

Forward Planning Section
Ireland 2040
Department of Housing, Planning,
Community and Local Government
Custom House,
Dublin,
D01 W6X0

16th March, 2017

Re: Submission to Ireland 2040 – Our Plan

A Chara,

The Marine Spatial Planning (MSP) Research Team in the DIT School of Transport Engineering, Environment and Planning wish to make a submission to the Ireland 2040 National Planning Framework (NPF). We were particularly pleased to read that the proposed NPF will have a marine dimension and that the issues paper that have been made available include a section on Integrated Land & Marine Development. We are also pleased to read that this section includes a commitment to preparing Irelands first National Maritime Spatial Plan (also commonly referred to as a National Marine Spatial Plan) which will work in tandem with the National Planning Framework. We are strongly of the view that Ireland needs to adopt robust Maritime Spatial Planning (also commonly known as Marine Spatial Planning) to enable us to;

- Fulfil our requirements as an EU member state to implement the Maritime Spatial Planning (MSP) Directive
- Ensure consistency with the MSP Directive (transposed into Irish Law in September 2016)
- Achieve the objectives of Harnessing Our Ocean Wealth – the Integrated Marine Plan for Ireland
- Sustainably plan and manage our extensive marine and coastal areas.

The inclusion of a commitment to include a marine dimension in the national strategic planning policy framework is considered to be a necessary step in effective engagement with Maritime Spatial Planning in Ireland. It is also our view that the National Maritime Spatial Plan and the Ireland 2040 National Planning Framework should align at a policy level.

Content of Submission

Our submission emphasises the need for a National Planning Framework to accommodate a marine dimension as this would place Maritime Spatial Planning on a firm statutory footing and require all Regional and Local Authorities to proactively plan for their coastal and adjoining marine areas. It would also help to raise the profile of Marine Spatial Planning in Ireland among Government Departments, Agencies, Regional and Local Authorities and members of the public. The content of this submission is informed by the 'Towards an Integrated Policy Framework for Maritime Spatial Planning in Ireland - Recommendations for Preparing Maritime Spatial Plans in Ireland' which was an EPA funded report completed in 2016 by DIT and MacCabe Durney Barnes.

Aligning Terrestrial and Marine Spatial Planning Processes

A key recommendation of the report was that terrestrial and marine spatial planning processes should be closely aligned to provide for more effective and sustainable environmental management on both land and sea. It is our view that this 'close alignment' could be realised by including a clear objective in the National Planning Framework to prepare a National Maritime Spatial Plan that will work in tandem with the NPF and which will deliver the sustainable development and use of our marine and coastal areas .

This submission considers this recommendation and a number of key themes for MSP that were identified in the 'Recommendations for Preparing Maritime Spatial Plan in Ireland'. It also sets out how these themes could be addressed in a National Planning Framework in a manner which would enable a close alignment between the existing terrestrial and (proposed) marine planning system. The time frame for preparing a National Maritime Spatial Plan is also covered.

Key Themes of Maritime Spatial Planning (MSP) to be addressed in the National Planning Framework

The following key themes are identified in the Recommendations for Preparing MSP Plans in Ireland.

- Facilitating Transboundary Co-operation
- Plan Preparation Process
- Alignment of Marine & Terrestrial Planning
- Governance at the Land Sea Interface
- Integrated Governance
- Engaging with stakeholders
- Effective Data Collection & Usage

A brief description of each of the above issues is considered in sequence in the section below. In each instance, a proposal is put forward on how this theme should be addressed in the NPF.

- **Facilitating Transboundary Co-operation:** The MSP processes that we adopt should reflect the fact that Ireland shares maritime borders with other EU and non EU countries. Therefore, mechanisms to ensure effective transboundary co-operation should be provided.

Proposal 1 for NPF; It is noted that section 4.4 of the discussion document (pp. 11-12) deals with transboundary planning with respect to Northern Ireland. Given the open access nature of marine areas, it is recommended that the NPF should include an objective to draw up a National Maritime Spatial Plan for Ireland which will provide opportunities for neighbouring countries (such Northern Ireland and the UK) and adjoining EU member states to be consulted in its preparation. It would be preferable if these opportunities could take place through the formation of working groups that use existing governance structures and arrangements such as the North – South Ministerial Council (for Northern Ireland), the British Irish Council (for other British Regions) and the European Commission (for other EU member states such as France).

- **Plan Preparation Process:** In order to ensure alignment between terrestrial plans (such as the NPF) and the proposed MSP plans, the methodology for preparing a national marine spatial should be as rigorous and wide ranging as that used for preparing the National Planning Framework.

Proposal 2 for NPF; It is recommended that the NPF should include an objective to undertake a national Maritime Spatial Plan preparation process that is integrated with SEA and AA processes. While it is acknowledged that ‘gaps’ may be present in marine and coastal data sets that may present challenges for the completion of SEA / AA of a National Maritime Plan, the process would also enable us to identify if these data gaps exist and what they are. This proposal would also involve confirming the geographical and thematic scope and parameters of the Maritime Spatial Plan in the NPF. The diagram below sets out an integrated plan making process that meets these requirements.

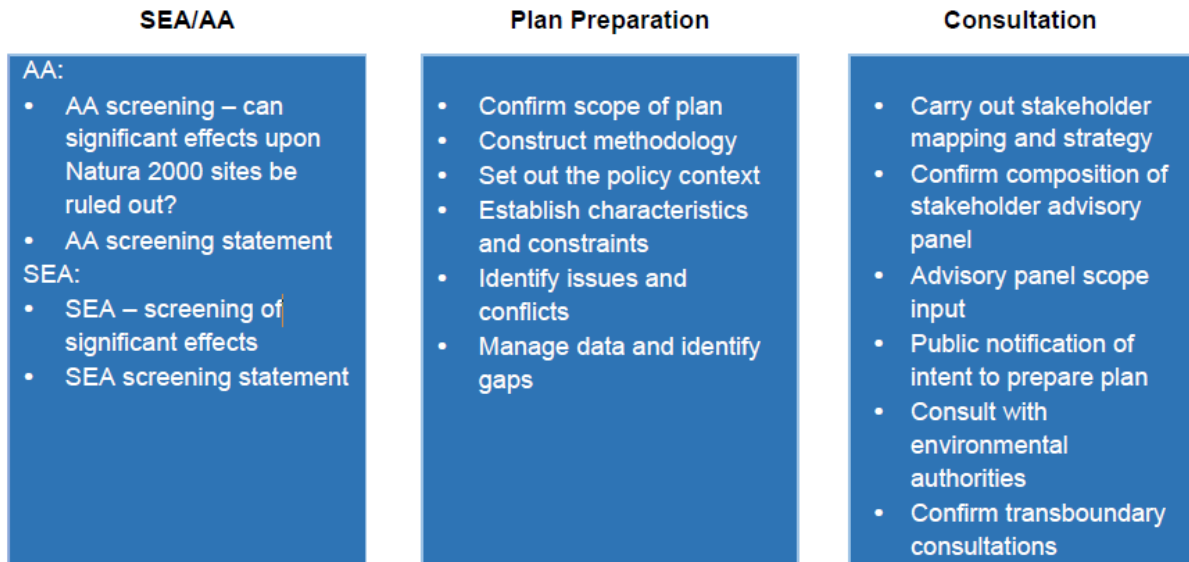


Figure 1; An Integrated Marine Plan Making Process (Source; Recommendations for MSP in Ireland, EPA, 2016)

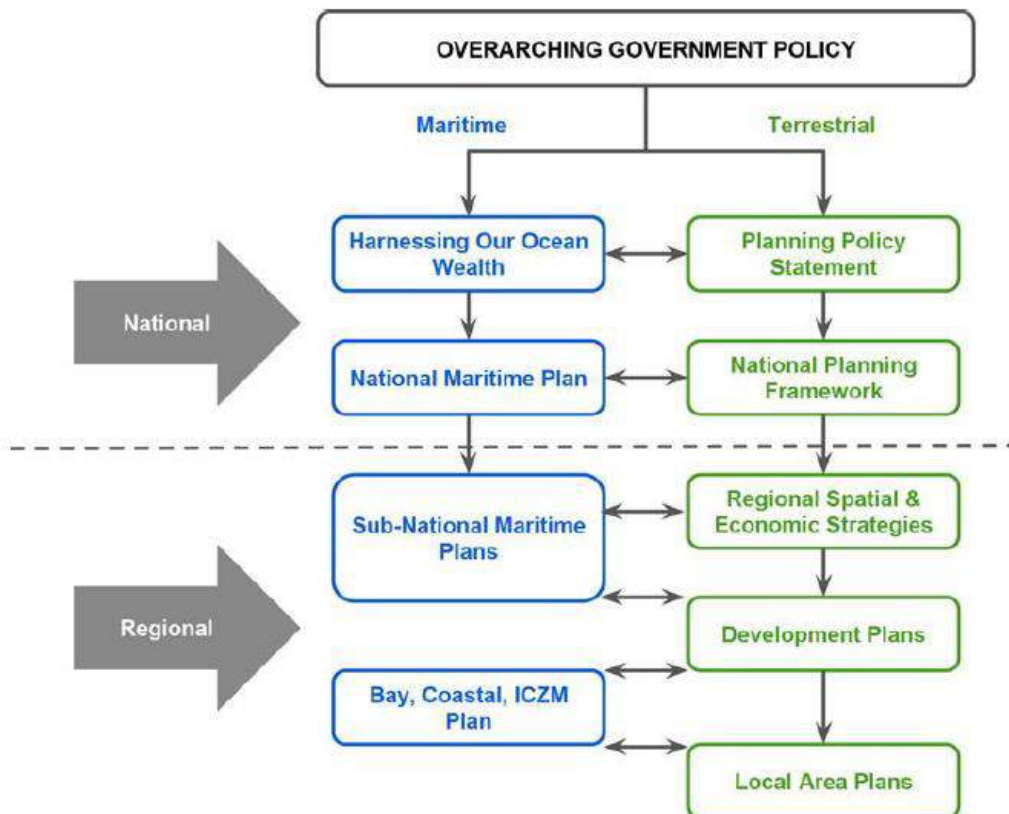


Figure 2; Alignment of Maritime & Terrestrial Planning (Source; Recommendations for MSP in Ireland, EPA, 2016)

- **Alignment of Marine & Terrestrial Planning:** The application of an ecosystem-based approach of MSP processes that highlight interactions between social and ecological systems at relevant spatial and temporal scales. The ecosystem-based approach should be emphasised in the objective setting phase and through the plan development stage.

Proposal 3 for NPF; The NPF represents an excellent opportunity to ensure a close alignment between maritime and terrestrial planning in Ireland. It is submitted that it will be possible to undertake an ecosystem based approach by applying SEA / AA processes at the outset of the maritime spatial plan preparation phase and by ensuring that the sustainability and management of the marine and coastal ecosystem form the basis of the objective setting phase and plan development stage. It is also recommended that a hierarchy of maritime plans and strategies that corresponds with terrestrial development plans and strategies is developed – this ‘complementary maritime plan hierarchy’ is illustrated in Figure 2. Whilst it is accepted that it would not be possible to deliver both the national and regional elements of this hierarchy in the short term, it is submitted that the national level element is both achievable and necessary to fulfil Ireland’s commitments at national level (under Harnessing Our Ocean Wealth) and at EU level (as part of the MSP Directive).

- **Governance at the Land Sea Interface:** The development of plan-making processes for land–sea integration, for example including non-statutory Integrated Coastal Zone Management (ICZM), or the co-ordination of terrestrial and maritime spatial plans.

Proposal 4 for NPF; Effective governance of the interface between land and sea is particularly important when planning and managing marine and coastal environments. It is recommended that the NPF should include an objective to develop plan making processes that are suitable to an Irish context and which facilitate the co-ordination of terrestrial and maritime spatial plans. All coastal Planning Authorities should then be required to adopt these plan making processes to ensure consistency in the governance of the land sea interface throughout the country.

- **Integrated Governance:** Greater coherence between MSP and other processes by addressing the fragmentation of marine and coastal governance and adopting an integrated approach that achieves vertical and horizontal co-ordination.

Proposal 5 for NPF; Fragmented sectoral management has been a feature of marine and coastal environments in Ireland and other jurisdictions. Fragmented management poses significant challenges for effective Maritime Spatial Planning and while significant improvements have been made with the formation of the Marine Co-ordination Group, more integration is likely to be needed – particularly with Regional and Local Authorities. It is recommended that an objective is included in the National Planning Framework to prepare a national maritime spatial plan using governance measures that will facilitate organisational and territorial co-ordination. It is understood that the Department of Housing, Planning & Local Government are responsible for MSP Policy in Ireland and that the Irish Marine Institute provide technical and research support. However, it is submitted that in addition to the involvement of the Department and the Marine Institute, a single entity (such as a dedicated MSP body) could co-ordinate a multi-agency approach to developing a national marine spatial plan which would involve effective stakeholder engagement. A possible governance structure (as proposed by the Marine Enablers Taskforce) is illustrated in Figure 3.

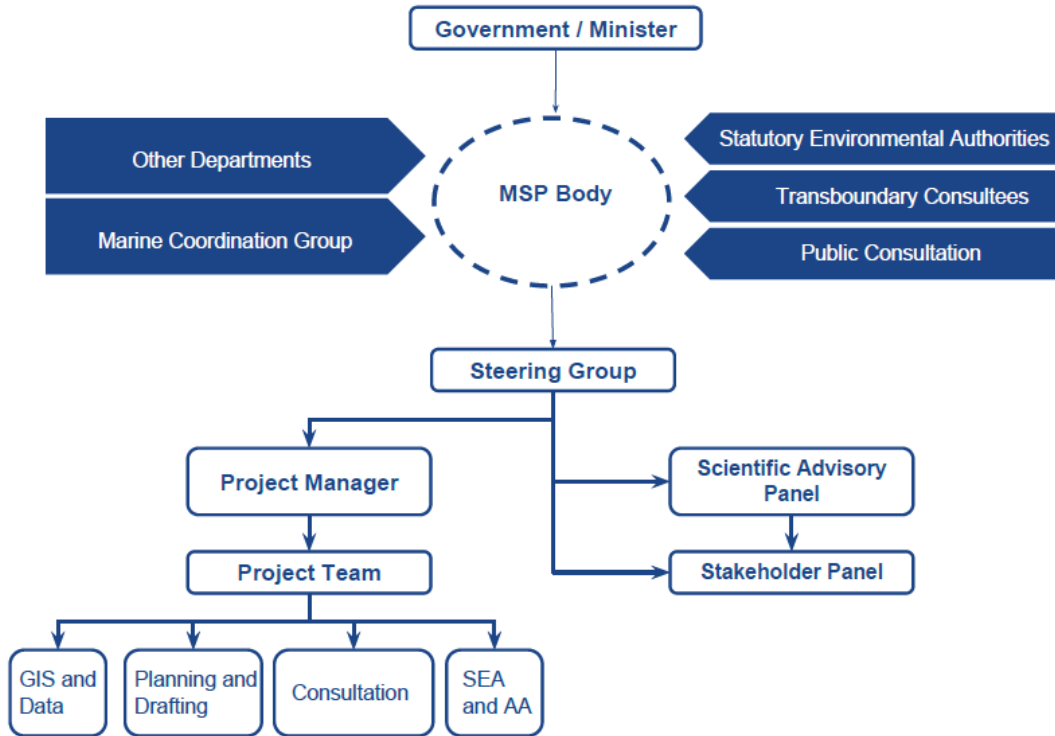


Figure 3; Suggested Project Management for Maritime Plan Preparation (Source; Enablers Taskforce Report on Marine Spatial Planning).

- Engaging with stakeholders;** This could be achieved by developing MSP processes which: identify and meaningfully include stakeholders at an early stage in the planning process; utilise participation mechanisms that encourage dialogue and interaction between stakeholder groups; be cognisant of power and resource imbalances and work with groups that are vital but ill-equipped to participate in a meaningful manner.

Proposal 6 for NPF; It is submitted that the benefits of effective stakeholder engagement in marine spatial planning processes are accepted and that strenuous attempts must be made to ensure that the interests of all marine stakeholders are captured during the plan preparation. This subject area has received considerable attention in Marine Spatial Plan making exercises and in International and European Research Projects – all of which have led to the development of innovative and inclusive methods of stakeholder engagement. It is recommended that an objective is included in the NPF to prepare a National Maritime Spatial Plan which provides for meaningful and effective stakeholder engagement using methods based on international best practice.

- Effective Data Collection & Usage;** To ensure the best use of available data, MSP should: build on existing datasets; where possible, spatialise data; adopt the precautionary principle where data are lacking.

Proposal 7 for NPF; Effective maritime planning relies on complete and accurate data sets being available at plan preparation stage. It is acknowledged that marine and coastal data sets in Ireland have significantly improved in recent years – mainly as a result of the completion of the Marine Atlas and our participation in a range of National and European Research Projects. However, it is submitted that an extensive data scoping exercise should take place at the outset of a national maritime spatial plan preparation process. This ‘stocktake’ of relevant data sets would enable gaps to be identified and priorities in data collection to be set in advance of the preparation of the National Maritime Spatial Plan. It is strongly recommended that the NPF should include an objective

to undertake a 'data scoping' exercise as a precursor to preparing the National Maritime Spatial Plan.

Timeframe for Producing a National Maritime Spatial Plan

According to the Maritime Spatial Planning Directive (2014/EC/89), Maritime Spatial Plans must be in place in EU Member States by March 31st, 2021. In view of the above, it is respectfully submitted that the National Planning Framework should include a specific objective to have a national maritime spatial plan completed within this timeframe. This would not only ensure a close alignment between maritime and terrestrial spatial plans, but it would also ensure that Ireland can meet its obligations on Marine Spatial Planning as an EU member state.

Conclusion

A National Maritime Spatial Plan which provides for Marine Spatial Planning of our coastal and adjacent marine areas is urgently needed for Ireland. A National Maritime Spatial Plan will enable us to fulfil our requirements as an EU member state and ensure we are in compliance with the Maritime Spatial Planning Directive (which was transposed into Irish Law in September 2016). It will also allow us to plan for and use our ocean and coastal resources in a more sustainable way. However, our National Maritime Plan will need to be closely aligned with our existing Terrestrial Planning System. Therefore, the National Planning Framework provides us with an excellent opportunity to align national level strategic planning policies for land, sea and coastline. It is respectfully submitted that if the proposals for Maritime Spatial Planning detailed in this submission are included in the National Planning Framework, it will place Maritime Spatial Planning on a statutory footing and serve to raise the profile of the Maritime Spatial Planning in Ireland.

If you have any questions or comments relating to this submission, feel free to contact the MSP Research Team in DIT Bolton Street by email.

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Introduction

This document sets out the response from Dublin Institute of Technology to the invitation by the Minister Simon Coveney, T.D. to provide ...”*proposals as to how it might be possible to generate dialogue and informed submissions from your student body*”. The document is in two parts. Part A provides a response to the general consultation round. This response was prepared by a small team of staff who have a particular interest and expertise in this area.¹ Part B of the document sets out the results of a half day workshop² that was held with students on a range of BSc and MSc programmes. The programmes from which students attended the workshop are listed in Appendix A.

Part A – Response to the Consultation Document from Staff

Education as a Driver

Educational facilities, particularly third level, can be an important driver for urban and regional development. This applies both in terms of ‘micro’ level where educational facilities can contribute to urban vibrancy, footfall, additional young population and campus activities as well as macro level where third level facilities can contribute to regional development. An example of successful development in this respect is the Grangegorman DIT campus which is contributing to a revitalisation of an urban quarter that has seen little activity to date and where it will create support for other urban regeneration projects such as Smithfield. The Waterford university debate and the various studies that have been done in this regard, demonstrate the potential impacts of a third level college at regional level. It is important that the NPF acknowledges and stimulates these potential contributions to urban and regional development perhaps by identifying priority projects (see below).

The HEAs projections of student population, which are conservative, anticipate an extra 12,000 students every five years nationally, will mean c.6,000 additional students in the Dublin Third Level Colleges every 5 years. This will be very challenging to accommodate and will require real investment, not only in educational facilities, but also in accommodation, an increasingly sensitive issue, transport, and all the elements that go into making Dublin an attractive city to live work and play. With the fall-out from Brexit and other developments internationally, is also a real opportunity to grow international higher education student numbers. The potential should not be underestimated. As the only major English speaking county left in the EU in a world where education is increasingly done through English the potential is significant.

¹ Henk van der Kamp, Dr Conor Norton, Terry Prendergast.

² The workshop took place on 10th March.

Need for Spatial Thinking

Spatial planning requires diagrams to facilitate debate. The consultation documents contain no such diagrams. As the NPF is a spatial planning framework, it requires diagrams, conceptual maps and alternative directions for development shown in a graphic and visual format. For many sectoral areas of policy there are spatial characteristics often based on different regional boundaries. Examples include: flood risk maps, health policy districts, river basin plans, regional catchments for educational facilities. A spatial characteristic of a different kind is the role of green infrastructure through the networks of ecologically valuable areas. Alternative settlement patterns can also be readily illustrated in graphic form and thus stimulate debate.

Marine Spatial Planning

The NPF must emphasise the island based nature of Ireland and the long coastline. With the introduction of the Maritime Spatial Planning Directive in 2016, Ireland must now plan and manage its substantial and ecologically sensitive marine area while achieving the substantial social and economic goals of blue growth. A key consideration for MSP is the land-sea interaction at our coastal settlements and along our entire, all-island coastline. Crucially, given its recent origins, MSP must learn from good practice in terrestrial spatial planning. Indeed, terrestrial and marine spatial planning must be compatible and supportive in terms of systems, processes, policies and plans. The School of Transport Engineering, Environment and Planning has recently prepared best practice for Ireland for MSP. The School can provide a meaningful contribution to the national debate on MSP and, in particular, its role in informing and shaping the NPF. In this regard please find attached a more detailed response in relation to this topic based on a research project that was carried out by a number of staff in the school for the Environmental Protection Agency.

Strategic Infrastructure Locations

The NPF needs to be 'spatial and strategic'. Spatial means that location specific policies are introduced (e.g. locations for large scale wind energy). Strategic means that the NPF should in the first instance concentrate on decisions that affect related decision areas. Ireland has suffered from many issues relating to the difficulties to implement strategic infrastructure projects. While the Strategic Infrastructure Act and the specific procedures and division in An Bord Pleanála have helped the delivery of large projects, An Bord Pleanála is not a policy making body. Where infrastructure is of critical importance to the nation as a whole or to a region, and where optimum locations or routes have been identified through objective analysis, it is justified to include these projects in the NPF to improve implementation. This can help reduce or overcome NIMBY (not in my backyard) problems. The Scottish experience can be used as an example.

Scenario based approach

It is important to reduce vulnerability that arises from uncertainty. It is clear that the accuracy of projections will be uncertain. Uncertainty relates to economic growth, population projections and the impact of Brexit but also to the values of Irish citizens into the future, At the same time it is necessary to build the NPF on a reliable basis as a framework for decision making for the Ireland in the next twenty years. Rather than adopting projected forecasts it is suggested to adopt assumed

futures in the form of ‘scenarios’. The scenario approach is based on adopting an assumed future and working out through analysis how likely or unlikely and how desirable or undesirable that future is. Based on the outcome of this analysis, focused policy may be developed to achieve a robust planning framework that can accommodate different demographic and economic projections while at the same time working towards a desirable outcome. The need and contribution of a scenario based approach is further underlined by the fact that an SEA must be undertaken for the National Planning Framework which also requires the consideration of alternatives.

Twice the Size study

The consultation document seems to suggest that the current trend of concentration of development on the eastern part of the Ireland and around the Greater Dublin Area, is undesirable and needs to be addressed. This conclusion is challenged. In this context the following sentence in the Executive Summary is noted with concern as it suggests a value based expression about the current settlement pattern: *...“Under the Business as Usual scenario, the current lop-sided pattern of development of the State will continue, which in the longer term will be neither beneficial to Dublin nor the Country as a whole.”*³ This value based expression lacks evidence. In contrast to this conclusion, a research report completed in DIT in 2008 concluded the following: *...Examination of external uncertainties suggests that any national spatial policy based on the Eastern Corridor vision, would be less vulnerable to uncertain factors in the future and more robust as a consequence, than possible alternative models such as Atlantic Corridor or Urban Sprawl.”*⁴

National Priority Projects

The assumption appears to be that national strategies must be broadbrush, long term, and lacking in detail. However, national policy can also be location specific and detailed. The recent initiative of identification of Major Urban Housing Development Sites as an element of the Rebuilding Ireland policy document, is an example of this. The planning legislation provides for effective instruments to achieve large scale development through the Special Development Zone designation. Good examples of effective planning and quality development illustrate the effectiveness of these instruments (e.g. Grangegorman, Docklands). It is suggested that the NPF should designate locations for large scale development such as residential or industrial development thus facilitating not only rapid delivery but also a greater quality in the design and spatial quality of the ultimate development achieved.

National Debate

To get community support for the NPF, a national debate can be beneficial. While it is acknowledged that the NPF needs to be evidence based, public opinion and support is also evidence. The opinions of the DIT student population can be a useful audience for such a national debate (see part B of this submission). A national debate should be encouraged in the media based on issues that have raised public concern in the past. Examples include: location of mobile phone masts, wind farms, one off housing, sustainable transport policy e.g. tolling of the M50.

³ *Executive Summary issues and Choices*, February 2017, p. 8.

⁴ *Twice the Size? Imagining the future of Irish gateways*, DIT, March 2008, p. 132.

Regional Assembly Strategies

The NSS was both a national and regional document. The link between the regional planning guidelines and the NSS was thus not as clear as it might have been. It is important that an implementation strategy is developed for the NPF from the outset. Such an implementation strategy should provide structures for implementation, not just for monitoring. The NPF should make clear how the regional assembly strategies will be seen as implementation documents for the high level policies contained in the NPF while acknowledging the role of the regional assemblies to develop their own policies.

Settlement Pattern

The consultation document makes reference to Ireland's weak urban structure, the dominance of Dublin and the relative weaknesses of our second tier cities. It is suggested in the document that it is necessary to strengthen this urban structure by focusing on city regions. However, the document says little about the settlement pattern of rural housing which has shown to be quite robust during the recession and is damaging the urban structure of villages and small towns. It is suggested that this is an issue that needs high level Government commitment in order to provide planning authorities with the right policies and instruments to curb the trend of continued one off housing outside existing settlements. This is particularly important as under European legislation it may not be possible in the future to distinguish housing need based on personal circumstances of the applicant of a one off house.

Part B – Student Workshop Results

A total of 14 questions were chosen from the consultation document and these were discussed by students as part of a half day workshop. The workshop started with the showing of the video. This was followed by an introduction of each of the questions by staff. Discussion then took place in small groups of ca. six students each with a mix of disciplines and level of study (BSc and MSc). Following the discussion in multidisciplinary groups, results were recorded by consensus in a plenary discussion. The results of the workshop demonstrate a rich variety of ideas. It is clear that the multidisciplinary background of the student participating in the workshop greatly benefited its outcome. It is suggested that a follow up workshop should be held during future consultation rounds in connection with the National Planning Framework.

1. How might we develop one or more strong regional complements to Dublin that can address their whole city-region, including interactions between settlements?

- Three options can be identified: (i) Dublin, (ii) Dublin-Belfast, (iii) Cork/Limerick/(Galway)
- Cork-Limerick (perhaps Galway) is considered the obvious choice
- A motorway Cork and Limerick is suggested as a necessary piece of infrastructure
- Is it necessary to develop such a complement, can we not 'let development happen'?
- Funding is considered a necessary prerequisite
- Foynes port provides a strategic opportunity in the Limerick region. It has a railservice.
- It will be necessary to adopt a carrot (Cork/L) and stick (Dublin) policy.
- Employment is necessary. One should focus on universities.
- Make Cork and Limerick liveable cities; opening hours of shops and markets need to be addressed.
- Focus on selected research specialisms for third level colleges.

2. How might we distinguish between the role of towns within the wider hinterland of the cities and those located outside the influence of the cities?

- Adopt a hierarchy of settlements indicating where housing goes and then plan ahead of time for each of those.
- Focus on regional growth centres with specialised sectors (e.g. Dundalk microfinance).
- Ensure that the regional transport network serving the towns is clear.
- Provide greenways connecting the towns.
- Improve education facilities incl. third level.

- Towns should be identified as service hubs for the rural areas that they serve
- 3. What measures could be used to examine potential densification scenarios that may be applied to parts of existing urban areas?**
- High rise buildings but only in conjunction with good (public) transport access.
 - Availability of services and amenities in the area is necessary.
 - Innovate by providing greater flexibility in allowing extensions to existing buildings.
 - Use underutilised urban land.
 - Adopt and apply progressive financial penalties for vacant land (increasing over time).
 - Adjust the current rates system which fails to discourage leaving buildings vacant.
- 4. What are the levers for effective regional development?**
- Devolution of power to regional and local government.
 - Introduce directly elected mayors.
 - Introduce proper local taxes (rebalance tax by reducing central and increasing local taxes).
 - Local authorities to create their own companies for public private partnerships.
 - Take local politics seriously.
- 5. What are the solutions to maintaining population in those rural areas where decline has been experienced?**
- One off housing to be restricted to genuine 'custodians of the land'.
 - Incentivise people to move into towns and villages.
 - Improve and support rural transport.
 - Locate employment centres in rural areas, although this can make areas vulnerable if companies close.
 - Stop one-off housing.
 - Create new villages with one-off housing clustered together
 - Some areas should be allowed to lose population
- 6. What role should towns and villages in rural areas play in catering for Ireland's future growth?**

- Let small towns be dormitory towns but concentrate on good quality of life with good transport connections.
 - Allow creative arts to have good workspaces.
 - Improve and support (subsidise) rural transport.
 - Locate employment centres in rural areas, although this can make areas vulnerable if companies close.
 - Create new villages with one-off housing clustered together
 - Some areas should be allowed to loose population
- 7. How can the rural parts of Ireland close to urban areas be protected from development pressures that are likely to arise to accommodate further population growth?**
- Allow limited development in small settlements at the right scale and pace.
 - Limit sprawl.
- 8. What mechanisms are needed to ensure a joined-up approach to strategic infrastructure and investment decisions that have a cross-border dimension and are there examples of best practice?**
- ‘Ignore the border’ when developing a plan for a cross-border area.
 - Capture lessons from best practice cross border plans incl. examples from other countries.
- 9. In thinking about what Ireland might look like in twenty years’ time what is the future for Ireland’s coastline, islands and offshore?**
- Exploit wind, solar and wave resources.
 - Develop the maritime resource for leisure and recreation (walking, cycling, sailing, swimming, surfing).
 - Develop fish farming, exploit the economic resource.
 - Develop off shore islands for the development of centre(s) of excellence for the Irish language.
 - Decide whether to develop off shore gas and oil or leave the resources untouched.
 - Develop and expand the ports outside Dublin.
 - Examine moving Dublin Port to a location outside the city area.
- 10. What infrastructure investments need to be made in order to maximise the sustainable potential of our ocean resources?**

- Upgrade wastewater systems to prevent pollution of the sea.
- Examine by objective arbiter the sustainability of fishing practice incl. aquaculture.
- A well-functioning maritime institute is important.

11. How do we plan for growth in such a way that supports a transition to a low carbon and climate resilient economy and what planning policy measures are needed to achieve this?

- To use wastewater systems to provide fuel for transport (hydrogen).
- It is necessary to meet European requirements.
- Develop at higher densities.
- Apply strict enforcement of environmental regulations.
- Retrofit existing buildings by providing incentives.
- Introduce national carbon credits.
- Introduce a smart grid system to connect all renewables to a shared system.
- Provide capacity for expansion in renewables.
- Implement Sustainable Urban Drainage.
- Expand SACs and other protected sites into nature networks.

12. What measures should be implemented in order to safeguard our landscapes, seascapes and heritage and ensure that Ireland continues to be an attractive place to live, visit and work?

- Use heritage buildings in rural areas as a community and tourism resource.
- Bring back the REPS scheme or an Irish equivalent.
- Consider introduction of Transferrable Development Rights for owners of heritage buildings.
- Introduce tax incentives to refurbish heritage buildings.
- Protect landscapes in response to leisure demand.
- Adopt a national strategy for eradication of invasive plant and animal species.

13. What are the nationally important infrastructure projects for Ireland that require delivery over the next twenty years?

- DART underground.

- Metro North.
- High speed train to connect international airports on the island.
- Improve and expand the national rail network
- Bring Shannon water to Dublin.
- Air traffic control to include private use.
- Expand the Primary Care national network.
- Provide electric vehicle network support infrastructure.
- Prioritise infrastructure in selected cities.
- Develop a semi-state oil/gas/hydrocarbon company (e.g. Norwegian Statoil)
- Implement broadband throughout the country.

14. What do we need to do to make best use of existing infrastructure?

- (Re)open railway stations where population growth has occurred or can occur.
- Locate industry & enterprise beside appropriate underutilised infrastructure (e.g. Foynes port)
- Use schools after hours e.g. for national childcare programme.
- Use agricultural land for solar and wind energy.
- Explore 24/7 public transport.
- Exploit capacity of agricultural land for high quality food niche markets.

Appendix A - List of Programmes from which students attended the workshop

BSc in Spatial Planning (DT106)

MSc in Urban Regeneration and Development (DT9119)

MSc in Local Development and Innovation (DT9121/DT121A)

MSc in Sustainable Development (DT118)

MSc in Real Estate (DT9124)

BSc in Civil Engineering (DT027)

BSc in Transport Operations and Management (DT028)

BSc in Geographical Science (DT112)

BSc in Property Economics (DT110)