



Topic Paper: Public Utilities

Local Development Plan 2020-2035



Belfast
City Council

Executive Summary

Context

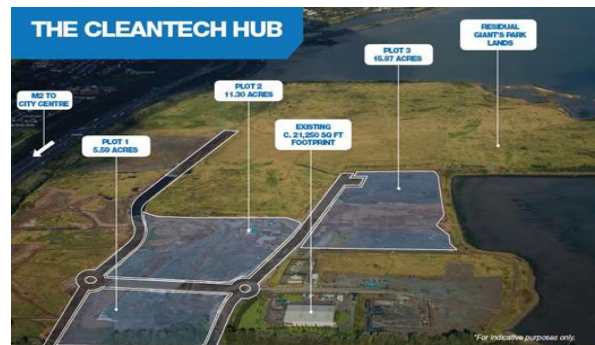
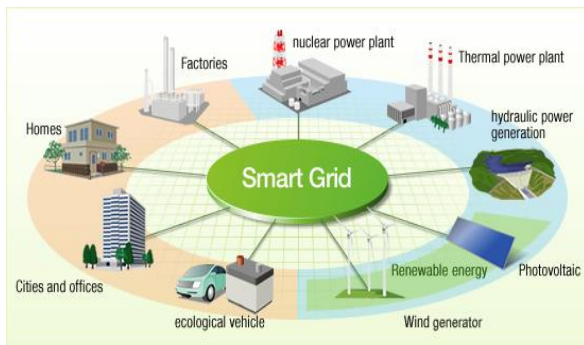
The provision for public utilities within the Plan area is primarily the responsibility of a number of Government Departments and statutory bodies as well as Belfast City Council (“the Council”). However, the private sector is having an increasingly important role in regard to public utility provision. An understanding of the range, provision and location of public utilities can enable the Council to consider the requirement for new development and constraints on development. It is necessary for the Council to establish working relationships with all relevant sectors and utilities companies, and to coordinate planning of utilities and development sites.

The responsibility for the provision and maintenance of cemeteries and burial grounds is the statutory responsibility of District Councils. Some churches also manage and maintain associated cemeteries and burial grounds. In Belfast, whilst there is growing demand from an increased population there are opportunities for working collaboratively cross council boundaries.

The provision of telecommunications equipment in Northern Ireland is fully privatised and regulated by Government Departments and statutory bodies. Telecommunications infrastructure has a positive impact upon the competitiveness and growth of our economy. The impact of the infrastructure upon areas of scenic or environmental importance can be balanced with those positive benefits.

Waste management has changed and will continue to change dramatically over the next several years. Whilst the Local Development Plan (LDP) will not designate or zone specific sites for the management of waste, it will seek to locate new developments which maximise the efficient use of existing utility infrastructure whilst keeping the environmental impact to a minimum.

Waste management in the LDP must take account of the regional planning framework set out by the Regional Development Strategy (RDS) 2035 and the Strategic Planning Policy Statement (SPPS) to assist judgements on the allocation of housing growth and to ensure that sufficient land is allocated to meet the anticipated needs of the community.



Evidence base	Social, Economic & Environmental Factors
<p> 'Europe 2020' Strategy Draft NI Programme for Government 2016-21 Northern Ireland Executive Economic Strategy Strategic Energy Framework 2010 Sustainable Water: A Long Term Water Strategy for Northern Ireland 2015 - 2040 EU Waste Framework Directive Northern Ireland Waste Management Strategy - 'Delivering Resource Efficiency' Regional Development Strategy (RDS) 2035 Strategic Planning Policy Statement for Northern Ireland (SPPS) PPS 10: Telecommunications PPS 11: Planning and Waste Management PPS 18: Renewable Energy PPS 21: Sustainable Development in the Countryside Development Control Advice Note 14: Siting and Design of Telecommunication Equipment Belfast Metropolitan Area Plan (BMAP) arc21 – Waste Management Plan Towards Zero Waste Action Plan (TZWAP) 2012-2015 Waste Management Plan (WMP) & Interim Waste Action Plan 2015/16 Continuing to Connect Telecoms 2015-2017 Next Generation Broadband Project Northern Ireland Broadband Fund </p> <p>PROFILE</p> <ul style="list-style-type: none"> • Demand from increased population following Local Government Reform (LGR) • Limited provision for cemeteries in Belfast City Council (particular North and West of the City) and neighbouring Council areas and difficulties in securing a site/sites of adequate size • Availability of Public Wi-Fi and Super Fast Broadband networks • Rise of smart grids as intelligent power distribution systems • North Foreshore • The EU Waste Framework Directive set targets for waste management and failure to meet these targets will incur fines for the relevant council. 	<p>How will the plan ensure that adequate waste and other public utilities are in place to accommodate growth and new developments without having a negative impact on existing communities?</p> <p>Will the LDP support economic growth and city competitiveness?</p> <p>To allow for new provision of burial grounds and to build on the existing cultural and conservation nature of such developments</p> <p>Protects and strengthens the cultural heritage and conservation nature of such development</p> <p>Opportunities</p> <p>Cemeteries</p> <ul style="list-style-type: none"> • Upgrade Roselawn Crematorium • Smaller sites or compulsory acquisition? • Collaborate with other Local Councils <p>Telecommunications</p> <ul style="list-style-type: none"> • Facilitate increasing demands and needs • Balanced with visual/environmental impacts <p>Waste & infrastructure</p> <p>The Council will prepare a Waste Management Plan in 2016 to replace the two existing WMP's. The Local Development Plan should be prepared having regard to this new Waste Management Plan.</p>

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1.0 Introduction

Purpose of this Document

- 1.1 This is one of a series of 17 topic papers which have been put together to inform the Sustainability Appraisal Scoping Report for the Belfast Local Development Plan (LDP).
- 1.2 Each topic paper provides a summary of the evidence base required for the Sustainability Appraisal, Preferred Options Paper and LDP. They establish a baseline position and identify the key issues that need to be addressed.
- 1.3 By combining the evidence gathering stages for both the Sustainability Appraisal and LDP, we aim to streamline the documentation produced and avoid duplication. It will also help to ensure that sustainable development is embedded in the planning process and that sustainability appraisal is one of the main drivers informing the preparation of the LDP.
- 1.4 Each topic paper can be read separately but, inevitably, there are important related matters in other topic papers and background evidence.

Member Workshops

- 1.5 The series of 17 Topic Papers were drafted in the early part of 2016 to provide elected members with baseline information to inform the preparation of the LDP. As such, the information presented within this topic paper is intended to:
 - build the capacity of the members to make informed planning decisions, particularly within the plan making context
 - provide baseline information which will inform Development Plan Policy making at a local level
 - consider the Settlement Hierarchy within the new Belfast Local Government District
 - assess the land use needs of a growing population within the Belfast City Council area and to consider the adequacy of the existing growth strategy
 - to link with important ongoing work in relation to the development of a Community Plan (the Belfast Agenda) and other strategic work being undertaken by the Council.
- 1.6 These papers were presented to members for discussion at a series of informal workshops with Planning Committee Members throughout the Spring 2016, with key issues and opportunities for the City identified for consideration.
- 1.7 The original Topic paper entitled 'Public Utilities' was presented at a workshop on 19 May 2016. It has since been updated to ensure the statistics referenced are up to date for publication alongside the Preferred Options Paper.

Public Utilities

- 1.8 This topic paper provides an overview of matters relating to public utilities and sets out the policy context for public utility provision. It delivers a summary profile for public utilities

including: telecommunications; cemeteries; water and sewerage; electricity and gas; and waste.

- 1.9 The provision for 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 having an increasingly important role in regard to public utility provision. An understanding of the range, provision and location of public utilities can enable the Council to consider the requirement for new development and constraints on development. It is necessary for the Council to establish working relationships with all relevant sectors and utilities companies, and to coordinate planning of utilities and development sites.

2.0 Policy Context

- 2.1 This section introduces the strategic context, regional policy context and local policy context relevant to public utilities.

Strategic Context

- 2.2 The strategies relevant to public utilities include 'Europe 2020', the draft NI Programme for Government (2016-21) (dPFG), the NI Executive's Economic Strategy, the Strategic Energy Framework for Northern Ireland (SEF) 2010, the "Sustainable Water: A Long Term Water Strategy for Northern Ireland (LTWS) (2015 - 2040)", the EU Waste Framework Directive, and the revised NI Waste Management Strategy – 'Delivering Resource Efficiency. A summary of these documents as they pertain to plan making and public utilities policy is provided in the following sections.

Europe 2020

- 2.3 The Europe 2020 strategy, adopted by the Council in 2010, states three priorities as smart growth, sustainable growth and inclusive growth, together with five targets to raise employment rates, invest in research and development, meet 20/20 climate/energy targets, increase third level education, and reduce poverty and social exclusion. It also sets targets around digital services.

Draft NI Programme for Government (2016-21)

- 2.4 The dPFG adopts an outcomes-based approach, supported by a number of indicators that highlight the Executive's desired direction of change. A key outcome of the dPFG is the connection of people and opportunities through infrastructure. The Executive aims to contribute towards delivery of this objective through a range of growth areas, including increased availability of access to high quality telecommunications. An important indicator of this outcome is to 'improve internet connectivity' with fast efficient broadband recognised as a significant factor in business access to compete successfully in external markets and in promoting NI as an attractive inward investment location.

NI Executive Economic Strategy

- 2.5 The NI Executive Economic Strategy recognises the need to build on our status as the first region to deliver extensive next generation broadband services to underpin economic growth.

Strategic Energy Framework for Northern Ireland

- 2.6 The strategic aim underpinning the SEF is for a more secure and sustainable energy system, driven by a competitively priced and robust supply market, increased energy from renewable resources, and improved efficiency. Four key energy goals in support of the aim are set out within the framework. The goal of 'Building Competitive Markets' is followed by that of 'Ensuring Security of Supply', which recognises the risks confronting European gas and electricity markets. It highlights the benefits of a diverse energy mix in terms of security of supply and identifies the need for NI to provide new investment that contributes to the greater security of energy supply, through a range of fossil fuels and low carbon

technologies. The third and fourth goals are labelled 'Enhancing Sustainability' and 'Developing Our Energy Infrastructure'. The former suggests NI needs to move towards greater levels of renewable electricity consumption and sets the target of 40% renewable electricity by 2020. The latter points to a major energy challenge for NI and the need to overhaul the energy infrastructure to ensure it will be fit for purpose through to 2050 and beyond. It suggests extensive investment to improve the electricity grid is required if NI is to maximise its use of onshore and offshore renewable energy resources. It further advises that building a smarter grid in NI will facilitate the transition to a low carbon economy by changing the way energy is supplied and used.

Sustainable Water: A Long Term Water Strategy for Northern Ireland 2015 - 2040

- 2.7 NI Water published the LTWS in 2016. It sets out the Executive's framework for action to facilitate implementation of a range of initiatives aimed at delivering the long-term vision to have a sustainable water sector in Northern Ireland. The strategy focuses on complying with European Directives designed to protect and improve the quality of the water environment, and seeks to meet the European Commission's 2012 Water Blueprint that aims to ensure the sustainability of all activities that impact on water.
- 2.8 These European Policy documents inform the vision for a sustainable water sector contained within the LTWS. The vision is characterised by a range of factors concerning: the co-existence of water related activities; the consolidation, development and delivery of policies affecting the water sector; the provision of strategic direction and a framework for long-term investment plans to encourage the delivery of sustainable initiatives; and the desire that future planning proposals are informed by existing water and sewerage infrastructure and investment proposals. Five key principles are established to achieve the vision. The principles are set around economic development and growth; affordability; environmental improvement and compliance; flood risk management; and sustainable service delivery.
- 2.9 A significant element of the economic development and growth principle is to ensure that adequate investment is made in water, sewerage and drainage infrastructure to facilitate new industrial and residential development, promote tourism and attract inward investment to the region. Other elements of importance, contained within remaining principles, are: the priority to reduce the risks of pollution from sewage discharges; the sustainable management of flood risk to facilitate social, economic and environmental development; and the move from conventional high energy water, wastewater and drainage solutions to adopt innovative, natural approaches where issues are addressed at source. Further details of the LTWS are outlined in Appendix A.

EU Waste Framework Directive

- 2.10 The EU Waste Framework Directive provides the legislative framework for the collection, transport, recovery and disposal of waste. The directive requires all member states to take the necessary measures to ensure waste is recovered or disposed of without endangering human health or causing harm to the environment, and includes permitting, registration, inspection and requirements.

- 2.11 The directive also requires member states to take appropriate measures to encourage: (1) the prevention or reduction of waste production and its harmfulness; and (2) the recovery of waste by means of recycling, re-use or reclamation or any other process with a view to extracting secondary raw materials, or the use of waste as a source of energy.
- 2.12 In light of the effects of land-filled biodegradable waste on climate change, the EU Landfill Directive sets statutory targets for reducing the quantities of land-filled biodegradable municipal waste to:
- 75% of 1995 levels by 2010
 - 50% of 1995 levels by 2013
 - 35% of 1995 levels by 2020
- 2.13 Failure to meet these targets will incur fines for the relevant councils. Over time, the EU targets and waste legislation are likely to necessitate increased segregation of waste. This will have an impact on operational practices and the number of containers required by each property to keep various fractions of waste separated. In light of the impending fines and in order to discourage land-filling and encourage recycling, Government is steadily and significantly increasing the tax on land-filled materials.

Northern Ireland Waste Management Strategy - 'Delivering Resource Efficiency'

- 2.14 The revised Northern Ireland Waste Management Strategy entitled 'Delivering Resource Efficiency' sets the policy framework for the management of waste in NI, and contains actions and targets to meet EU Directive requirements and the Department's Programme for Government commitments. The strategy emphasises that waste is a resource and an opportunity, rather than a burden. It recognises that smarter use of scarce resources is both a strategic necessity and an economic opportunity.
- 2.15 The strategy builds on and retains the core principles of the 2006 Strategy, and places a renewed emphasis on the Waste Hierarchy (see Figure 1). 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 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 recovery, including energy recovery, an important level in the hierarchy as many materials have a 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.

Figure 1: Waste Hierarchy



Source: Northern Ireland Waste Management Strategy¹

2.16 The new Strategy moves the emphasis of waste management in NI from resource management, with landfill diversion as the key driver, to resource efficiency, (i.e. using resources in the most effective way while minimising the impact of their use on the environment). The Strategy highlights a number of policy and legislative proposals of which the most significant are:

- the development of a waste prevention programme
- the development of a new recycling target for local authority collected municipal waste
- the introduction of a statutory requirement on waste operators to provide specified data on commercial and industrial waste
- new and more challenging collection and recycling targets for packaging and waste electrical and electronic equipment
- the introduction of a landfill restriction on food waste
- the implementation of legislation on carrier bags
- the development of detailed proposals for an Environmental Better Regulation Bill²

2.17 In relation to 'Recycling and Recovery', the Strategy sets out the following targets for the percentage of NI waste to be recycled or composted annually:

- 35% by 2010
- 40% by 2015
- 50% by 2020

2.18 As mentioned previously, failure to meet these targets will incur fines for the relevant council. As a result, waste management has changed and will continue to change dramatically over the next several years.

¹ <https://www.daera-ni.gov.uk/sites/default/files/publications/doe/waste-policy-delivering-resource-efficiency-northern-ireland-waste-management-strategy-2013.pdf>

² The Bill is now an Act - The Environmental Better Regulation Act (NI) 2016 received Royal Assent on 11 April 2016

Regional Policy Context

2.19 This section introduces the Regional Policy Context, which is provided by the Regional Development Strategy (RDS) 2035, the Strategic Planning Policy Statement (SPPS), Planning Policy Statements (PPSs), and Supplementary Planning Guidance (SPG). A summary of these documents as they pertain to plan making and public utilities policy is provided in the following sections.

Regional Development Strategy

2.20 The Metropolitan Area of Belfast is one of the key components of the Spatial Framework Guidance (SFG). SFG3 enhances the role of Belfast City Council (“the Council”) as the regional capital with a focus on admin, commerce, specialised services and cultural amenities. Strategic planning places emphasis on the importance of the relationship between the location of housing, jobs, facilities, and services and infrastructure.

2.21 The RDS recognises the role public utilities can have in determining the economic competitiveness of NI and provides the strategic environmental context for the delivery of them.

2.22 The RDS sets out clear policy aims and objectives regarding telecommunications and the need to invest in a modern communications infrastructure. Policy RG3 ‘Implement a balanced approach to telecommunications infrastructure that will give a competitive advantage’ identifies a key challenge for the region will be to improve international and internal connectivity and to ensure that the opportunities provided by access to high quality telecommunications services are fully exploited. The RDS envisages that next generation broadband services will be available to provide support for 85% of businesses.

2.23 The key policy aims of the RDS 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.

2.24 The RDS also sets out clear policy aims and objectives regarding water, sewerage services and flood risk management. This is set out in Regional Guidance RG9 and RG12. Policy RG9 ‘Reduce our carbon footprint and facilitate mitigation and adaptation to climate change whilst improving air quality’ promotes grey water recycling and advocates for a precautionary approach to development in areas of flood risk using the latest available flood risk information. It also promotes that development in areas, even those outside flood risk areas, should incorporate the use of SuDS.

2.25 Policy RG12 ‘Promote a more sustainable approach to the provision of water and sewerage services and flood risk management’ points to the integration of water and land-use

planning. It suggests that land use planning should be informed by current water and sewerage infrastructure and future investment programmes. The policy also directs that future water demand should be managed to reduce water consumption, with consideration given to the inclusion in developments of measures such as grey water recycling and rainwater harvesting. Finally, the policy seeks to encourage sustainable surface water management through the use of SuDS and states that all new storm water drainage systems should incorporate measures to manage the flow of waters which exceed design standards (exceedance flows) in order to help protect vulnerable areas.

- 2.26 The RDS also provides policy direction in relation to energy. It does so, through use of Regional Guidance in the form of Policies RG5 and RG9. Policy RG5 'Deliver a sustainable and secure energy supply' promotes the contribution that renewable energy can make to the overall energy mix. To meet the regions energy needs, it outlines the requirement for a significant increase in all types of renewable electricity installations and renewable heat installations, including a wide range of onshore and offshore renewable resources for electricity generation. The requirement to increase the use of renewable energies is supported by Policy RG9 'Reduce our carbon footprint and facilitate mitigation and adaptation to climate change whilst improving air quality'. It acknowledges that NI is largely dependent on fossil fuel combustion for electricity generation, and in promoting an increase in the use of renewable energy, identifies the need for increasing numbers of renewable electricity installations and the requirement for a grid infrastructure to support them. The policy acknowledges fossil fuels as being a major source of greenhouse gas emissions and other pollutants, and indicates towards a desire to limit the environmental impact of energy production. In this regard, the policy promotes the utilisation of local production of heat and/or electricity from low or zero carbon energy sources, which carry carbon benefits, contribute to the diversification of the energy mix and enhance security of energy supply.
- 2.27 As the least polluting fossil fuel, gas has considerable environmental benefits. Policy RG5 encourages the provision of new gas infrastructure alongside gas storage which would contribute positively to the security and reliability of future supply. This is particularly relevant to Belfast, as in 2014 the Greater Belfast area accounted for 87% of total connections to the gas network, and demand for gas remains with connections continuing to rise each year.
- 2.28 Policy RG5 also highlights the need to strengthen the grid, together with a necessity to integrate heat and electricity infrastructure alongside new road infrastructure development. Aligned to this, is the promotion of smart grid initiatives that are viewed capable of improving the responsiveness of the electricity grid to facilitate new forms of renewable generation, improve reliability, productivity and energy efficiency, and inform consumer choice in regard to energy usage. Policy RG5 also recognises that new generation or distribution infrastructure must be carefully planned and assessed to avoid adverse environmental effects, particularly on or near protected sites.
- 2.29 The RDS also sets out clear policy aims and objectives regarding waste and 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.

- 2.30 Policy RG10 of the RDS 2035 promotes the implementation of the European Union's revised Waste Framework Directive. 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.” 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 possible to the point of generation in an effort to minimise the negative effects of waste transportation.

Strategic Planning Policy Statement

- 2.31 The SPPS was adopted in September 2015 to replace DOE's PPSs as an aid to shorten and simplify the guidance. The SPPS sets objectives to:-

- promote sustainable development in an environmentally sensitive manner
- tackle disadvantage and facilitate job creation by ensuring the provision of a generous supply of land suitable for economic development and a choice and range in terms of quality, size and location to promote flexibility and meets specialised needs of specific economic activities.
- support the re-use of previously developed economic development sites and buildings where they meet the needs of particular economic sectors
- promote mixed use development and improve integration between transport, economic development and other land uses, including housing whilst ensuring compatibility and availability by all members of the community
- ensure a high standard of quality and design for new economic development

- 2.32 The SPPS states that the aim 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.

- 2.33 The development of high quality telecommunications infrastructure is essential for continued economic growth. Growth of new telecommunications infrastructure should be promoted whilst keeping the impact on the environment to a minimum. The policy states that where new infrastructure is required then it should be sited in a location which minimises the impact in terms of visual, environmental and amenity issues.

- 2.34 The Policy Objectives of the SPPS in relation to telecommunications 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 development is kept to a minimum
- minimise, as far as practicable, undue interference that may be caused to terrestrial television broadcasting services by new development

- encourage appropriate provision for telecommunications systems in the design of other forms of development.

2.35 With regard to water and sewerage, the SPPS seeks to ensure the planning system contributes to a reduction in energy and water usage, helping to reduce greenhouse gas emissions by continuing to support growth in renewable energy sources. The SPPS also aims to manage development to safeguard against water pollution, flooding and securing improvements in water quality. Further, in seeking to mitigate and adapt to climate change, the SPPS encourages working with natural environmental processes, for example through promoting the development of green infrastructure and also the use of SuDs to reduce flood risk and improve water quality. It also promotes good design, including the need to consider and address how the design of a development can minimise energy, water usage and CO2 emissions. Finally, in respect of 'Development at Surface Water (Pluvial) Flood Risk outside Flood Plains, the SPPS recognises that surface water and pluvial flooding is a particular problem in urban areas and that steady growth of such areas has served to intensify water run-off and to place additional pressures on the piped drainage network.

2.36 In regard to electricity, the Rural Strategy contains current regional planning policy on overhead cables. Policy SETT 4 of the Belfast Metropolitan Area Plan (BMAP) extends the application of the extant policies of The Rural Strategy to the entire Plan Area.

2.37 In relation to waste, states that sustainable waste management is essential for the health and well being of society, and our quality of life. It recognises that the waste management industry is an important provider of jobs and investment across the region, with the potential to support future business development, investment and employment.

2.38 The SPPS promotes adherence to the Northern Ireland Waste Management Strategy – "Delivering Resource Efficiency" which emphasises that waste is a resource and an opportunity, rather than a burden. The strategy recognises that smarter use of scarce resources is both a strategic necessity and an economic opportunity. It frames the EU Waste Framework Directive (WFD) target of recycling (including preparing for re-use) 50% of household waste by 2020, as well as the Executives PfG commitments. In line with the RDS, this promotes the five step waste hierarchy.

2.39 The provision of waste facilities and infrastructure is essential for sustainable development. 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.

2.40 The Policy Objectives of the SPPS in relation to waste 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

- secure appropriate restoration of proposed waste management sites for agreed after-uses.

Planning Policy Statements

2.41 The RDS is complemented by the DOE's Planning Policy Statements. The most relevant being: PPS 10 – 'Telecommunications'; PPS 11 – 'Planning and Waste Management'; PPS 18 – 'Renewable Energy'; PPS 21 – 'Sustainable Development in the Countryside'; and 'A Planning Strategy for Rural NI'.

2.42 Key issues relevant for the LDP preparation include:

- facilitating the continued development of telecommunications infrastructure but ensuring that visual and environmental impact is kept to a minimum
- consultation with telecommunications operators and site allocation – the council may consult with telecommunications operators over the plan period to ascertain the extent of network coverage in plan area and over plan period. The council may allocate certain sites for the provision of tall masts to encourage site sharing
- Integration of new electricity power lines and cables into the existing landscape and townscape
- 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 of public use / open space.

2.43 PPS21 'Sustainable Development in the Countryside' sets out appropriate farm diversification and other economic activity. Following Local Government Reform (LGR), the Council has extended to include lands in Colin Glen, Cave Hill, Lagan Valley Regional Park, Belvoir Park, parts of the Craignalet Hills, the Castlereagh Hills and three small settlements of Hannahstown, Edenderry and Loughview. However, the Council remains contextually urban and the policy is to cluster, consolidate and group new development with established buildings and the re-use of previously used land and buildings.

Supplementary Planning Guidance

2.44 Development Control Advice Notes (DCANs) represent non-statutory planning guidance which is intended to supplement, elucidate and exemplify policy documents, including PPSs and development plans.

2.45 DCAN 14 'Siting and Design of Telecommunication Equipment' acknowledges the economic and social benefits of telecommunication provision, changing technical requirements and growth in customer demand. Siting and design issues around antennas, mast sharing and installations on buildings; guidance for environmentally sensitive areas; equipment housing; access and emergency development are covered in this guidance.

- 2.46 The installation of apparatus to improve the Broadband network usually constitutes Permitted Development under Part 18 of the Schedule to the Planning (General Permitted Development) Order (Northern Ireland) 2015. Therefore, the planning process would not necessarily have an impact on provision of telecoms. However, the Department of Infrastructure (previously Department of Environment) issued a consultation paper seeking comments regarding a review of permitted development rights, with one section looking at Development by Electronic Communications Code Operators, and proposing:
- permitted development rights for masts and equipment on masts providing an increase in the overall height of an existing mast of up to 5 metres where the overall size is 50 metres or less in height or up to 15% of the original height where the overall size is more than 50 metres in height
 - increase in the overall width of the structure (measured horizontally at the widest point of the original structure) of one metre or one third of the original width of the structure whichever is the greatest
 - a limitation which requires a replacement mast to be sited within 4 metres of the existing mast.
- 2.47 The consultation paper closed on 30 June 2016. Its proposals are aimed at making the applications for improvements or alternations to telecommunication devices less limiting.

Local Policy Context

- 2.48 This section introduces the Local Policy Context, which is provided by relevant sections of the BMAP, the arc21 Waste Management Plan, the Towards Zero Waste Action Plan 2021-2015 (TZWAP), the Belfast Agenda, the Belfast City Centre Regeneration and Investment Strategy (BCCRIS), and the Belfast City Council Social Clauses Framework. These are now summarised.

Belfast Metropolitan Area Plan 2015

- 2.49 This plan covers the former City Council Areas of Belfast and Lisburn and the Borough Council Areas of Carrickfergus, Castlereagh, Newtownabbey and North Down.
- 2.50 The strategic vision for Belfast city is to promote it as the regional capital and major focus for regional administration, commerce, specialised services, cultural amenities, employment and development opportunities.
- 2.51 The Belfast Metropolitan Area (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
 - to highlight infrastructure constraints and requirements as appropriate within key site requirements.

- 2.52 Further details on the BMAP policies relating to waste and public utilities is outlined in Appendix B.

arc21 – Waste Management Plan

- 2.53 Three sub-regional groups were formed by local councils in Northern Ireland in recognition of the mutual benefits to be gained from a regional approach to waste management planning. The three regional Northern Ireland Waste Management Groups are arc21 (of which Belfast is a part of), North West Region Waste Management Group and Southern Waste Management Partnership 2008.
- 2.54 arc21 prepared a Waste Management Plan for the Belfast and surrounding region in fulfilment of its councils' obligations under Article 23 of the Waste and Contaminated Land (Northern Ireland) Order 1997. Under Article 23, District 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 within the Region.
- 2.55 The 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 waste produced in a sustainable manner.
- 2.56 The Waste Management Plan also identifies 'areas of search' for the provision of necessary facilities and capacity. These proposals for waste management facilities will be considered against the prevailing regional planning policies.

Towards Zero Waste Action Plan

- 2.57 The Council's TZWAP 2012-2015 established a series of tasks aimed at improving Belfast's recycling rate which increased from 32% in 2012 to a provisional 44% for 2015. The plan provided the Council with an annual programme of work, with the longer term goal of reaching a 50% recycling rate and a 35% landfill diversion rate by 2020, as required by European law.
- 2.58 A new strategic waste management plan (WMP) is being developed. In the meantime the Council has developed an interim Waste Action Plan for 2015/16 which outlines the next steps required to successfully manage the city's waste. A summary of the interim plan is set out in Appendix C.

Belfast Agenda

- 2.59 There is a statutory obligation for the evolving LDP to take account of the Belfast Agenda (Community Plan) which is about agencies working together with local communities to make a difference. It will be a joint vision for Belfast created in partnership with key partners, residents and community organisations to outline how the Council will work with statutory, business and community partners to shape future development and growth by setting medium and long term goals for social, economic and environmental improvements over the next 15 years.
- 2.60 High level priorities emerging following a series of conversations include growing the economy; living here; city development; and working and learning. With particular regard to

this topic paper the agenda focuses on fostering business, addressing health and educational inequalities, improving neighbourhoods and relations, providing fit for purpose services and promoting the City's position.

Belfast City Centre Regeneration and Investment Strategy

2.61 The BCCRIS sets out the Council's ambition for continued growth and regeneration of the City core to 2030 and contains policies to guide decision making and key projects to drive economic growth and deliver social benefits. The principles of this strategy include increasing the employment and residential population; managing retail; maximising tourism; creating a learning and innovation centre and a green centre; City connectivity; and shared space and social impact.

2.62 The Strategy also identifies five special action areas within the City Centre to include social and cultural activities and public realm. The City Centre Investment Fund of approx £19m has been established to kick-start projects in conjunction with the private sector that demonstrate an economic return. A further £4m fund has been established for projects that can demonstrate social return.

Belfast City Council Social Clauses Framework

2.63 Social clauses are defined by the Cabinet Office as "requirements within contracts or the procurement process which allow the contract to provide added social value through fulfilling a particular social aim". From April 2016 the Buy Social requirements are to be used in procurement above £2M for construction and above £4M for civil engineering. The Council adopted a Social Clause Policy in January 2016.

3.0 Public Utilities Profile

3.1 This section provides a summary profile for public utilities. The telecommunications profile is followed by those summaries dealing with cemeteries, water and sewerage, electricity and gas, and waste.

Telecommunications

3.2 The DETI is responsible for the regional strategy and policy relating to telecommunications. It supports investment in telecommunications infrastructure and facilitates improvements in broadband, mobile and internet connectivity, and is independently regulated by the Office of Communications (OFCOM). The broadband market in NI is fully privatised with the principal provider being British Telecom (BT). Other providers include those such as Plusnet, EE and Sky.

3.3 The DETI produced the strategy 'Continuing to Connect Telecoms 2015-2017' which states how telecommunications can be advanced in NI by Government through enabling 4G provisions, increasing private indoor mobile broadband reception and continued improvements to providers. The region has a strong record of staying at the forefront of telecommunications technology, and the thrust of this document is that NI remains ahead in terms of the development and deployment of telecommunications infrastructure.

3.4 NI became the first region in Europe to achieve 100 per cent broadband coverage. Its position in respect of telecommunications technology and infrastructure provision has been aided by various projects and funding initiatives, including:

- Next Generation Broadband Project – this project was launched by the DETI in a bid to provide next generation of Broadband services to 85% of SMEs across NI to increase the competitiveness of local businesses. It aimed to deploy fibres to cabinets and provide fibre upgrades
- Northern Ireland Broadband Fund – this was a £1.9million fund provided by the European Regional Development Fund (ERDF) to support projects which aimed to improve broadband across NI. Within Antrim and Down, a WIMAX wireless broadband connection was installed
- Urban Broadband Fund – Belfast received £13.7 million from the Department for Culture, Media and Sport's Urban Broadband Fund and provided £3 million through the Council's Investment Programme to become a digital city and one of 22 Super Connected Cities in the UK. Belfast has the highest density of fibre in Europe and the best availability of superfast broadband in the UK
- Project Kelvin – NI is one of the first regions in Europe to operate high and experience high speed, next generation services through Project Kelvin, with a new 40-gigabyte per second transatlantic and terrestrial telecommunications link to North America and Europe via industry leading fibre optic submarine cables. This is providing secure, reliable service and delivering prices of up to 20 per cent below market rates in London, Dublin, Manchester and Glasgow³

³ <http://www.investni.com/invest-in-northern-ireland/why-northern-ireland/advanced-infrastructure.html>

- Super Connected Communities – The Council developed Super Connected Communities to provide activities and facilities across Belfast to help people use the internet. It has developed IT hubs within Community Centres and an outreach hub which travels around Wi-Fi enabled community centres. Through this scheme, the Council has issued connection vouchers to 1323 organisations across the city, providing them with super fast access. The Council has also provided a complimentary economic development programme assisting recipients to maximise the return from their enhanced connectivity. A second strand of the programme has provided the public free access to Wi-Fi in 107 public buildings across the city. The aim is to enliven these spaces, to support a connected community and to build upon digital access to both commerce and government. A further stage of this strand is currently under way to extend this free Wi-Fi out into the city centre streets.

3.5 Belfast now provides a high speed ultrafast network of at least 100Mbps for businesses that require it, such as the creative industries which send large volumes of data. This advanced telecoms capacity has spurred the development of many new knowledge based and technology start ups. Better provision will create and support jobs, businesses, attracting major foreign investors as well as benefiting residents of Belfast. Companies such as ‘Analytics Engines’ specialise in ‘Big Data Processing’ and initiatives such as ‘Smart Cities’ can be used by creative industries and technological industries to promote of City in comparison to other competitors.

3.6 In recent years additional improvements to the broadband network which have taken place, including: the availability and take-up of superfast broadband; the deployment of new 4G mobile broadband networks; the availability and use of public Wi-Fi hotspots; and new high-definition (HD) and local television services on terrestrial TV. These are now summarised, together with an indication of future telecommunications demand.

Superfast Broadband

3.7 As part of the ‘Digital Agenda’ initiative within Europe 2020 which aims to help Europe’s citizens and businesses to get the most out of digital technologies, the European Commission target is that all homes should have access to superfast broadband by 2020. Super Fast Broadband networks were available to 83% of UK premises in 2015 and 77% of NI premises, up from 65% in 2012 due to BT’s ‘Fibre To The Cabinet’ (FTTC) network and Virgin Media’s cable network. The UK compares favourably with other large European countries in the availability and take-up of fixed broadband services and favourably with the US in the provision of superfast services.

3.8 Atlas Communications are a Belfast based company providing data, network services and telephony communications solutions. Atlas operates its own fibre network and has provided solutions to the Northern Ireland Business Park and for technology based start-up companies within the Cathedral Quarter.

4G Mobile Broadband Networks

3.9 The major mobile networks, (i.e. EE, Vodafone, O2 Telefonica (O2) and Three), provide 4G coverage in NI, with other providers having status as mobile virtual network operators

(MVNOs) that use the wireless network infrastructure of the four major operators to provide mobile broadband services to customers. EE was the first major provider to launch 4G Services, doing so in October 2012, with coverage reaching Belfast in December 2012, and double-speed 4G services introduced in July 2013. It was followed in August 2013 by the introduction of 4G Services by Vodafone and O2. Three was the last network provider to offer a 4G Service, announcing plans in November 2015 to provide 4G Coverage to Belfast, followed by other parts of NI including Londonderry. The provision of 4G services entails upgrading existing sites rather than the construction of new sites, and involves deploying new antennas and upgrading backhaul.

- 3.10 OFCOMs Infrastructure Report 2014 highlighted a 59% geographic availability of 4G mobile network coverage in NI. While 4G availability in NI, still lags in comparison with a number of countries, notably the USA, available data for the second period of 2014 indicates relatively high levels of 4G availability throughout Belfast, when measured against the geographic percentage for the region. The data provides a 'footprint perspective' which is the likelihood of accessing 4G on the provider's network in any given area. Figures for Belfast are summarised in Table 1 which indicates an average footprint perspective of 72.1% across the three network providers offering 4G coverage in the second half of 2014.

Table 1: 4G Footprint Perspective for Belfast (second half of 2014)

Network Providers	% 4G Footprint Perspective
EE	92.9%
Vodafone	59.1%
O2	64.3%

(Source: table generated from information produced by RootMetrics⁴)

According to 4G⁵, major network providers are seeking to extend 4G coverage throughout the UK. EE is aiming for 98% of the UK population to be covered as soon as possible, as well as 95% of the UK landmass by 2020. Vodafone plans to provide 4G coverage to 98% of the UK population as soon as possible. O2 is obliged to provide indoor mobile broadband reception to at least 98% of the UK population by end 2017, and Three aims to hit 98 per cent population coverage with 4G.

Public Wi-Fi

- 3.11 Most Smartphone's now have Wi-Fi capability, and the majority of the data consumed on mobile devices is currently carried using this Wi-Fi capability. The communications capabilities of mobile phones have expanded hugely over recent years, adding text messaging, pictures, video and high speed data transfer to basic voice calls and text messaging over Wi-Fi. Belfast has a network of extra wireless and Wi-Fi devices at street level which has enlivened public spaces. It has also installed Wi-Fi hotspots in public buildings across the city for residents and visitors, providing free access at major venues and community sites.

⁴ <http://www.rootmetrics.com/en-GB/home>

⁵ <http://www.4g.co.uk/4g-networks/>

High Definition Terrestrial Television

- 3.12 Reconfiguration of the Digital Terrestrial Television network was undertaken in 2012 to switchover from analogue to digital TV. More people are watching TV and viewing video content via hybrid TV platforms such as Freeview Play and Sky Q platforms. Internet based TV services such as Netflix, Amazon Prime and Apple TV are also providing access to a greater variety of content.

Future Telecommunications Demand

- 3.13 Telecommunications are an engine of our economy and the pulse of our society and essential enablers of our working and social lives. Consumers, employers and citizens have greater and greater demands and needs for higher bandwidth intense services.
- 3.14 Patterns of working are changing as fast mobile broadband is required for mobile workers and usage and availability of cloud based software services is increasing. If Belfast wants to compete and advance on the global basis particularly in those markets such as ICT that attract foreign investment then it will require the most up-to-the-minute infrastructure to ensure competitive advantage. Improving broadband would complement another council aim to increase 'grade A' office space within the city core. Belfast has demonstrated employment growth within Cyber Security and Big Data Analytics in line with the NI Innovation Strategy for the region to become a leading high growth, knowledge-based region.
- 3.15 Social media is transforming the way that citizens and consumers interact and mobile applications such as Facebook and Tripadvisor are transforming tourism and hospitality sectors. The 'Internet of Things' describes interconnection of everyday services to create new innovative and increasingly more personalised services from citizen engagement in Council services to communications infrastructure providing precise caller location to emergency services.

Cemeteries

- 3.16 The responsibility for the provision and maintenance of cemeteries and burial grounds within individual Council areas is the statutory responsibility of District Councils. Some churches also manage and maintain associated cemeteries and burial grounds. An important part of the Council's responsibility is to make sure that its cemeteries, graveyards and burial grounds are safe places to work in and for the public to visit. The Council has historically maintained a minimum seven year supply of burial land. However, there is currently a rapidly diminishing supply of plots within existing cemeteries and a need has been identified for additional cemetery provision within the future plan period.
- 3.17 At the time of the adoption of the BMAP, planning permission had been granted to the Council for additional land adjacent to Roseland Cemetery which would allow for approximately nine years burial at the current burial rate. The BMAP indicated that a new cemetery and crematorium had been approved near Moira, with capacity for 9,000 burial plots, memorial gardens and landscaped parkland allowing for 40 years of new capacity.

Crematorium Grounds and Cemetery Provision

- 3.18 As the Burial Board for the City of Belfast, the Council own and manage the cemeteries listed in Table 2.

Table 2: Cemeteries owned and managed by Belfast City Council

Cemetery	Location	Type
Balmoral Cemetery	1a Stockmans Lane	Historical
City Cemetery	2 Whiterock Road	Active – Only Existing
Clifton Street Graveyard	3a Henry Place	Historical
Dundonald Cemetery	743 Upper Newtownards Road	Active – Only Existing
Knock Cemetery	17a Knockmount Park	Active – Only Existing
Roselawn Cemetery	127 Ballygowan Road	New
Shankill Rest Garden	405 Shankill Road	Historical
Roselawn Crematorium	127 Ballygowan Road	Active – Only Existing
Friar's Bush Graveyard	6 Stranmillis Road	Historical
Knockbreda Cemetery	19a Saintfield Road	Active – Only Existing (came in under Local Government Reform)

- 3.19 Burials can take place in four of the cemeteries:

- Roselawn
- Dundonald
- Knockbreda
- City Cemetery.

- 3.20 Roselawn is currently the only cemetery where new burial plots are available. There are no new grave plots available in either Dundonald or the City Cemetery, but burials can still take place in existing graves. Cremation services for NI are provided by the City of Belfast Crematorium, located within the grounds of Roselawn Cemetery, and the Council has responsibility for maintaining five historical cemeteries:

- Balmoral Cemetery
- Clifton Street Graveyard
- Friar's Bush Graveyard
- Knock Burial Ground
- Shankill Graveyard

- 3.21 In Antrim and Newtownabbey Borough Council, Carnmoney Cemetery is used by residents in the Belfast City Council area, but there is only a two year supply.

Water and Sewerage

3.22 Northern Ireland Water (NI Water) provides water and sewerage services to the 655,000 households and 85,000 non-households across the region. NI Water has dual status as a government-owned company and a non-departmental public body.

Belfast Sewers Project

3.23 Belfast's sewer network which dates back to the Victorian era was suffering as a result of sustained underinvestment coupled with inadequate capacity as a result of the city's continued expansion. To address the problem, NI Water undertook a major Stormwater Management project called The Belfast Sewers Project. The £160 million project improved water quality in both the River Lagan and Blackstaff River while reducing the risk of flooding within the inner city. It also incorporated the rehabilitation and upgrading of the sewer network to ensure compliance with European Union environmental standards.

3.24 The project was completed in Spring 2010 and will benefit residents and businesses through:

- enhanced water quality in the River Lagan
- reduced risk of flooding
- reduced traffic disruptions that result from emergency road repairs
- providing a healthy environment
- providing capacity to meet increased tourism
- providing an efficient infrastructure for future economic development in Greater Belfast

Sewer Rehabilitation Project

3.25 NI Water has commenced work on a programme of sewer rehabilitation throughout the region. This work will identify defects in approximately 26km of Northern Ireland's sewerage network and carry out any necessary repair or replacement work. The project represents a total investment of £6.5M over the next 2 years.

Electricity and Gas

Electricity

3.26 The electricity industry in NI was privatised in 1992-1993. NI has three fossil fuel generating plants at Ballylumford, Kilroot and Coolkeeragh which sell electricity into the SEM pool along with other generators, including renewable energy. Mutual Energy Limited also supplies electricity to the pool via the Moyle interconnector.

3.27 NIE work to 5 year investment plans agreed by the Utility Regulator. These plans include:

- maintenance of lines, cables and substations
- upgrade of identified substations, lines and cables
- tree cutting next to overhead lines
- major projects for network expansion to meet future infrastructure needs.

- 3.28 Between 2012-2017 NIE are investing £341 million in Northern Ireland's electricity network to maintain the current service levels.

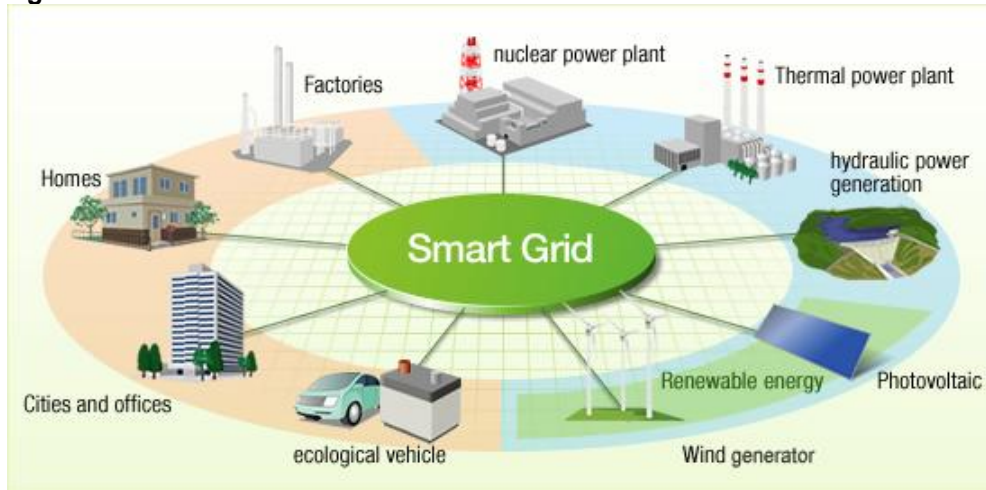
Gas

- 3.29 Natural gas was introduced to Northern Ireland in 1996 and there are now about 195,000 households and 12,500 businesses with a gas supply (including power generators). Gas is conveyed via transmission and distribution networks to supply gas to consumers' premises where it is metered. Each of these three functions is licensed separately, just as in electricity services.
- 3.30 The higher pressure gas transmission pipes feed the lower pressure gas distribution network pipes and run from Larne, near where the gas interconnector from Scotland comes into Northern Ireland, south to Newry (and from there on across the border to Dundalk) and north to Londonderry.
- 3.31 The gas distribution network in NI is currently divided into two distinct areas, the greater Belfast area, served by Phoenix Natural Gas and the Ten Towns area, which encompasses the major towns outside Belfast along the transmission pipe, is served by firmus energy.
- 3.32 The Greater Belfast area was open to competition for the supply of gas in 2007. In the Ten Towns market, the large industrial & commercial market opened to competition from 1 October 2012 and the small industrial & commercial and domestic markets opened to competition from 1 April 2015.
- 3.33 Phoenix are proposing to make natural gas available to a further c.5,000 properties between 2017 and 2022. In doing they hope that they will be contributing to reducing the current levels of fuel poverty in NI and reducing the region's carbon footprint. They propose to connect c.50,000 properties to their network between 2017 and 2022, including c.24,000 existing owner occupied properties.

Smart Grids

- 3.34 A smart grid (see Figure 2) is a power distribution system which evolves from a centralized system to a decentralized system. Consumers can become power generators with renewable energy sources and their consumption decisions or generation have a direct impact on the whole system. That's why the key of the smart grids is the two-way communication between consumers and power generators, allowing to the system to constantly adapt energy delivery to the real needs of consumers at the best price.
- 3.35 The evolution towards these intelligent networks is driven by the need for optimally sizing the energy system, highly affected by demand peaks. Smart grids allow us to adopt behaviors that result in savings for the consumer and although orchestrated, better distribution of consumption results in lower costs of the electrical system.

Figure 2: Smart Grid



Source: Hitachi⁶

Waste Provision

- 3.36 Moving towards more sustainable waste management is a key government objective for the future. The emphasis of waste management in NI is changing from resource management with the need to divert waste away from landfill in favour of more sustainable methods where waste is treated as a resource. It is incumbent upon the Council to consider the management of waste and other public utilities when accommodating growth and that this can act as a constraint on development or a requirement for new development.
- 3.37 Infrastructure is key to the delivery of sustainable development and in ensuring that adequate facilities and services are in place to accommodate new development without there being a negative impact on existing residents and communities.
- 3.38 Provisions for both the collection and treatment of waste are essential land use components of both existing and planned developments. There are three general categories of facility ranging from the regional to the neighbourhood or community level which require a differentiated approach to their land use implications:
- Regional – these facilities serve a wide geographic area and have the potential for significant environmental impacts. The facilities would be at the upper level of the hierarchy identified in PPS 11 including energy from waste, mechanical/biological treatment, large in-vessel composting and anaerobic digestion
 - Local – these facilities have smaller catchments with reduced environmental implications and can include collection or aggregation facilities that would serve the larger regional scale developments. Examples of potential developments would include transfer station, small in-vessel composting and windrow composting
 - Neighbourhood/Community – facilities at the neighbourhood level are related most closely to the source of waste generation and provide the local conduit to achieve the required diversion of waste away from landfill. The facilities are unlikely to cause

⁶ www.hitachi.com/environment/showcase/solution/energy/smartgrid.html

significant detriment to amenity of the areas in which they are located and could include recycling centres and recycling points.

- 3.39 Regional facilities, in recognition of their impacts and broad catchments, would continue to be considered under the provisions the existing planning policy. Local facilities are more closely associated to the sources of waste production and should therefore be sited as close to the point of production as possible. These facilities should be permitted where they help achieve a network of facilities accessible to centres of population.
- 3.40 Neighbourhood/Community facilities such as civic amenity sites, recycling centres, recycling points and other types of facilities should be integral parts of existing and planned developments. Sites must be sited, designed and landscaped to ensure that any potentially adverse impacts on local amenity by way of pollution, visual intrusion or traffic generation are avoided or minimised.
- 3.41 In terms of existing infrastructure, the Council operates 12 centres for recycling and disposing of household waste. There were 3 landfill sites at the Duncrue Estate which are now full and work is required for permanent capping and closure. There is a waste transfer station operating at this site which will continue for the foreseeable future.

4.0 Issues and Approaches

4.1 This section provides an overview of key issues in relation to public utilities, outlines the role of the LDP in relation to public utilities, and identifies the options for the development of public utilities policy in the LDP

Summary of Key Issues

4.2 It is clear that Belfast faces complex challenges and opportunities in relation to public utilities, including telecommunications, cemeteries, water and sewerage, electricity and gas, and waste. These are summarised in the following sections.

Telecommunications

4.3 The key issues in relation to telecommunications include:

- acknowledgement of the need to strengthen the telecommunications infrastructure in NI
- recognition that the telecommunications market is fast moving and that there is an increased reliance on telecommunications systems by consumers and businesses
- awareness that a strong telecommunications infrastructure is vital in providing the region with a competitive advantage, in regard to regional and global connectivity, and in terms of attracting inward investment.

Cemeteries

4.4 The key issues in relation to cemeteries include:

- the new areas and additional residents which transferred under LGR;
- recognition that cemetery provision is limited in both Belfast, the two neighbouring Councils of Antrim and Newtownabbey and Lisburn and Castlereagh
- changes in existing burial provision, such as the unavailability of new grave plots in City Cemetery
- the under-provision of burial space for North and West Belfast
- site difficulties – for example, difficulties in securing large sites of 72 acres
- the trend towards Cremation away from burials. At 40.4% this is double the NI level and is projected to reach 55% by 2025)
- the need for an upgraded provision at Roselawn sub-regional Crematorium
- the need for consideration towards a Council burial policy.

Water and Sewerage

4.5 The key issues in relation to water and sewerage include:

- recognition within Regional policy that urban development is dependent upon the availability of suitable water and sewerage infrastructure, and that growth in and of urban areas places pressure on water resources and drainage systems.
- acknowledgement that management of water and sewage is an important factor in managing growth and protecting the environment, and that consideration should be

given to sustainable initiatives and the use of innovative technology and approaches in regard to water, wastewater and drainage.

- an understanding that flooding is a natural process that cannot be entirely avoided, and where possible, development should be discouraged from flood risk areas.
- awareness that there are proposals to carry out redevelopment works at a number of civic amenity sites, as some of the recycling centres are restricted in terms of operational capacity
- recognition that there would be a future need for a transfer station to be located somewhere in Belfast and consideration should be given to a potential location.

Electricity and Gas

4.6 The key issues in relation to electricity and gas include:

- recognition within Regional policy of NI's dependence on fossil fuel combustion for electricity generation and the need for greater investment and use of renewable energy alongside the local production of heat/and or electricity from low or zero carbon energy sources
- acknowledgement that NI is facing an energy challenge with the need to overhaul the energy infrastructure to ensure it is fit for purpose, to promote diversity and to enhance security of supply
- an understanding that investment in the electricity grid and development of smart grid initiatives are vital if NI is to maximise its renewable energy resources and facilitate beneficial change in the supply and usage of energy
- recognition that there is an increasing demand for gas connection in Belfast.

Waste

4.7 The key issues in relation to waste include:

- the management of waste and other public utilities must be considered when accommodating growth and how this can act as a constraint on development or a requirement for new infrastructure
- the EU Landfill Directive sets out targets for waste management and failure to meet these targets will incur fines for the relevant Council. There is a goal of reaching a 50% recycling rate and a 35% landfill diversion rate by 2020
- recognition that there is a need to treat or dispose of waste as close as practicable to the point of generation to minimise the environmental impacts of waste transport and emissions.

Role of the Local Development Plan

4.8 There will be engagement with telecommunications operators throughout the LDP preparation to gauge the anticipated extent of the network coverage required. Population forecasts will help give a guideline as to what future demands are envisaged to be, and thus areas can be prioritised which should focus on telecommunication infrastructure installations and improvements.

- 4.9 The LDP can allocate specific sites for major new telecommunications development and will bring forward policies detailing criteria for consideration of new telecommunications development in its area including siting, design and impact upon visual amenity.
- 4.10 In preparing LDP's, councils should assess capacity of the existing waste management facilities and should identify specific sites for the development of future facilities. The impact of existing or proposed waste management facilities on neighbouring areas should be considered. LDP's should also take into account the five-step Waste Hierarchy and should bring forward policies for determining all proposals for waste management facilities.

Options for the Development of Public Utilities Policy

- 4.11 In preparing the LDP it is also important to give consideration to public utilities. The options for the development of public utilities policy in respect of telecommunications, cemeteries, water and sewerage, electricity and gas, and waste are summarised in the following sections.

Telecommunications

- 4.12 It is apparent from the review that telecommunications infrastructure can have a positive impact upon our economy and support the initiatives of the RDS, SPPS and Europe 2020. The development and enhancement of the telecommunications infrastructure in a way that makes use of existing assets, is incorporated in the design of other forms of development and which respects visual amenity and environmental sensitivity are key elements of regional guidance and policy. The delivery of a high quality telecommunications infrastructure in appropriate locations is essential to support the development of residential areas and to encourage economic growth.
- 4.13 Whilst past concerns of health implications remain unfounded the impact of the development upon areas of scenic or environmental importance ought to be balanced with those positive benefits. The policy approach to telecommunications should therefore have a degree of flexibility, and account should be given to emerging change in operator enterprise.

Cemeteries

- 4.14 Options for considering future provision of cemeteries include:
- potential investment of the additional land at Roselawn Cemetery
 - compulsory acquisition by BCC of land for a new cemetery
 - smaller site (size 20 acres)
 - need for a collaborative/joint working relationship with other adjoining Local Council areas
 - new facilities opened in adjoining Council areas
 - Loughview cemetery in Comber
 - proposed crematoria at Moira and Newtownabbey (outline permission granted)

- 4.15 It is apparent that in the Belfast City Council area, there is currently insufficient land for cemetery provision. While there are a number of options (as outlined above) the option best available in relation to cemetery provision is for a collaborative approach through working with adjoining Local Council areas. The option will be investigated further.

Water and Sewerage

- 4.16 It is apparent from the review that water and sewerage infrastructure can have a positive effect by accommodating growth and supporting the initiatives of regional policy. Adequate investment in water, sewerage and drainage, and long-term investment plans to encourage the delivery of sustainable initiatives are key factors in facilitating new industrial and residential development, promoting tourism and attracting inward investment to the region.
- 4.17 With potential for technological advancement and increased investment towards innovative alternatives to conventional high energy water, wastewater and drainage solutions, the future of water and sewerage infrastructure in Belfast is likely to be subject to change. Accordingly, the policy approach to water and sewerage should have a degree of flexibility to facilitate emerging eventualities.

Electricity and Gas

- 4.18 It is apparent from the review that electricity and gas infrastructure can have a positive effect by encouraging economic growth and supporting the initiatives of regional policy. The development and enhancement of electricity and gas infrastructure in a way that makes best use of existing assets, incorporates renewable and low carbon energy sources and which respects visual amenity and environmental sensitivity are key elements of regional guidance and policy. Significant investment in terms of upgrading the electricity infrastructure, developing the natural gas network and exploring the potential to develop renewable heat generation and distribution network are essential for a secure and robust infrastructure that is capable of accommodating growth.
- 4.19 With growing demand for gas connection, the potential for technological advancement and increased investment in and use of renewable energy, the future of electricity and gas infrastructure and energy production in Belfast is likely to be subject to change. Accordingly, the policy approach to electricity and gas should have a degree of flexibility.

Waste

- 4.20 It is apparent from the review that waste infrastructure can have a positive effect by supporting the initiatives of regional policy. The delivery of the right level and type of waste facilities at the right time is not only essential to support the development of new homes, economic growth and the creation of sustainable communities, but also provides benefits to the city's existing residents, workers and visitors. An integrated network of waste facilities is also essential if EU targets are to be met.
- 4.21 The future of waste management in Belfast is likely to be subject to change therefore the policy approach should have a degree of flexibility and each application should be considered on the basis of its own merit.

4.22 The information contained within this topic paper has been used to inform the next stage of the LDP process, the Preferred Options Paper.

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Appendix A: Sustainable Water: A Long Term Water Strategy for Northern Ireland (2015-2040)

This strategy was developed by DRD and NI Water and published in 2016. The Strategy presents a clear framework for action which will facilitate implementation of a range of initiatives aimed at delivering the long-term vision to have a sustainable water sector in Northern Ireland.

Northern Ireland must meet the requirements of European Directives. A number of these Directives are designed to protect and improve the quality of the water environment such as the Water Framework, Urban Waste Water Treatment, Bathing Waters, Groundwater, Floods and Drinking Water Directives.

The Strategy focuses on 5 key principles:

- Economic Development and Growth
- Affordability
- Environmental Improvement and Compliance
- Flood Risk Management
- Sustainable Service Delivery

Sustainable Service Delivery

- Sustainable Catchment Management
- Sustainable Stormwater Management
- Water Demand Management
- Sustainable Wastewater Treatment Solutions
- Energy Efficiency and Reduced Greenhouse Gas Emissions

There are 4 high level aims developed to cover the key water needs within a catchment:

1. Provide high quality sustainable supplies of drinking water to households, industry and agriculture;
2. Manage flood risk and drainage in a sustainable manner;
3. Achieve the environmental requirements of the Water Framework Directive in a sustainable manner; and
4. Provide sustainable water and sewerage services that meet customers' needs.

Drinking Water Supply and Demand – 3 key aims

- Manage drinking water quality risks in a sustainable manner from source to tap.
- Meet the water demand needs of society, the economy, and the environment.
- Resource efficient drinking water treatment and supply chains.

Flood Risk Management and Drainage– 5 key aims:

- Deliver sustainable flood resilient development.
- Manage the catchment to reduce flood risk .
- Provide sustainable integrated drainage in rural and urban areas.
- Improve flood resistance and resilience in high flood risk areas.
- Be prepared for extreme weather events.

Environmental Protection and Improvement – 5 key aims:

- Sustainable environmental policy and regulation.
- Sustainably manage the catchment to reduce diffuse pollution.
- Effective and efficient wastewater collection and treatment.
- Maintain sustainable levels of water in the environment.
- Improve river and coastal water morphology and biodiversity.

Water and Sewerage Services – 5 key aims:

- Provide efficient and affordable water and sewerage services.
- Provide high quality services to water and sewerage customers.
- Provide high quality customer service and customer information.
- Provide resilient and secure water and sewerage services.
- Utilise NI Water assets to provide wider benefits for the environment and the community.

Living with Water Programme: Strategic Drainage Infrastructure Plan

Capital Outputs:

- Private drainage infrastructure – ownership defined, brought up to standard
- Storm Separation – progressed across areas of Belfast

- Sewers – capacity increased and maintained
- Watercourses – capacity increased, maintained, amenity value increased
- Drainage Infrastructure – designed for exceedance
- Combined Storm Overflows – some closed, others improved
- Sewage pumping stations - upgraded or replaced
- Increased storm storage within the sewerage network and WwTW
- Belfast WwTW upgraded (increased capacity & new discharge standard)

Other activity:

- Catchment mgt measures to reduce diffused pollution
- Increased use of SuDs

Belfast City Council is not a lead organisation for any work package, but it will provide input to many packages through its roles related to:

- Planning Control
- Management of the Lagan Weir (which includes a flood alleviation role)
- Management of the River Lagan aeration system (degrades pollution that has entered the Lagan)
- Off-Street car parks (which may need to be modified to contribute to storm separation and / or include storm attenuation)
- Recreation & Access (Parks may be modified to provide flood pathways, flood storage, flood barriers)
- Ownership of other lands
- Public engagement and communication

Appendix B: BMAP Policies for Waste and Public Utilities

Public Services and Utilities are provided by a variety of Government Departments, Agencies and statutory bodies, as well as local Councils. The private sector is however playing an increasingly important role. This topic paper looks at water and sewerage provision, drainage, and waste disposal.

Regional Policy Context

The RDS recognises the role public services and utilities have in determining the economic competitiveness of Northern Ireland and provides the strategic environmental context for the delivery of them. It aims to include actions to reduce our carbon footprint and facilitate adaptation to climate change, by measures including promoting sustainable construction, consumption and production, while aiming to prevent waste and deal with it in line with the revised Waste Framework Directive. Accordingly the RDS advocates a number of guidelines to meet this aim, including:

- RG10 – manage our waste sustainably
- RG12 – promotion of a more sustainable approach to the provision of water and sewerage services and flood risk management.

Prevailing regional planning policies and supplementary guidance relating to Public Services and Utilities are set out in: PPS 11 - Planning and Waste Management

BMAP Public Services and Utilities Strategy

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 to highlight infrastructure constraints and requirements as appropriate within key site requirements.

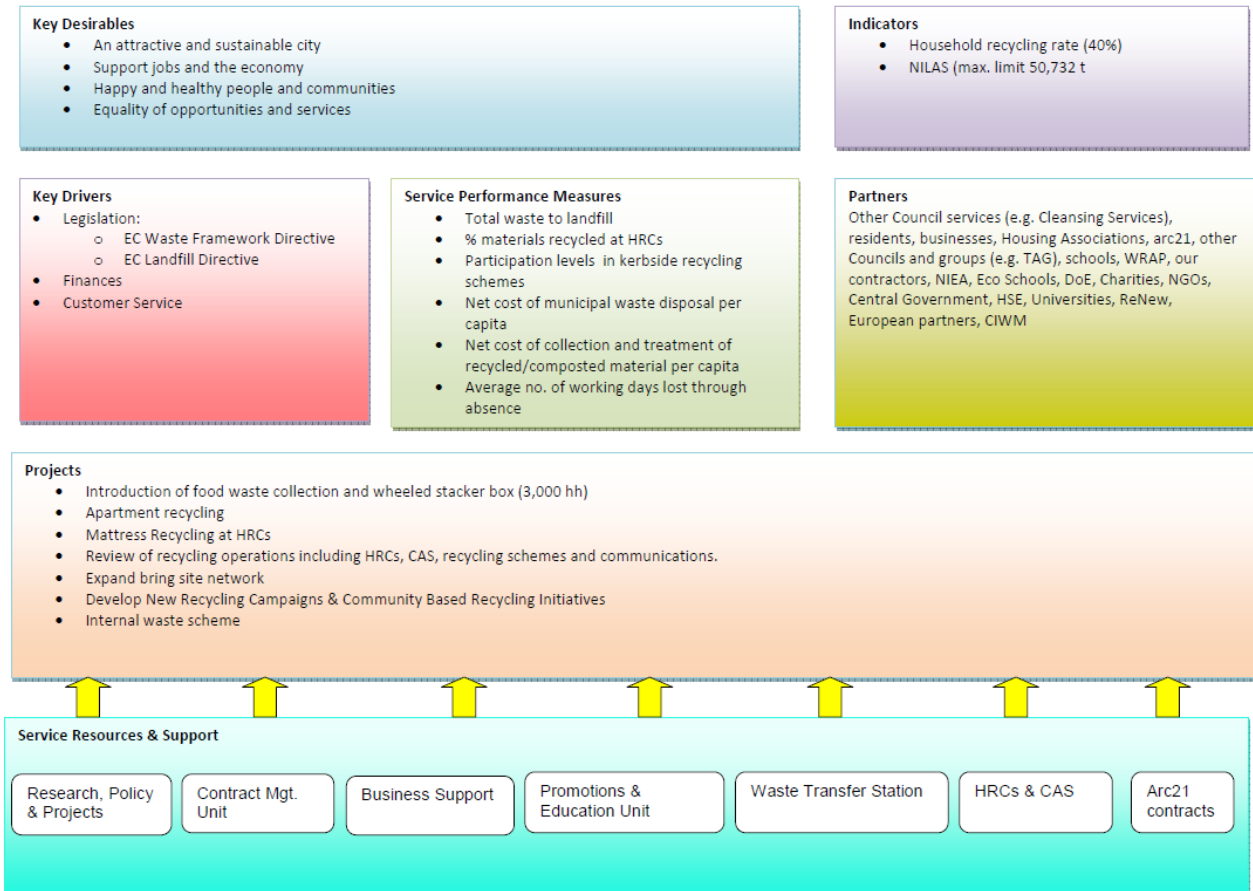
Water and Sewerage

The abstraction, treatment and supply of drinking water and the conveyance and treatment of sewage are the responsibility of Northern Ireland Water (NIW), which is also responsible for further improvements to this infrastructure.

Water supply within the Plan Area is drawn from several sources and delivered through the following impounding reservoirs inside the Belfast Metropolitan Area - Ballysallagh Upper and Lower, Conlig Lower and Upper, Leathemstown, Copeland, Killylane, Lough Mourne, North

Woodburn, South Woodburn, Dorisland and Stoneyford. Water supply is also delivered via a number of reservoirs outside the Plan Area. Water from Lough Neagh is delivered to the Plan Area via Dunore Water Treatment Works just outside Antrim and from the Silent Valley and Ben Crom Reservoirs in the Mourne Mountains. The water from the Silent Valley is treated at Silent Valley Treatment Works at Drumaroad. The Lough Island Reavy Impounding Reservoir in Down District also currently supplies water to the Plan Area. In addition some water is drawn from groundwater sources via boreholes. NIW has invested heavily during recent years in improving Northern Ireland's water and sewerage infrastructure, with further investment planned for the years ahead. Throughout the Plan Area, a number of significant investment projects have been undertaken, including the Belfast Sewers Project, completed in Spring 2010, while other projects such as the Water mains Rehabilitation Project are ongoing. Further schemes are programmed to upgrade the water and sewerage system, where required, and to comply with EU Directives regarding drinking water quality and discharge criteria and to meet increasing demand. Details of the current programme of upgrade to the sewerage infrastructure are provided in Appendix D. These tables list each Waste Water Treatment Works throughout the Plan Area in five categories based on their capacity.

Appendix C: Summary of the Council's Waste Management Interim Action Plan 2015



Appendix D: Sewerage Infrastructure – Waste Water Treatment Works – Belfast District

Sewerage Infrastructure – Waste Water Treatment Works Belfast District		
CATEGORY I		
City/Town/Village/ Small Settlement	Wastewater Treatment Facility	Comment
Belfast	Belfast	Satisfactory and capable of accommodating all development within its catchment that is proposed in the Plan through the Plan period.
	Kinnegar	Satisfactory and capable of accommodating all development within its catchment that is proposed in the Plan through the Plan period.
	Whitehouse	Satisfactory and capable of accommodating all development within its catchment that is proposed in the Plan through the Plan period.
Hannahstown	Belfast	Satisfactory and capable of accommodating all development within its catchment that is proposed in the Plan through the Plan period.

Drainage and Flood Risk Management

Rivers Agency, an Agency within the Department of Agriculture and Rural Development, is the statutory drainage and flood defence authority for Northern Ireland. It will be consulted on land use development proposals that are likely to impact on watercourses and flood plains.

PPS 15: Planning and Flood Risk sets out the Department’s planning policies to minimise flood risk to people, property and the environment. It adopts a precautionary approach to land use development that takes account of climate change and is supportive of the wellbeing and safety of people. Some development sites will require existing infrastructure, such as major sewers, water mains and designated watercourses, to be safeguarded. This may include ensuring that such infrastructure is not built over and that necessary wayleave strips are retained to facilitate future maintenance. It is the responsibility of the developer to liaise with the relevant agencies to this end.

For those sites where necessary infrastructure improvements to the adjacent watercourse are not viable, Rivers Agency will not consent to the discharge of any additional storm run-off above existing green field rates. In these circumstances developers are recommended to consult with Rivers Agency/NIW at an early stage in the planning process to ensure a timely and acceptable means of storm water management for the development.

The Strategic Flood Map (NI) – Rivers and Sea is available on the Rivers Agency website www.riversagencyni.gov.uk. The Map indicates that significant portions of Belfast City Centre lie within or adjacent to a coastal flood plain. Planning applications in these areas must be accompanied by an assessment of the flood risk in the form of a Flood Risk Assessment (FRA) with particular emphasis on flood resilience and resistance (see CIRIA C688 Flood resilience and resistance for critical infrastructure).

There are a number of recorded flood flooded areas that significantly affect particular settlements within the Plan Area. Major areas of flooding include:

- River Lagan towards Lisburn.
- River Enler
- Loop River
- Forthriver
- Three Mile Water
- Six Mile Water
- Ravarnet River
- Ballymartin River

This list is not exhaustive nor is it intended to include the flood plain of every watercourse in the Metropolitan Area. Prospective developers are advised to liaise early in the formulation of their proposals with Northern Ireland Water and Rivers Agency to clarify flooding or flood plain issues that may affect particular sites.