); and
- % change in energy security of supply margin.

Existing Utilities Profile in Ards and North Down Borough

Telecommunications

7.1 The telecommunications market in Northern Ireland, as in the rest of the UK, is fully privatised and independently regulated on a national basis by the Office of Communications (Ofcom). The Conservative and DUP Agreement and UK Government financial support for Northern Ireland acknowledges the need to build on Northern Ireland's strong communications infrastructure in boosting the Northern Ireland economy.

7.2 The Northern Ireland broadband improvement project is a scheme which was used to increase or improve broadband services in certain areas. The scheme involved laying new fibre optic telephone lines from existing exchanges to new small broadband exchanges in remote areas improving telecommunications infrastructure provided through telephone lines.

7.3 Depending on the location in NI the broadband scheme should allow at least one of the following improvements:

- access to basic broadband in areas which have no service (two megabits per second)
- access to superfast broadband in areas which have some service (24 megabits per second)
- choose a supplier from several competing broadband companies in areas which have superfast broadband

7.4 Broad band improvement work has taken place in: Ballygowan, Ballywalter, Bangor, Comber, Donaghadee, Helens Bay, Millisle, Portaferry and Portavogie between February 2014 and December 2015.

7.5 Work has begun on the Superfast Rollout Project, a scheme to improve broadband services in certain areas across Northern Ireland. The improvement scheme is being rolled out in three phases and will complete in June 2018. This scheme involves laying new fibre optic telephone lines to cabinets, and in some cases to premises in many areas across Northern Ireland.

7.6 According to OFCOM, the quality and reach of fixed broadband infrastructure in Northern Ireland has improved considerably over the last few years, both in terms of technology and services offered. Continuing investment by industry and government will ensure further increases in coverage over the next few years.

7.7 A report by OFCOM shows:

a) Superfast broadband (>=30Mbit/s) is available to 85% of premises in Northern Ireland, up from 83% last year.

b) Superfast broadband is available to 57% of premises in rural areas, up from 52% last year.

c) Across Northern Ireland, 93% of premises can receive a service that can deliver decent broadband that is a broadband connection which provide download speeds of at least 10Mbit/s and an upload speed of at least 1Mbit/s. This leaves around 56,000 premises with connections unable to support these speeds, a reduction of around 7,000 premises compared to last year.

d) Average broadband download speeds in Northern Ireland have increased by 15% to 39Mbit/s, up from 34Mbit/s in 2016. Average download speeds are lower in rural areas but have increased to 24Mbit/s in 2017, compared to 21Mbit/s in 2016.

Average monthly data use (upload and download) per broadband line in Northern Ireland is up almost 50% to 187GB.

7.8 The table in Figure 5 shows that 3.6% of premises in Ards and North Down (2600 units) are unable to get 10Mbit/s. The lack of reliable and fast Broadband in parts of the Borough has a knock on effect on small rural businesses as they lack the telecommunication resources to remain competitive in today's market.

Table 1: The percentage of premises unable to get 10Mbit/s by local authority

Local Authority	Unable to receive > = 10Mbits/s	
	Percentage of premises	No of Premises
Fermanagh and Omagh	23.4%	10800
Mid Ulster	14.9%	7900
Newry Mourne and Down	11.6%	7900
Causeway Coast and Glens	9.8%	6100
Mid and East Antrim	8.2%	4800
Armagh City, Banbridge and Craigavon	7.0%	5900
Derry City and Strabane	6.4%	3800
Antrim and Newtownabbey	4.7%	2800
Lisburn and Castlereagh	4.3%	2500
Ards and North Down	3.6%	2600
Belfast	0.5%	800

(Source OFCOM)

7.9 Notwithstanding, connectivity is growing across the area. All five towns – Bangor, Newtownards, Holywood, Comber and Donaghadee – offer free WiFi and 70 local businesses received financial support towards broadband installation via the national Superfast Broadband initiative or rural development funding (DARD). If these schemes prove successful and are completed in a timely manner, the digital isolation experienced in some of the Borough's rural communities is likely to be reduced.

7.10 OFCOM publishes regular infrastructure reports for mobile coverage and the

latest coverage map is contained in the Appendix. This indicates that although there appears to be strong signal coverage around the towns, there are large areas e.g. travelling between Donaghadee and Millisle and around Lisbane with weak signal strength.

7.11 The Mobile Improvement Project was announced in October 2011 by the Department of Culture, Media and Sport (DCMS) in London. The project involves £150 million investment in mobile communications infrastructure in order to help to alleviate voice and basic 'not-spots' throughout the UK. However, this project has not provided any significant improvement to Northern Ireland to date.

7.13 There are a number of challenges for mobile operators when attempting to deliver high levels of geographic mobile coverage. Many of these result from the inherent difficulties with installing mobile network infrastructure in deep rural areas, and include:

a) Policy - in areas of natural beauty there may be planning restrictions on where mobile base stations can be built;
b) Terrain - steep and hilly topography can make it hard to deliver reliable mobile signal coverage deep into valleys; or
c) Practical considerations - challenges in securing and maintaining a reliable power supply for the base station or a lack of options for backhaul for the mobile site.

Energy

7.14 Hydrocarbon exploration (including unconventional hydrocarbon exploration also known as 'fracking') is not currently taking place within the Borough, nor are there any fossil fuel power stations located within its boundaries. Power stations are currently located at Ballylumford and Kilroot in County Antrim, and at Coolkeeragh in County Derry. Kilroot Power Station is anticipated to close in May 2018 following its failure to win a major generation contract in an auction process to supply the all-island Single Electricity Market (SEM).

Electricity generation and distribution

7.15 The electricity system consists of the distinct businesses: generation, transmission, distribution and supply. Generation is provided by private sector companies who own the major power stations and by other generators, such as wind farms. Northern Ireland also has interconnectors between the Scottish and Republic of Ireland grids through which electricity can be imported and exported. Northern Ireland Networks Ltd (part of the ESB Group) owns the transmission and distribution network and operates the distribution network which transports electricity to over 860,000 customers. The transmission network is operated by the System Operator for Northern Ireland (SONI). Electricity suppliers buy energy and sell it to customers. Business and domestic consumers in Northern Ireland can choose between a number of private sector electricity suppliers to meet their individual electricity requirements.

7.16 The Integrated Single Electricity Market (I-SEM) is a wholesale electricity market arrangement for Ireland and Northern Ireland. The new market arrangements are designed to integrate the all-island electricity market with European electricity markets, making optimal use of cross-border transmission assets..

7.17 Maps showing the existing 11kv and 33kv networks across the Ards and North

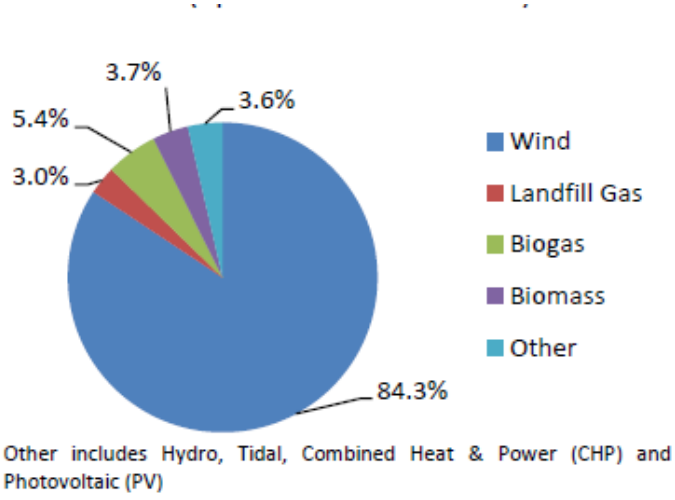
Down Borough Council Area can be found in the Appendix.

Renewable Energy

7.18 The Executive's 2010-20 Strategic Energy Framework includes a target to achieve 40% of electricity consumption from renewable sources by 2020.

7.19 The latest bi-annual report on Electricity Consumption and Renewable Generation in Northern Ireland published on 8 March 2018[11] states that for the 12 month period January 2017 to December 2017, 34.8% of total electricity consumption in Northern Ireland was generated from renewable sources located in Northern Ireland. This represents an increase of 9.4 percentage points on the previous 12 month period (January 2016 to December 2016) and is the highest rolling 12 month proportion on record.

Figure 3: Renewable Electricity Generation by Type of Generation, April 2017 to March 2018.



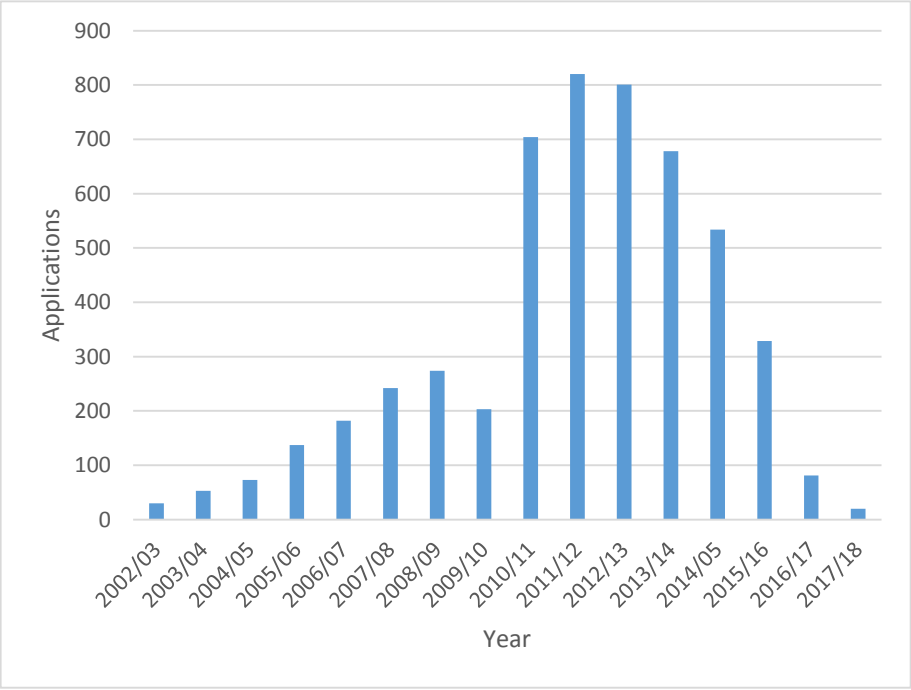
(Source: Department for the Economy's (DfE) Analytical Services Unit (ASU))

[11] https://www.economy-ni.gov.uk/articles/electricity-consumption-and-renewable-generation-statistics

7.20 As shown in Figure 6 above, of all renewable electricity generated within Northern Ireland over the 12 month period January 2017 to December 2017, 84.3% was generated from wind energy. This compares to 82.6% for the previous 12 month period (January 2016 to December 2016). The statistics do not include electricity produced by those who generate their own electricity. Therefore the data presented represents the minimum amount of renewable electricity generation in Northern Ireland.

7.21 Data on the proportion of renewable electricity generated from sources other than wind was 15.7% for the 12 month period ending December 2017. In particular, there have been significant increases in renewable electricity generated from Biomass, Biogas and Solar PV over the last 2 years[12].

Figure 4: Renewable Energy applications in NI annually from 2002/03 – 2017/18



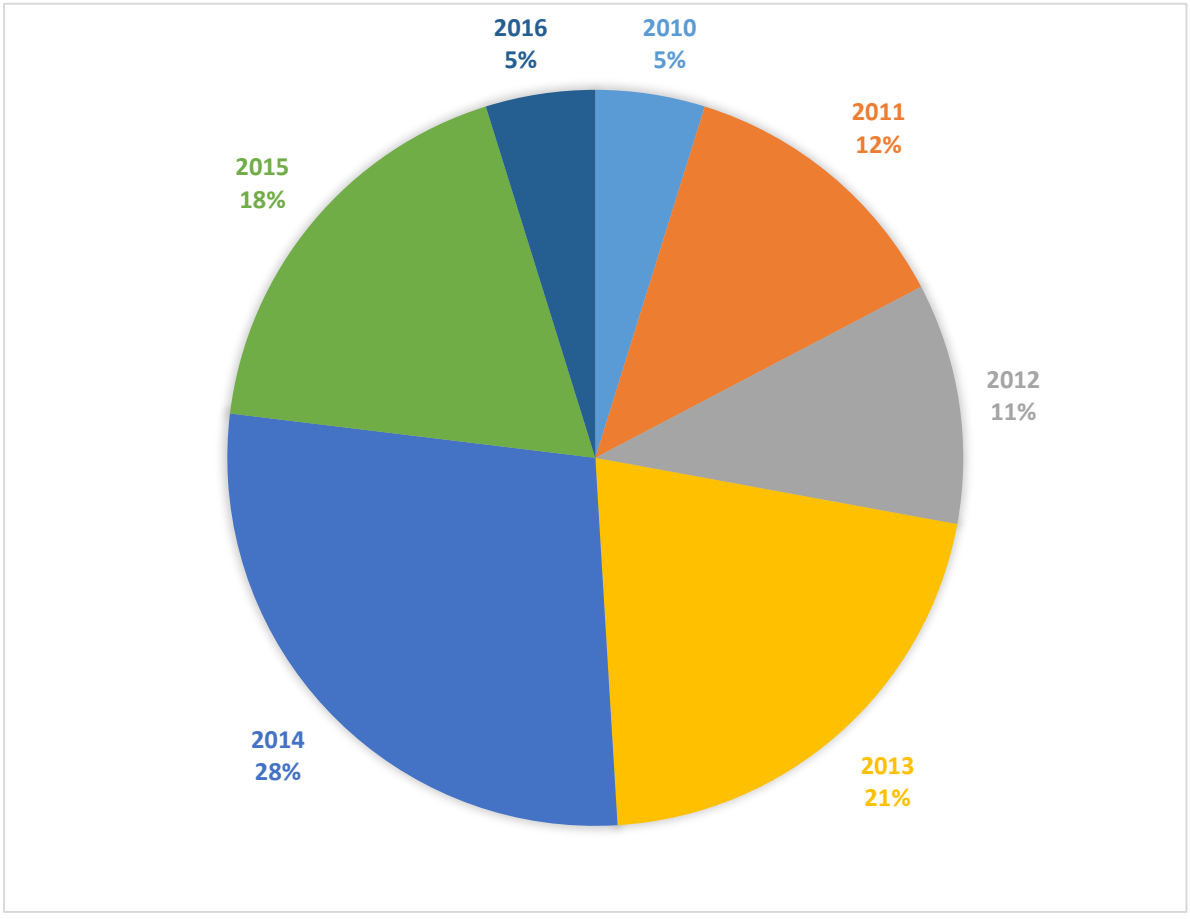
(Source: Northern Ireland Planning Statistics Bulletin)

[12] Electricity Consumption and Renewable Generation in Northern Ireland: Source: Department for the Economy's (DfE) Analytical Services Unit (ASU))

7.22 The total number of renewable energy planning applications received in Northern Ireland peaked at 820 in 2011/12. In 2017/18, 30 renewable planning applications have been received up to Quarter 2 (see Figure 7 above).

7.23 The number of renewable energy applications received in the Ards and North Down Borough council area between 2010-2016 totalled 104. As can be seen below in Figure 8, 28% of these applications were received in 2014 (29 applications) and only 5% were received in 2016 (5 applications).

Figure 5: Change in number of renewable energy applications from 2010 to September 2016 expressed as a percentage of all planning applications received in that year

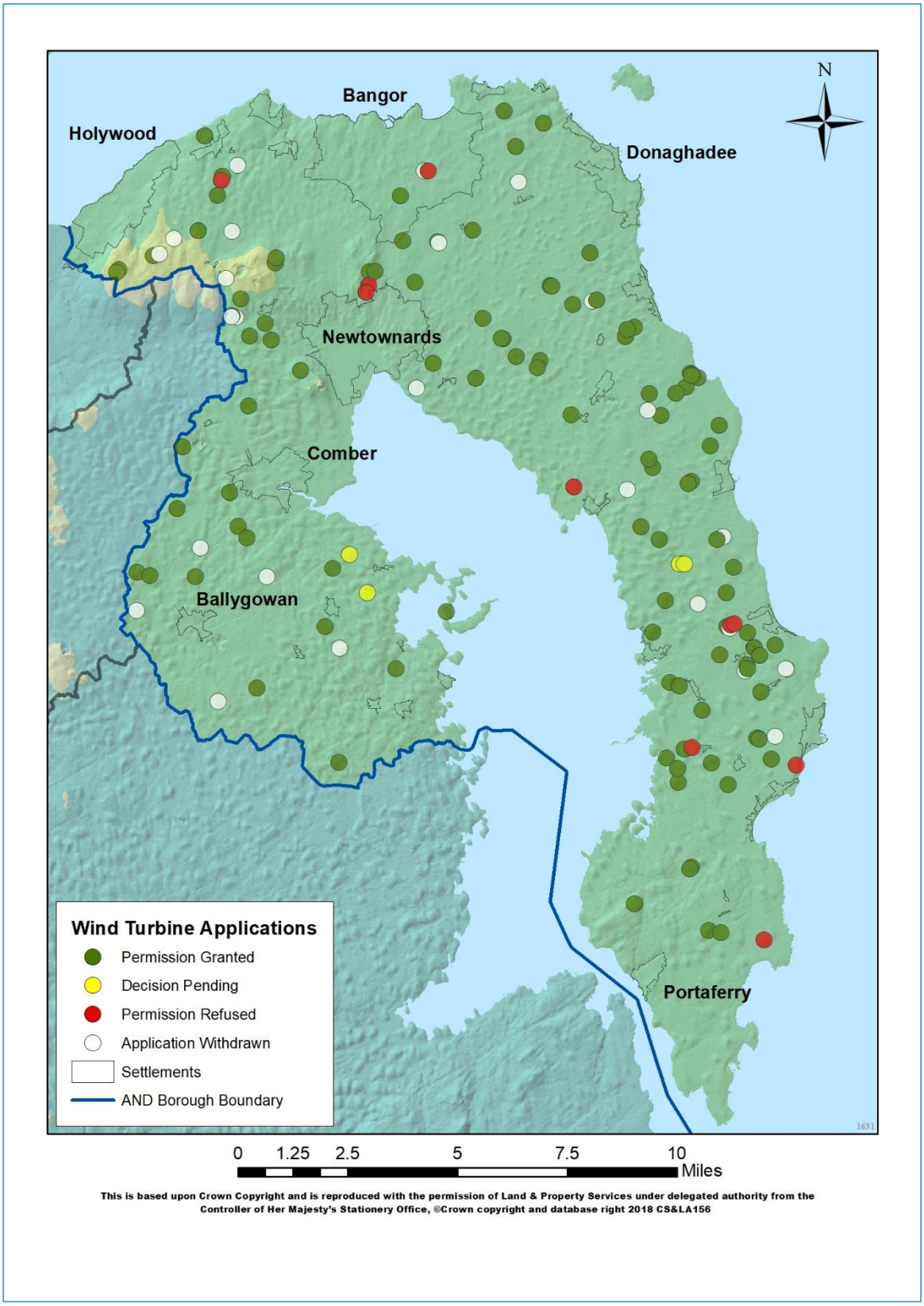


Wind Energy

7.24 As established, the majority of renewable energy generated within Northern Ireland is from wind power. Northern Ireland is considered to have one of the best wind resources in Europe, with the Ards Peninsula considered particularly suitable for harnessing wind energy in terms of the potential wind speeds. However, this suitability must be balanced against the desirability of preserving the quality and character of the landscape – particularly given the designation of much of the western portion of the Peninsula as an Area of Outstanding Natural Beauty (AONB).

7.25 According to the first quarterly statistical bulletin of the Northern Ireland Planning Statistics (published 29 September 2016), the number of applications received for wind turbines dropped to below one hundred for the first time since Q4 of 2009/10. This may have been due to a reduction in Government funding as well as a lack of capacity on the power grid. In Ards and North Down, the number of renewable energy applications has fallen from 13 in the first quarter of 2015, to 3 in the first quarter of 2016 and 0 in 2017. This seems indicative of a wider trend..

Map 1: Planning status of wind turbine applications in Ards and North Down



Source: Ards and North Down Borough Council

7.26 Map 3 above shows the location of planning applications for single wind turbines in the Borough and their current planning status. Green dots represent locations where planning permission has been granted, red dots are locations where planning permission has been refused and white dots show locations where planning applications have been withdrawn.

Solar and PV

7.27 Photovoltaic (PV) panels or solar electric panels generate electricity when exposed to light. The panels require only daylight rather than sunlight to generate electricity. When light shines on the panel it creates an electric field across layers of silicon in the cell, causing electricity to flow. The greater the intensity of light, the greater the flow of electricity. The installation of domestic microgeneration equipment within the curtilage of a dwellinghouse including: solar PV or solar thermal equipment; biomass heating system; combined heat and power system; ground or water source heat pump, or air source heat pump, may benefit from Permitted Development Rights under the Planning (General Permitted Development) Order (Northern Ireland) 2015.

7.28 There is one 'solar farm' located at within the Borough at Ballyblack Road East, Carrowdore. Planning permission was granted in 2015 for the installation of a 5.9 Megawatt solar photovoltaic (PV) farm and associated infrastructure (X/2014/0538/F**)**.

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Biomass and Anaerobic Digestion

7.29 Biomass is a collective term for all plant and animal material like wood, straw and poultry litter and energy crops such as willow grown on short rotation, which are burned to produce energy. The most possible form of domestic biomass uses wood pellets. However, in order for it to be regarded as a true renewable energy it is important that the wood burned comes from a sustainable source and that trees that are used for the fuel are replanted.

7.30 Anaerobic digestion (AD) is technology which is used to treat waste products, or purpose grown crops to provide energy. It can play an important role in dealing with organic waste, recovering energy and producing nutrients.

Hydro

7.31 There is one hydro-electric power scheme in operation in the Borough, located at the Strangford Lough Wildfowlers' & Conservation Association on the Crawfordsburn Road, Newtownards. Planning permission was obtained for the installation of a micro-hydro generator in 2005 (X/2005/0786/F). The hydro-turbine uses an existing four-acre lake on the reserve, which was constructed in the late 1800s to service the local textile industry. The hydro-system has a 56kW peak output and generates around 88,000 units of electricity every year, saving approximately 52 tonnes of CO2.

Tidal

7.32 The Strangford Lough Tidal Turbine (also known as SeaGen) was the world's first commercial-scale tidal energy project. It was installed in Strangford Narrows between Strangford and Portaferry in 2008 and required a total investment of £12m.

7.33 At full capacity, the turbine produced 1.2MW - enough energy to meet the average electricity needs for 1500 UK homes. The energy was supplied to customers in Northern Ireland and the Republic of Ireland. The turbine was decommissioned in 2017 but further projects are earmarked for other locations in Northern Ireland.

Natural Gas

7.34 Natural gas was introduced to Northern Ireland in 1996 and there are now about 205,000 households and 12,000 households and 12,600 businesses with a gas supply (including power generators).

7.35 Phoenix Natural Gas Ltd is the distribution network operator in Greater Belfast and the Ards and North Down area and the largest natural gas distribution

company in Northern Ireland. It is responsible for the development of the pipeline network and additional services to suppliers which facilities the supply of natural gas to homes and businesses.

7.36 The Department of the Economy's, Strategic Energy Framework 2010 (SEF) which was fully endorsed by the Northern Ireland Executive is committed to extending the natural gas network in the region where it is economic to do so.

7.37 In December 2015, the Utility Regulator approved an extension to the Phoenix Natural Gas licence which will provide new gas infrastructure to 13 towns and villages in East Down, including Annahilt, Ballygowan, Ballynahinch, Castlewellan, Crossgar, Downpatrick, Dromore, Drumaness, Dundrum, Hillsborough, Newcastle, Saintfield and The Spa. Work commenced in early 2016 and is due to be completed by end of 2018. The project will involve a capital investment of around £60m and will make gas available to circa 28,000 domestic and commercial properties. Gas is currently available in Ballygowan, Hillsborough, Ballynahinch and Annahilt.

7.38 Currently there is no provision for gas supply to properties in and around the Killinchy area, or the Peninsula. It has not been indicated by Phoenix if, or when, the licence may be extended to include these areas.

Waste Management

7.39 Councils have a duty to prepare Waste Management Plans for the forward planning of waste management requirements for collecting, recovering, treating and disposing of controlled waste.

7.40 Ards and North Down Borough Council is part of a group of six Councils that have come together to form arc21, the Sub-Regional waste planning body. At present arc21's region accounts for 54% of all Northern Ireland's municipal waste, 518,000 tonnes per annum. The arc21 Waste Management Plan was prepared under Article 23 of the Waste and Contaminated Land (NI) Order 1997, adopted by the Councils in 2003 and revised most recently in 2015.

The central focus of the Plan is an analysis of the waste streams arising in the arc21 region and associated potential for waste prevention, recycling, recovery and disposal. The Waste Management Plan takes account of the Northern Ireland Waste Management Strategy "*Delivering Resource Efficiency*" which was published at the end of October 2013.

7.41 Significant progress in waste management has occurred within the arc21 region in recent times, based on a strategy focused on the '3 Rs' of Reduce, Re-use and Recycle. As recovery, reuse and recycling capacity grows, a decreasing amount of landfill will be required to deal with residual material left by these processes.

7.42 Ards and North Down council collect over 70,000 bins every week and within the last year the council has introduced food waste collections to every household as well as introducing glass collections. The council has also expanded materials which can go into the blue bins to include plastic pots, tubs and trays.

7.43 'Bin Ovation' is a free App which covers 7 council areas including Ards and North Down. The app allows the public to set reminders of for which bin goes out on a certain date, notification of holiday collections a list of over 300 items which can be recycled.

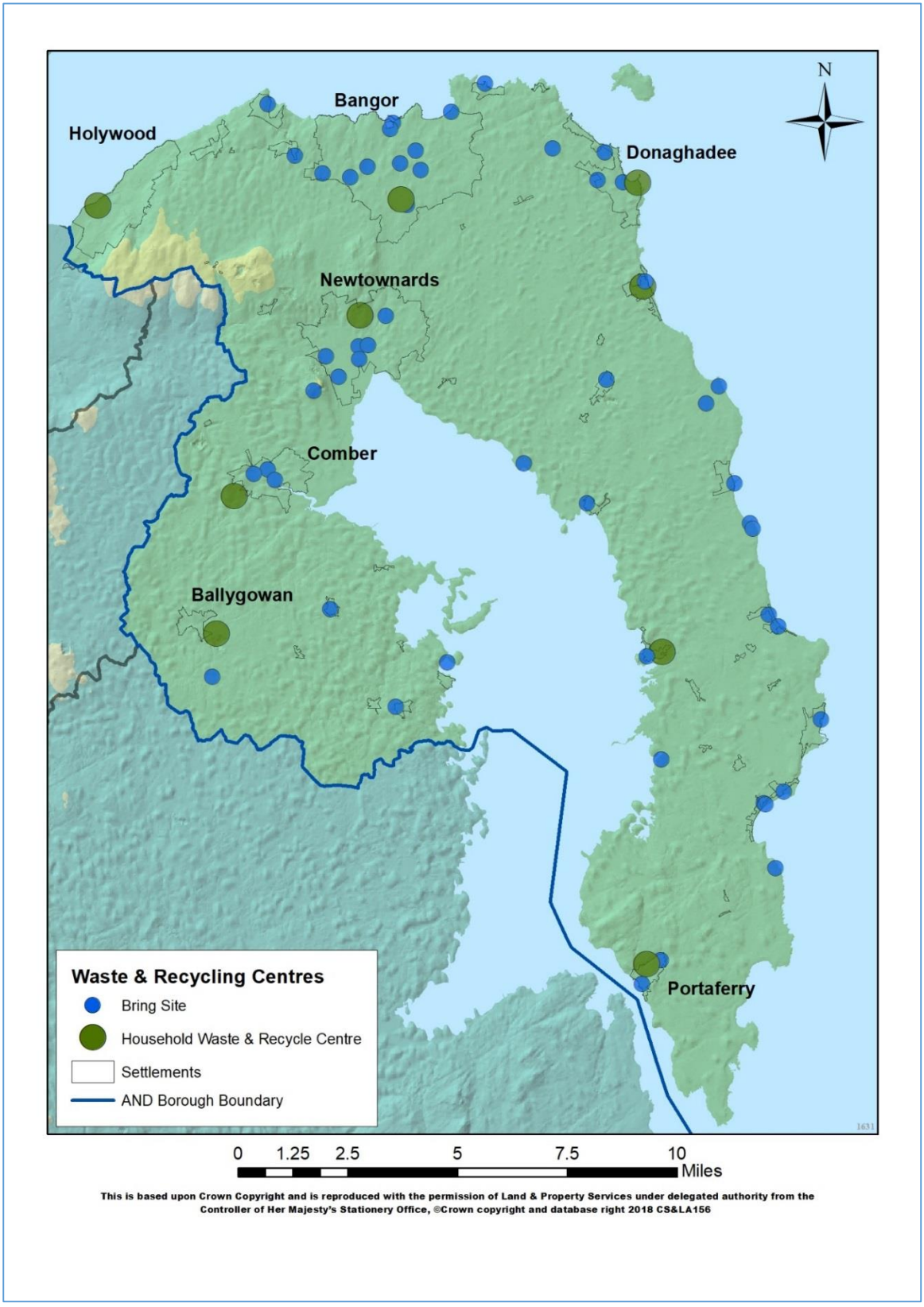
7.44 There has been an increase of 7% in the amount of collected municipal waste prepared for reuse, recycled or composted in the Borough. The figures have risen from the 2015 figure of 41% to the 2016 figure of 48% (Source: NISRA). This indicates the level of buy-in and compliance from the public in relation to waste management and environmental stewardship. The figures within this indicator help demonstrate the impact of waste reduction schemes and trends over time.

7.45 There are 9 Council operated recycling centres within the Borough. These

are located at: Balloo, Ballygowan, Comber, Donaghadee, Holywood, Kircubbin, Millisle, Newtownards and Portaferry.

7.46 In addition to the facilities at Waste Recycling Centres, Ards and North Down also has bring sites consisting of glass bottle banks, with some sites having additional banks for textiles. A list of these sites is included in the appendix of this paper and their locations are shown on Map 5 below. There are also a number of privately owned waste facilities throughout the Council area.

Map 2: Waste Recycling Centres and Bring Sites in Ards and North Down

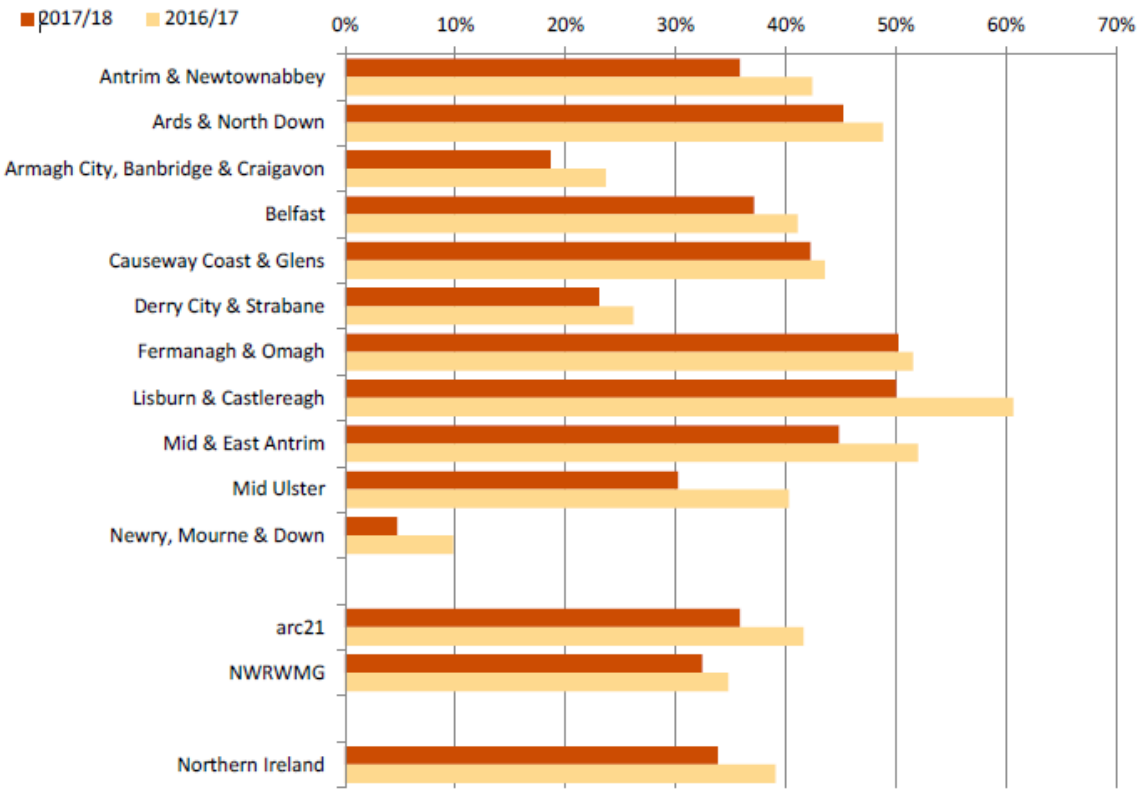


Source: Ards and North Down Borough Council

7.47 According to the Northern Ireland Local Authority collected municipal waste management statistics, quarterly provisional estimates for July to September 2017 published by the Department of Agriculture, Environment and Rural Affairs (DAERA), Northern Irelands Councils collected 260,353 tonnes of LAC municipal waste between July and September 2017.

7.48 During the same period, the NI household waste landfill rate was 29.5% which was a notable reduction on the 33.4% recorded during the same 3 months of 2016. By way of comparison, the household waste landfilled rate for Ards and North Down was 36.9%

Figure 6: Percentage of household waste landfilled by council and waste management group Northern Ireland, January to March 2017 and January to March 2018, KPI (b)



Source: Northern Ireland Local Authority Collected Municipal Waste Management

7.49 There are no active landfills for household waste in the Ards and North Down Borough Council area. The Borough avails of a landfill site at Straid Farm, Lendalfoot, Scotland. The remaining capacity of this landfill site is shown below in Table 1.

Table 2: Remaining Landfill Capacity in 2014

Landfill	Total Capacity of permit	Current fill rate	Estimated date for ceasing
Straid Farm	1,600,000	28,000 tonnes/yr	December 2021

Source: NIEA

7.50 The issue of remaining landfill capacity is complex and will be influenced by factors wider than just the Ards and North Down Borough Council area. There are 2 other regional landfills in the eastern region Cottonmount (Newtownabbey) and Crosshill (Crumlin) with significant remaining capacity. The landfills are in competition for business across the region. Trends and changes in waste arising from both municipal sources and commercial/industrial sources will also have a significant impact.

7.51 Arc21 gained full planning permission in 2017 for a Residual Waste Treatment Facility at Hightown Quarry in Co. Antrim after it was granted by the Department for Infrastructure. The proposed development is designed to deal with waste from a significant portion of the population and includes a Mechanical and Biological Treatment facility, an Energy from Waste Thermal Treatment facility, an Incinerator Bottom Ash Treatment facility, a Refuse Derived Fuel Bale Storage building and an Administration/Visitor Centre. However, the decision to grant planning permission is now subject to judicial review proceedings as the decision was made in the absence of a Minister for Infrastructure.

7.52 A quarterly report from NI DOE published on 28th January 2016 states 98,000 tonnes out of a total of 254,593 tonnes – was sent to landfill during the quarter four of 2015. This is both two percentage points lower than the same period in 2014 and the first time that landfilled quantity has dropped below 100,000 tonnes.

7.53 Looking at the eastern region as a whole, the report estimated that there is likely sufficient landfill capacity until at least 2030, and if the landfill disposal rate declines as predicted this could be extended by 10-20 years more.

Water and sewerage

7.54 Water supply within the plan area is drawn from several sources and delivered through various local service reservoirs and a number located outside the Borough (reservoirs are considered in more detail in the LDP position paper on Flooding and Drainage). Throughout the plan area, Northern Ireland Water has programmed schemes to upgrade the water and sewerage system where required to comply with EU Directives and, to ensure water quality and meet increasing demand.

7.55 Ards and North Down benefits from 7.7% of NI Water's capital spend and additional expenditure from Capital Maintenance monies. From 2015/2016 to 2017/2018 the Capital Project spend for the Borough totalled some £23.7m.

7.56 Water quality for Ards and North Down for 2016 indicate that Ards and North Down compliance at customer tap was 99.9%, just above the overall Northern Ireland figure of 99.8%.

7.57 Northern Ireland Water has indicated that 5 of the existing Waste Water Treatment Works (WWTWs) are at capacity and new connections are being

refused. These are located in Ballygowan, Ballywalter, Carrowdore, Kearney and Killinchy. Upgrades of all these works are programmed for 2018-2021. A further two works have limited capacity and there are restrictions on new connections at Loughries and Tullynakill Road. The location of existing WWTWs in the Borough and their current capacity is contained within the Appendix.

7.58 The capacity of WWTWs has a direct impact on new connections and new dwellings must provide an on-site solution such as septic tanks or treatment package plants. The availability of capacity is also a key part of the resource test contained within the Housing Evaluation Framework which identifies locations for new housing based upon a number of factors including availability of necessary infrastructure.

Cemeteries

7.59 Responsibilities for provision and maintenance of cemeteries lies with the Council. Additional burial grounds are located within various church grounds in the Borough.
Cemeteries are located at:

- Ballyvester Cemetery (Donaghadee);
- Comber Cemetery;
- Greyabbey New Cemetery;
- Loughview Cemetery (Comber);
- Kircubbin Cemetery;
- Kirkistown Cemetery;
- Movilla Cemetery (Newtownards);
- Whitechurch Cemetery (Ballywalter);
- Clandeboye Cemetery;
- Bangor New Cemetery;
- Redburn Cemetery (Holywood); and
- Priory Cemetery (Holywood).

Table 3: Capacity of cemeteries within the Borough as of 2014

Cemetery	Remaining Graves	Approx number of graves sold per year	Remaining capacity
Movilla	720	*50	14 years
Comber	231	40	5 years
Loughview	2800	Just opened	30+ years
Ballyvester	377	*35	10 years
Whitechurch	820	30	27 years
Kircubbin	460	10	30+ years
Kirkistown	1267	10	30+ years
Greyabbey	160	20	8 years

Source: Ards and North Down Borough Council

Wider Trends and Issues

8.1 Sir David Attenborough's Blue Planet II brought the issue of plastic pollution to the attention of millions and there is increasing public concern about the impact of plastic pollution on our wildlife and environment. Unfortunately the vast majority of plastic waste cannot or does not get reused or recycled and up to 12m tonnes of plastic[13] ends up in the sea each year including tiny bits of plastic from cosmetics, bathroom products and tyres. This can have a fatal effect on sea creatures.

8.2 Campaigns to reduce plastic use are gaining widespread support and include refusing plastic straws in restaurants and bars; banning or taxing takeaway coffee cups that can't be recycled; and calls for cuts in the unnecessary plastic that manufacturers and retailers produce. Prime Minister Theresa May has pledged to ban all avoidable plastic waste in the UK by 2042. In a bid to tackle the problem, she has called on supermarkets to introduce "plastic-free" aisles and consider taxes and charges on single-use plastic items like food containers.

[13] http://www.eunomia.co.uk/reports-tools/plastics-in-the-marine-environment/

8.3 Renewable energy sources often raise criticisms around supply and demand and associated energy storage. Most energy is produced when the wind is blowing or the sun is shining – but how it can be stored for use when the conditions are not optimal for energy production is a key issue. Both supply and demand may fluctuate on a daily, weekly or seasonal basis. Effective energy storage technology allows demand to be met by either storing or releasing excess electricity and can also contribute to increased energy security.

8.4 Lithium-ion battery storage appears to be the favoured technology. Tesla turned on the world's largest lithium-ion energy storage facility in the world in Australia in late 2017 with a 129 megawatt-hour (MWh) facility.

8.5 In 2017 the UK government announced the first phase of a £246 million government investment into battery technology. The 4 year investment round known as 'The Faraday Challenge' is intended to deliver a programme of competitions that will aim to boost both the research and development of expertise in battery technology[14].

8.6 The largest community energy battery in Europe (1.2 MW) has recently been installed at a housing development at Trent Basin in Nottingham with the capacity to deliver 500 kw of power. It will combine with solar panels and smart controls to allow residents to control usage and lower energy costs.

8.7 Other methods of renewable energy storage include: pumped hydro storage, compressed air energy storage (CAES), and flywheel energy storage amongst others.

[14] https://www.gov.uk/government/collections/faraday-battery-challenge-industrial-strategy-challenge-fund

Key Findings

9.1 The Council is keen to increase digital connectivity for the whole of the Borough – particularly those rural areas that currently experience 'notspots' and digital isolation. This is vital to support rural enterprise and economic activity, to attract investment and to stay competitive. It also plays a vital role in connecting people and communities socially whilst allowing them to access many public services.

9.2 As the drive towards recovery, reuse and recycling capacity grows, a decreasing amount of landfill will be required to deal with residual material left by these processes. In consideration of the eastern region as a whole, it is estimated that there is likely sufficient landfill capacity until at least 2030.

9.3 However, given the increasing efforts towards achieving increasing recycling targets, it may be the case that further recycling centres may be required within the Borough to facilitate this.

9.4 Applications for renewable energy have decreased in recent years in line with reduced grant subsidies available from central Government. However, the Executive retains a target of 40% of electricity consumption from renewable sources by 2020. The majority of renewable electricity generation is from wind energy. Wind generation remains controversial within Ards and North Down given the quality of its small scale drumlin landscape and the designation of the Strangford and Lecale AONB along with many environmental designations.

9.5 The introduction of the Integrated Single Electricity Market (I-SEM) presents opportunities in relation to access to cheaper sources of electricity, a more open and efficient market and increased energy security. However, it is unclear how Brexit will impact upon the project.

9.6 The capacity and availability of infrastructure in respect of water, waste and sewage is key to identifying the location of future housing and employment land.

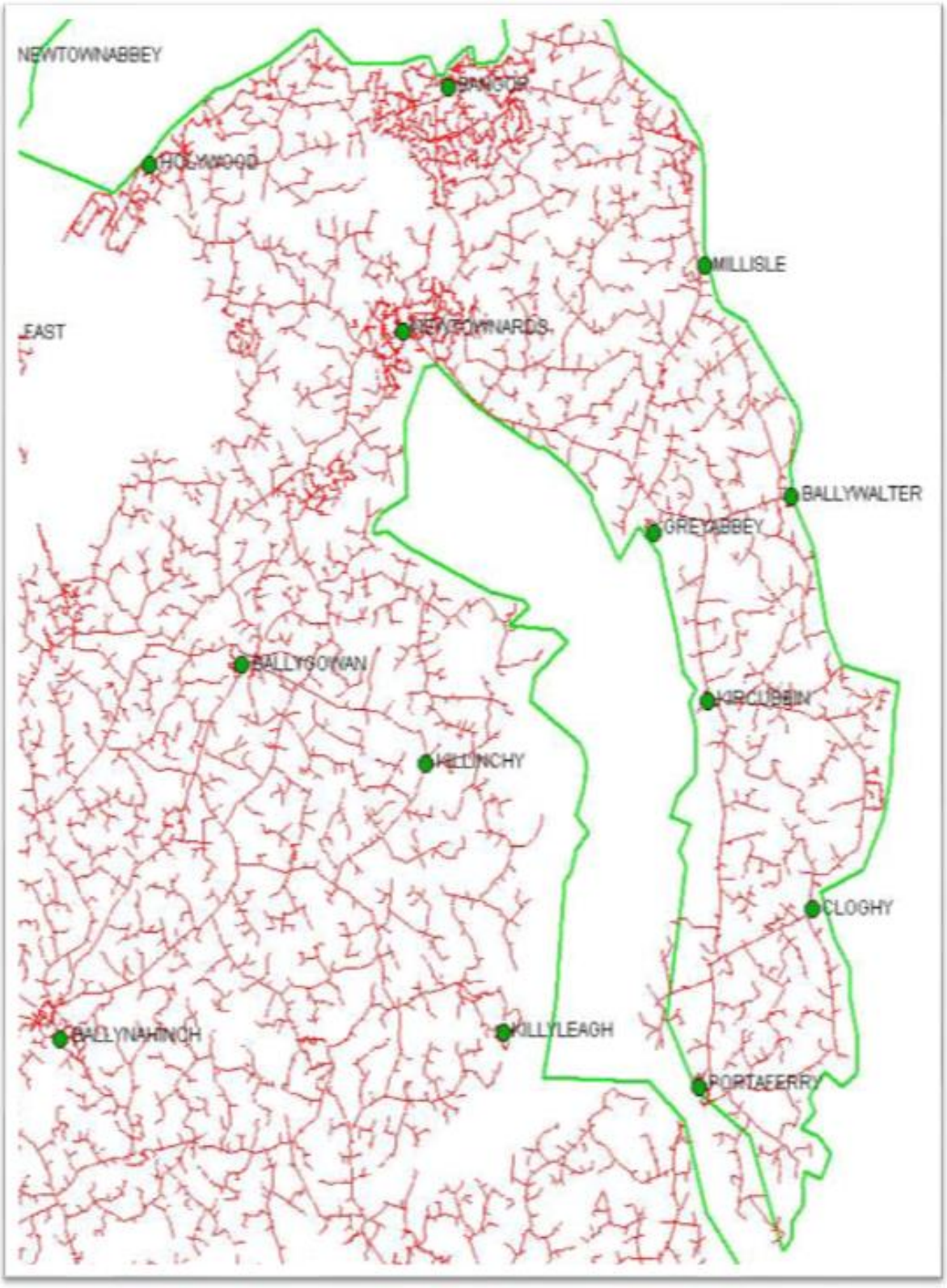
9.7 Public utilities and their associated infrastructure are an essential element of everyday life for people of the Borough and are inextricably linked with social and economic well-being. However, they may also be associated with their potential impact on visual amenity and environmentally sensitive features and locations, and their potential impact on amenity.

Conclusion

10.1 This paper has provided an overview of public utilities provision and the prevailing policy context within Ards and North Down. The Local Development Plan will be led by utility providers in respect of identifying new locations for essential infrastructure and improvements. The Local Development Plan preparation provides the Council with an opportunity to increase the economic and social well-being of the Borough through the formulation of appropriate land designations and planning policy, having regard to the Core Planning Principles and the Councils own Corporate Plan and Community Plan.

Appendix

11kV network for Ards and North Down Borough Council
(Source: Northern Ireland Electricity)



33Kv network for Ards and North Down Borough Council
(Source: Northern Ireland Electricity)

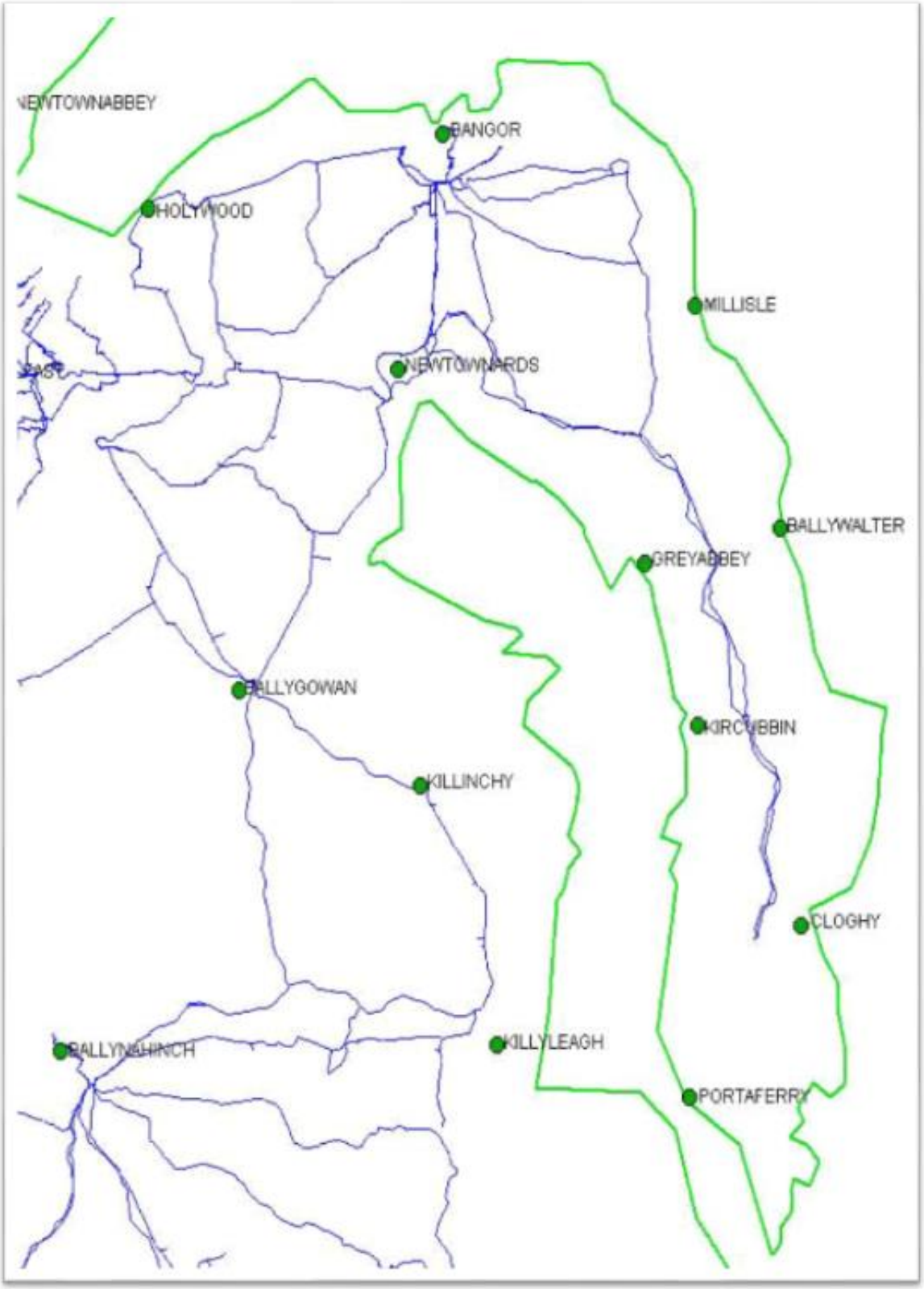


Table 3: Wastewater Treatment Works Capacity by Settlement (Source: NI Water)

Wastewater Treatment Works	Current Planning Status	Estimation of capacity based on growth factor			Map	Comment
		10%	20%	30%		
Ballycranbeg		✓	✓	✓		
Ballygowan		×	×	×		Upgrade of works programed for 2019/2020
Ballywalter (Retention tank)		×	×	×		Upgrade of works programed for 2019/2020
Ballywhiskin		✓	✓	✓		Upgrade of works programed for 2019/2020
Carrowdore		×	×	×		Upgrade of works programed for 2019/2020
Cloughy		✓	✓	✓		Upgrade of works programed for 2019/2020
Greyabbey		✓	✓	✓		Upgrade of works programed for 2020/2021
Kearney (Retention tank)		×	×	×		
Killinchy		×	×	×		Killinchy catchment includes Balloo. Upgrade od works programmed by 2021 subject to receiving additional funding
Kilmood		✓	✓	✓		
Kinnegar		✓	✓	✓		Kinnegar Catchment includes holywood
Kircubbin		✓	✓	✓		
Loughries		×	×	×		Upgrade of works programmed by 2021 subject to receiving additional funding.
Newtownards		✓	✓	✓		Newtownards catchment includes comber, Ballybarnes, Ballystockart, Craigantlet
North Down		✓	✓	✓		North Down catchment includes Bangor, Donaghadee, Millisle, Ballyfrenis, Cotton, Groomsport, Orlock
Ringneill		✓	✓	✓		Ringneill catchment includes Lisbane, Ballydrain
Seahill		✓	✓	✓		Seahill catchment includes Crawfordsburn, Helens Bay, Grays Park
Portaferry		✓	✓	✓		
Ballyhalbert Victoria		✓	✓	✓		Ballyhalbert catchement includes Portavogie, Glastry (Part of)
Tullynakill Road		⊘	⊘	⊘		
Ballyboley	N/A	N/A			N/A	No public sewerage network available
Ballyeasborough	N/A	N/A			N/A	No public sewerage network available

				A small public septic tank within this settlement serves 4 properties
Kirkistown	N/A	N/A	N/A	No public sewerage network available A small public septic tank within this settlement serves 3 properties
Six Road Ends	N/A	N/A	N/A	No public sewerage network available

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 a 'Reasonable Capacity'

⦸ Works is 'At or reaching Capacity'

× Works has 'insufficient Capacity'