An Taisce
The National Trust for Ireland

Draft NMPF Consultation
Marine Spatial Planning Section,
Department of Housing, Planning and Local Government,
Newtown Road,
Wexford

Sent by email to: msp@housing.gov.ie

28th April 2020

RE: Consultation on the Draft National Marine Planning Framework

To Whom It May Concern,

An Taisce welcomes the opportunity comment on the Draft National Marine Planning Framework. We wish to make the following submission on the Draft as well as the accompanying Strategic Environmental Assessment and Appropriate Assessment.

Please acknowledge our submission and advise us of any further consultation periods.

Yours sincerely,

Ian Lumley
Head of Advocacy
An Taisce – The National Trust for Ireland

Dr. Elaine McGoff, PhD
Natural Environment Officer
An Taisce – The National Trust for Ireland

Phoebe Duvall, MSc
Planning and Environmental Policy Officer
An Taisce – The National Trust for Ireland

1. Addressing global risk and an opportunity for Ireland

The Covid-19 global pandemic is a manifestation of human health vulnerability, but equally has demonstrated our resilience in taking collective global action. Just as the 20th Century had to face the impact of totalitarian regimes, unprecedented war, genocide and nuclear threat, the century ahead will be defined by how human society maintains a stable climate, a living planet and healthy societies.

Climate change and biodiversity loss have now been defined as planetary emergencies. The United Nations' Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) released a report in May 2019 on global biodiversity, which found that 75% of terrestrial environments and 66% of marine environments have been "severely altered" by human activities[1]. For instance, in addition to their climate impact, anthropogenic greenhouse house gases are causing ocean acidification through the diminution of the oceans' ability to absorb carbon, a process with multiple adverse impacts on the global marine ecosystem.

Even if effective action is taken to limit anthropogenic greenhouse gas emissions to meet the Paris Agreement target of stabilising global heating at not more than 1.5 degrees above pre-industrial levels, some degree of sea level rise will continue, as will increased extreme weather events such as Ireland faced with Storm Ophelia. These have major implications for cities, towns, ports and other coastal infrastructure.

The World Economic Forum's 2019 Global Risk Report[2] for the first time identified environmental impacts as the first five of the top ten risks for the decade ahead in terms of their likelihood:

1. Extreme weather
2. Climate action failure
3. Natural disasters
4. Biodiversity loss
5. Human made environmental disasters

Climate action failure, biodiversity loss and extreme weather also occupy three of the top five places with regard to impact. Water crises, although classed as a social risk in the report, is also included in the top five impact risks. While the Covid-19 situation is necessarily taking priority in current global action, these other risks are accelerating.

Individual risks and impacts cannot be separated – there are interactive and cumulative impacts, such as those on health as well as food production and supply. Future Earth[3], an

[1] IPBES (2019) Global Assessment Report on Biodiversity and Ecosystem Services: https://ipbes.net/global-assessment

[2] Global Risk Report for the World Economic Forum, 2019: https://www.oliverwyman.com/our-expertise/insights/2020/jan/globalrisks2020.html?utm_source=exacttarget&utm_medium=email&utm_campaign=risk-report

[3] Future Earth (2020) Our Future On Earth: https://futureearth.org/publications/our-future-on-earth/

international sustainability network, published a report in February 2020 analysing survey data from 222 scientists from 52 countries. The study found that a "perfect storm" of climate breakdown, extreme weather, species loss and a food production crisis is imminent, whereby the combination of the above threats amplifies the risk posed by each individually. Moreover, Future Earth concluded that governments, business, civil society, etc. do not adequately recognise the inextricably linked nature of these threats.

The implementation of the UN Sustainable Development Goals (SDGs) should form the basis of the collective action required. Ireland, as a country with over 90% of its territory in the marine area, now has the opportunity to take global leadership on SDG 14 to "Conserve and sustainably use the oceans, seas and marine resources for sustainable development". Achieving this goal will require rebuilding the marine life-support systems that deliver the many benefits that society receives from a healthy ocean.

"Rebuilding marine life," a study published in Nature in April 2020[4], gives cause for hope. It documents the recovery of marine populations, habitats and ecosystems following past conservation interventions, stating that:

> "*Recovery rates across studies suggest that substantial recovery of the abundance, structure and function of marine life could be achieved by 2050, if major pressures—including climate change—are mitigated. Rebuilding marine life represents a doable Grand Challenge for humanity, an ethical obligation and a smart economic objective to achieve a sustainable future*."

Ireland's marine and coastal zone environment is experiencing increasing development pressures and conflicts from fishing; aquaculture; oil and gas extraction; shipping activities and port development; and increasing maritime recreational and tourism activity. These must be reconciled with meeting international and national commitments in respect of climate emissions, biodiversity and water quality. At the same time, the development of alternative energy, whether offshore wind, wave or tidal; or the exploitation or cultivation of biomass bring new challenges to the marine environment.

The National Marine Planning Framework should be the means for Ireland, as an island nation with circa 7,000km of coastline and some of the best marine ecosystems in Europe, to take an international lead in climate mitigation, as well as in reversing ocean acidification and biodiversity loss. As we face the sixth, and for the first time human caused, great extinction in global species, there is an imperative for developed countries to protect the natural world, including the marine ecosystem, both at national level, and in international action.

[4] Duarte, C. M., et. al. (2020) "Rebuilding marine life," *Nature*, 580: https://www.nature.com/articles/s41586-020-2146-7

2. Overarching points

2.1. Sustainability

The vision for marine planning in the Draft National Marine Planning Framework (hereafter the Draft NMPF or the Draft) is: "*a marine planning system with clear forward planning, development management and enforcement elements that promotes and sustains ocean health, and supports the sustainable (recreational) enjoyment, management and use of Ireland's marine resource.*"

Article 5(1) of the EU Marine Spatial Planning (MSP) Directive holds:

> *"When establishing and implementing maritime spatial planning, Member States shall consider economic, social and environmental aspects to support sustainable development and growth in the maritime sector, applying an ecosystem-based approach, and to promote the coexistence of relevant activities and uses."*

While the Draft NMPF highlights Goal 14 of the SDGs (Conserve and sustainably use the oceans, seas and marine resources for sustainable development), it does not indicate how marine spatial planning will contribute to achieving this, beyond saying:

> *"The NMPF is part of the Government's efforts to squarely incorporate relevant SDG's (set out below) into marine planning and policy."*

However, the targets under Goal 14 call for 10% of the marine and coastal areas to be conserved by 2020; and to sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and taking action for their restoration in order to achieve healthy and productive oceans. It is now 2020, and An Taisce would highlight that we are far from achieving this 10% area conserved and that all the indicators for Irish biodiversity and water quality are going in the wrong direction. Ireland is failing in its commitments under the SDGs, and it is disingenuous to propose that this Draft NMPF would address those given that we are poised to fail to deliver on two of the main 2020 targets.

An Taisce would suggest that instead of the environment being simply another pillar of a sustainable approach, in addition to social and economic concerns, it must be recognised that a healthy ocean ecosystem is absolutely fundamental for any economic or social benefits. Without a healthy ecosystem we cannot have a thriving economy or tangible social benefits. This approach is based on a flawed conceptual bias in treating sustainability, or the overarching environment, as a consideration to think about only after quantitate economic targets are adopted.

2.2. Harmonised regulation and the Marine Planning & Development Bill

The marine area is a commons where the overarching achievement of Good Environmental Status (GES) as provided in Marine Strategy Framework Directive (MSFD) should prevail

over individual sectoral interests. As such, an effective National Marine Planning Framework requires integrating the regulation of marine-based activities and the areas in which they may take place.

A harmonised regulatory regime is required, whereby all activity in the marine area is subject to integrated governance, consent application and public participation processes. This should include the proper application of Strategic Environmental Assessment (SEA) for individual sectors with clearly defined and targeted sustainability actions and as well as provisions for ongoing monitoring. All areas of marine activity must be guaranteed public participation under Aarhus Convention principles, and the ability of the public and environmental non-governmental organisations to obtain procedural and substantive reviews must be ensured. All marine activities must also be subject to the Environmental Impact Assessment and Habitats Directive assessment processes. The provisions of the Marine Planning and Development Bill (MPDB) do not achieve these things.

This lack of a harmonised regulatory regime is exemplified by current fishery and aquaculture policy. The MPDB does not cover fisheries and aquaculture, all categories of which affect the marine ecosystem and which remain under the current operating regime of the Department of Agriculture, Food and the Marine. The determination of fish quotas under the EU Common Fisheries Policy needs to be subject to public consultation as well as to environmental and ecological assessment processes as much as any other activity. The December ritual by which Ireland's quota is determined in the Common Fisheries Policy negotiations lacks transparency and is no longer fit for purpose. Bottom trawling and clam and mussel seed dredging need to be subject to assessment, public participation and regulation as much as seaweed and kelp extraction, port navigation channel dredging and offshore energy proposals.

2.3. Marine Strategy Framework Directive and the need for a research-led approach

The Marine Strategy Framework Directive (MSFD) is a critical part of the NMPF, as outlined in the consultation document: "*environment policies in the NMPF have been split into ten categories largely aligned to the MSFD GES descriptors".* However, in An Taisce's recent submission on the MSFD Article 17 report highlights a range of issues with the assessment of GES, and we would raise serious concerns if the MSFD Article 17 report is the basis for assessing the environmental impacts within the NMPF. There was a notable paucity in the data utilised to report on GES under the Article 17 report, and An Taisce is aware that a number of bodies raised this concern. Further to that, the structure of the MSFD Article 17 report is not sufficient to capture the details necessary for use in the NMPF. Specifically, we raised the following concern:

> "*in order for this document to feed in to the NMPF, an additional document should be prepared. This additional document should be framed in terms of the pressure, looking at the impacts on all facets of the marine environment as driven by pressure itself. For example, in this document the impact of aquaculture is spread across*

several descriptors, such as sea floor integrity, eutrophication and introduction of alien species. As such the full impacts of this activity are unclear and are not fully enumerated. The document is not framed in a way which makes the necessary information accessible to allow for reasoned planning or policy decisions, not least under the NMPF. It is vitally important to have as accurate a picture as possible of all of the ongoing pressures, activities and impacts, as this process is 'setting the scene' for the programme of measures and informing decision-making in a whole host of other policy areas."

What is required is the production of an additional document for the purposes of feeding environmental information in to the NMPF, with the pressures enumerated for each activity. This will enable better policy coherence. To utilise the current GES assessment as it stands will lead to flawed decision making within the marine planning system. It is essential that this is addressed if the NMPF is serious about establishing an "*overarching framework for decision-making that is consistent, evidence-based and secures a sustainable future for the maritime area."*

Yet on a broader level, data on the Irish marine ecosystem remains inadequate. Ongoing research is needed in a wide range of areas, including seabed ecology (for instance, the extent of cold water coral reefs) and marine mammal feeding and breeding patterns. Crucially, the range of impacts in the North Atlantic region arising from ocean warming and acidification, which affect all areas of marine life, needs to be better understood. For example, a study on North Atlantic phytoplankton published in 2020[5] concluded:

> "*The North Atlantic phytoplankton spring bloom is the pinnacle in an annual cycle that is driven by physical, chemical, and biological seasonality. Despite its important contributions to the global carbon cycle, transitions in plankton community composition between the winter and spring have been scarcely examined in the North Atlantic.*"

An Taisce therefore submits that in addition to the aforementioned supplementary document, the NMPF should provide for ongoing marine research as well as mechanisms to apply that research to the NMPF and other marine spatial planning policy.

2.4. Policy failures of the Draft NMPF

Chapter 3 of the Draft NMPF "*Overarching Marine Planning Policies*" is simply an outline of existing policies, many of which are out-dated and even contradictory in their aims. For example, the adoption of the SDGs in 2015 has rendered the 2012 plan, Harnessing our Ocean Wealth (HOOW), redundant and no longer fit for purpose.

[5] Bolaños, et. al, (2020) "Small plankton dominate western North Atlantic biomass," *The ISME Journal, Multidisciplinary Journal of Microbial Ecology*: https://www.nature.com/articles/s41396-020-0636-0

HOOW is based on an out-of-date exploitative and extractive view of the marine environment, which is incompatible with the overarching objective of the MSFD to achieve Good Environmental Status. If the NMPF is to meet national and EU requirements to advance the SDGs and address the converging climate and biodiversity loss emergencies, it needs to review and supersede existing policies, in particular HOOW.

It is a systemic failure of the Draft NMPF that no new overarching policies are in fact defined. Specific policies are set out only in the 16 individual sectoral areas considered in the Draft. Of particular concern is a policy statement applied to a number of sectors including aquaculture, energy transmission, marine aggregates and mining, safety at sea, telecommunications, etc.:

> *"Proposals must (or should) demonstrate that they will in order of preference*
> *a) avoid*
> *a) minimise*
> *b) mitigate adverse effects.*
>
> *If it is not possible to mitigate significant adverse impacts, proposals should state the case for proceeding."*

This provision highlights the conflicting nature of many of the marine-related policies. Crucially, it disregards the provisions of Article 6 of the Habitats Directive, which require an assessment process identifying, assessing and mitigating impacts on sites and species protected under the Habitats and Birds Directives. When a significant adverse impact is identified and assessed as not able to be mitigated, the IROPI provision arises. This requires it to be demonstrated that the project or activity is of overriding public importance and that no viable alternatives exist. Aquaculture licenses, for instance, are already subject to the appropriate assessment process under Habitats Directive Article 6; the same should clearly apply to all marine activities, as much as terrestrial ones.

Taken as a whole, the Draft NMPF does not meet the requirements of the Marine Strategy Framework Directive or national legislation. It also does not constitute what can be meaningfully described as a plan as it fails to set out overarching strategic policies. Furthermore, without meaningful review, it references and endorses a range of existing sectoral policies, which are incompatible with climate action, the reversal of biodiversity loss, and the specific marine objectives and targets in the UN SDGs.

As a framework plan falling under the Strategic Environmental Assessment Directive, the NMPF requires the following:

- Clear statement of overarching policy objectives;
- Quantitative and measurable targets both on an overarching basis and for individual sectors;
- Ongoing monitoring and provision for intervention if significant adverse impacts arise in the lifetime of the plan.

The Draft NMPF entirely fails to provide these.

2.5. Summary of recommendations

The following are a summary of An Taisce's sector-specific recommendations as well our recommendations in relation to the SEA and AA.

Aquaculture:

1. The policies should reflect the objectives, with a specific policy drafted to address each individual objective. The two proposed policies are entirely insufficient to achieve the outlined objectives.
2. There should be a specific policy for effective public participation, with a review of the current practices and requirements, and appeal procedures.
3. The establishment of an ecological carrying capacity should be a strict policy measure, despite its delayed effectiveness on foot of recent aquaculture decisions. This assessment cannot be based on the MSFD GES assessment, as it does not provide the necessary information to determine ecological impact.
4. There should be an explicit policy for compliance with the relevant EU Directives, with a review of the current legal compliance within the system, in particular with the Habitats and EIA Directives.

Defence and security:

1. The Draft NMPF should set out timetabled targets for the sustainability policy with the objective of aligning all marine defence and security services to EU and national level climate policy and the SDGs.

Carbon capture and storage:

1. The NMPF should focus on emissions reductions by proposing policies for transitioning away from fossil fuel use rather than relying on an uncertain technology such as CCS. No CSS proposals or objectives should be included without the caveat that any CSS development must be predicated on the determination of its overall feasibility and efficacy.

Energy – offshore gas storage:

1. Include in the primary objective a commitment to consider sustainability issues surrounding gas and its storage offshore.
2. All consideration of gas storage needs to take into account the issue of gas infrastructure becoming a stranded asset as Ireland transitions away from fossil fuel use as required by national and EU law. This should be included as an Issue for Sustainability.
3. References to the potential Shannon LNG project should be removed from this section as it would constitute transmission infrastructure rather than storage.

Energy – transmission:

1. Draw the distinction between electricity interconnection and gas pipelines in the objectives, policies and Issues for Sustainability.

2. Include a more complete perspective on the emissions impact of natural gas in the Issues for Sustainability (as discussed above), particularly the issue of lifecycle emissions.
3. We acknowledge that section 9.11 states: "*it is not envisaged that any further international interconnector [gas] pipelines will be constructed*." However, all consideration of gas transmission and the associated infrastructure needs to take into account the issue of gas infrastructure becoming a stranded asset as Ireland transitions away from fossil fuel use as required by national and EU law. This should be included as an Issue for Sustainability.

Energy - petroleum:

1. The considerations laid out in the appended submission from DCU researchers to the DCCAE review of Ireland's energy should inform the policies, objectives and sustainability considerations in the NMPF with regard to petroleum exploration.
2. The Issues for Sustainability should consider the problem of petroleum exploration and processing infrastructure becoming stranded assets as Ireland transitions away from fossil fuel use as required by national and EU law.

Energy – offshore renewable energy:

1. Include a policy requiring the use of a seabird sensitivity map in the early stages of planning, to assess the risk posed by marine renewable energy developments, and to fully comply with our legal obligations to protect birds and their habitats.
2. Include a policy requiring that research and testing activities for offshore renewables, particularly ones such as wave and tidal that are early in their development, are fully subject to the planning regime and Appropriate Assessment.

Aggregates and mining:

1. Provide data and evidence justifying the need for sand and gravel extraction or mineral mining in Irish waters.

Ports, harbours and shipping:

1. The Draft NMPF should highlight that the expansion and growth of Ireland's ports must be predicated on an assessment of the various sustainability constraints (both at sea and on land), particularly those related to greenhouse gas emissions.
2. A targeted and timetabled policy is needed for assessing and reducing shipping emissions (both in the marine area and related to terrestrial haulage).
3. A policy requiring the development of sustainable transportation to and from ports should be included. This should align with Article 41(2) of the TEN-T Regulations and include the expansion of the rail freight network.
4. A review of the current policies, particularly the National Ports Policy and the TEN-T designations, is required.

Seaweed harvesting:

1. The ecosystem benefit of seaweed must be recognised in any future policy objectives for seaweed harvesting in Ireland, and the objectives should be framed by that.

2. A rigorous and well-researched seaweed harvesting management plan is required, which implements strict controls on harvesting methods for particular species, and quantities which can be removed. This will require substantial public consultation and participation, in compliance with Article 7 of the Aarhus Convention.
3. The first step in achieving this is to regularise the licensing and rights system, and to make that information publicly available. Any licence application must be processed in compliance with the public participation rights under Article 6 of the Aarhus convention.
4. Different policy objectives should be set for the harvesting of wild seaweed, and the harvesting of cultivated seaweed, and the licensing system should clearly distinguish between these two very different approaches, with different harvesting methods licensed in different situations. There are some best practice examples which could inform this, such as those implemented in France.
5. Ecological assessment should be a key part of the licensing regime, with a holistic ecosystem approach implemented, based on discrete ecosystem areas.

Sport and recreation:

1. A policy should be included to require appropriate ecological assessments for water-based recreation proposals.
2. Diesel engine-based proposals should not be supported in the NMPF.
3. Any water sports should be licenced with the requirement for adherence to best practice to minimise transmission of invasive species.

Tourism:

1. Assess the impact of overseas-generated, aviation or cruise ship-based tourism to Ireland's coastal areas as an Issue for Sustainability.
2. Include objectives and policies to refocus the Wild Atlantic Way to a long-stay area with an emphasis on walking, cycling, and sustainable activities for all ages and abilities that allow for a deep appreciation of the coastal and marine environments. Targeted, timetabled objectives and policies to lessen car-dependence on the route should also be included.
3. Include a targeted, timetabled policy for the completion of a full Irish coastal walking route.

Wastewater treatment and disposal:

1. A detailed, budgeted and timetabled plan should be provided by Irish Water demonstrating the roadmap to achieving Urban Waste Water Treatment Directive compliance. This should be included as an appendix to the NMPF final document, and they should be held to account for any deviations from that timetable.

Fisheries:

1. It is essential that the NMPF include strong policies requiring that fishing activity be carried out in a way that is truly compatible with ecosystem health, including marine species, seabirds and seafloor integrity and health. To properly consider the impact of mobile bottom-contacting gears on different benthic habitats, the recent assessment of the MSFD D6 – Seafloor Integrity – must be included in the fisheries

chapter of the final NMPF. In particular, the relevant text and maps in the physical disturbance section of the D6 chapter in the final MSFD Article 17 report should be added.
2. The designation and careful management of no-take Marine Protected Areas will further facilitate sustainable fishing.

Marine Protected Areas:

1. Rewording of Option D to only allow adverse development where there is overriding public interest and no alternatives, with compensation applied.
2. In the absence of a coherent MPA network, GIS layers should be made available to planners which identify the location of ecologically sensitive and important habitats and species. This data should be used to preserve key areas from further degradation until adequate MPA legislation is enacted.
3. Expedite the legislation required for the designation of MPAs as a matter of urgency

Strategic Environmental Assessment:

1. The SEA Objectives, monitoring measures and remedial actions are systemically deficient in scope, particularly in relation to biodiversity, water and the impacts of human activities. Where objectives are proposed, there is a need for quantifiable and timetabled targets that can be externally referenced.
2. The monitoring actions proposed are inadequate and the remedial actions ineffective; many of the remedial actions proposed are simply stated as "tailored responses". Quantifiable, assessable and measurable actions are required.
3. The SEA report must comply with the requirements Articles 5, 9 and 10 of the SEA Directive, which, for the above reasons, the SEA as it currently stands does not.

Appropriate Assessment:

1. Provide substantive and effective mitigation measures to offset the risks that were outlined in the NIS for the sectoral and in-combination pressures.
2. Draft a policy position requiring use of the best data and tools, like bird sensitivity mapping, in order to avoid adverse impacts to Natura sites.
3. Preclude development in offshore areas lacking data, as identified in the NIS for off-shore bird data
4. Requirement for ecological expertise for the relevant authorities to critique the environmental assessments (NIS, EIA etc) submitted against the policy objectives.

3. Sector specific issues

3.1. Aquaculture

3.1.1. Lack of policies

An Taisce would very much welcome the broad objective under aquaculture:

> *"To further enhance the aquaculture licensing system so that it is characterised by the highest levels of legislative, administrative and scientific expertise and promotes*

the fullest possible trust in the regulatory system by aquaculture operators, environmental Non-Government Organisations (NGOs) and the general public."

However, we would highlight that despite this being an objective, neither of the two policies refer to the environmental impact or sustainability of aquaculture activity, and as such there is no proposed policy to realise the above objective in a substantive way. The two proposed polices relate only to the requirement for innovation and that any other non-aquaculture proposals do not impact on aquaculture. The policies have no bearing on the majority of the objectives laid out for aquaculture, and unless there are tailored polices to implement these specific objectives, they are unlikely to be realised. Objectives without corresponding policies are meaningless.

Further, through our experience as a statutory consultee for aquaculture licencing, the current situation is a long way from fulfilling the objective outlined above, and eNGOs and the public frequently criticise the regulatory system for its multiple failings. Strong policies will be essential to address these issues.

3.1.2. Carrying capacity

The Draft NMPF outlines that it intends to provide for sustainable growth of the aquaculture sector by means of:

"Adopting an ecosystem-based approach to the assessment of proposals and taking into account carrying capacity of bays to ensure that appropriate siting, scaling, phasing and design of farms minimises impacts on ecosystems, protected sites, and protected species;"

Of the hundreds of aquaculture licence applications we have received, to our knowledge the carrying capacity assessment has only been included for Carlingford Lough. While we would welcome an ecological carrying capacity approach, it is pertinent to highlight that the Minister has made in the region of 600 licensing decisions in the last two years. To our knowledge, aquaculture licences are generally valid for the period of 10 years. This means that the numerous bays and estuaries which have had aquaculture licences granted for them will not be subject to a carrying capacity assessment until towards the end of this decade. An Taisce believes that many of the licenced bays and estuaries are now supporting aquaculture activities far beyond their ecological carrying capacity, and the result of the recent multitude of decisions is that for almost half the lifetime of this plan, these licences will continue to operate contrary to the NMPF objective. Given this reality, we would question how this will contribute to reducing the impacts on ecosystems and protected species.

Further to that, the description of carrying capacity in the Draft NMPF refers only to impacts on the ability to farm fish, as opposed to true ecological carrying capacity. This distinction is an important one, and it is ecological carrying capacity which is required, assessing the impact of increasing aquaculture on an ecosystem in a holistic way, and not just not in the

narrow way outlined in the consultation document: "*whether existing and proposed aquaculture activity is likely to have a detrimental effect on overall farmed fish growth".*

3.1.3. Linkage with MSFD

The document also outlines that it will take account of potential impacts for the Good Environmental Status descriptors of the Marine Strategy Framework Directive. However, as outlined in our submission on the MSFD Article 17 report, the impact of aquaculture is spread across several descriptors, such as sea floor integrity, eutrophication and introduction of alien species. As such the full impacts of this activity are unclear and are not fully enumerated by the MSFD Article 17 report. Therefore, the impact of aquaculture on GES will be unclear, and a bridging document is required to make this linkage between the MSFD and the NMPF, as outlined above.

3.1.4. Public participation

An Taisce would observe that there are failings in the public participatory requirement of the aquaculture licensing process. The Draft NMPF outlines that:

> *"The licensing process therefore involves consultation with a wide range of scientific and technical advisers as well as various Statutory Consultees. The legislation also provides for a period of public consultation."*

We have received reports from several of our members in regard to the advertisement of aquaculture licence applications occurring in the local newspaper with the lowest circulation, resulting in many communities being unaware of these applications. Should the licence or licences then be granted, the costs involved in taking an appeal to ALAB would quickly become prohibitive if it is necessary to appeal 20-30 licences in a single bay, which, in our experience, can frequently be the case. An Taisce submits that this is in contravention of the requirements of the Aarhus Convention. Articles 9(3) and (4) of the Aarhus Convention entitle individuals or organisations to access to both judicial and administrative review procedures on a basis that is fair and equitable and not prohibitively expensive. *Case C-203/15 Lesoochranarske* and the cases that follow on from it, including in an Irish context *Case C-476/16 NEPPC*, all emphasise that Aarhus is a fundamental part of European law and that national procedural rules must be interpreted in accordance with it. It is our opinion that the current system is not sufficiently allowing for effective public participation.

We would highlight that, given that 600 licensing decisions have been fast tracked through the system in the last two years, it is a full time job for a prescribed body, such as An Taisce, to review the licence applications, and assess the ramifications of licensing decisions on foot of those. While this fast tracking was seen to be of benefit to aquaculture operators who have applied for new licences, it was very much to the detriment of public participation, by means of overloading the system making it very challenging for both statutory consultees and the public to review the applications and decisions and as such to participate in a meaningful way.

3.1.5. Appropriate Assessment and EIA

An Taisce has highlighted failures in the Appropriate Assessment (AA) procedure in a multitude of submissions on aquaculture referrals. The main issue is that the DAFM are utilising a 15% disturbance threshold, which they attribute to advice from the NPWS. There is no apparent legal basis for allowing for a threshold of disturbance in a Natura site, and despite An Taisce highlighting this numerous times, the DAFM continues to licence applications based on this rationale. In accordance with Article 6(3) of the Habitats Directive, a licence must be refused unless an adverse effect on the integrity of the site can be ruled out beyond reasonable scientific doubt. In Case C258/11 Sweetman, the loss of approximately 1% of the protected habitat was considered to be an adverse effect on the integrity of the site. As a result of the assumption in almost all of the AAs for aquaculture licences that An Taisce has reviewed, whereby a disturbance of up to 15% of the site is permissible, there is a lack of sufficient evidence to satisfy the test on absence of adverse effect. This is a major flaw in the aquaculture licensing process, and one that, in our opinion, is in contravention of the Habitats Directive. The consultation document outlines that:

> *"Aquaculture projects in Natura 2000 sites are, if approved, licensed along with specific management actions and mitigation measures as appropriate so that the integrity of the relevant SACs and SPAs is maintained."*

Given the dependence on this flawed 15% disturbance threshold, this is clearly impossible to achieve. Indeed, we have seen multiple examples where the AA has highlighted a lack of necessary data, generally speaking it is data on birds, but the aquaculture licences are granted regardless. We would consider this lack of compliance with the Habitats Directive to be a very serious legal issue, and one that undermines the sustainability of the whole aquaculture sector.

In addition to that, in regard to Environmental Impact Assessment (EIA) there is a general lack of EIA screening for shellfish aquaculture based on the rationale that it is extensive, as opposed to intensive. An Taisce believes that under Article 2 of the EIA Directive, and Annex ll Class 1 which refers to intensive fish farming, this distinction is not valid, and these licences should indeed be screened for EIA, particularly in light of their cumulative impact.

Recommendations**:**

1. The policies should reflect the objectives, with a specific policy drafted to address each individual objective. The two proposed policies are entirely insufficient to achieve the outlined objectives.
2. There should be a specific policy for effective public participation, with a review of the current practices and requirements, and appeal procedures.
3. The establishment of an ecological carrying capacity should be a strict policy measure, despite its delayed effectiveness on foot of recent aquaculture decisions. This assessment cannot be based on the MSFD GES assessment, as it does not provide the necessary information to determine ecological impact.

4. There should be an explicit policy for compliance with the relevant EU Directives, with a review of the current legal compliance within the system, in particular with the Habitats and EIA Directives.

3.2 Defence and security

The role of the Defence Services in relation to the protection of marine fisheries arises from the service agreement with the Sea Fisheries Protection Authority (SFPA) established under the Sea Fisheries Maritime Jurisdiction Act 2006. An *Annual Control Plan* is agreed between SFPA and the Department of Defence. There needs to be transparency and confidence that the Irish fisheries protection regime is operating to effective targets and is using the best internationally available satellite drone surveillance. A strategic review of the effectiveness of the current regime is required.

The only explicit reference to sustainability in marine defence in Chapter 6 of the Draft NMPF states: *"The naval service should also strive to develop a sustainability policy in line with the Lower Cork Harbour."*

We consider this to be entirely inadequate. The Department of Defence and the Defence Services need to be part of the required all of Government action on climate and the implementation of the SDGs, including use of energy.

Recommendation:

1. The Draft NMPF should set out timetabled targets for the sustainability policy with the objective of aligning all marine defence and security services to EU and national level climate policy and the SDGs.

3.3. Carbon capture and storage

The Draft NMPF provides as an objective: "*To further examine the feasibility of the safe and cost effective utilisation of Carbon Capture and Storage (CCS) in Ireland either in suitable geological formations such as depleted gas fields or for export to assist Ireland in meeting its CO_2 emission reduction targets".* This is subject to further consideration of CCS being "*ultimately considered feasible*".

Section 7.6 notes that Ervia, through Gas Networks Ireland, is "e*xamining the feasibility of using the Kinsale Head gas field*" for CCS. Section 7.9 of the Draft NMPF proposes that: "*Energy intensive industry can be maintained or further developed, where clustered with CCS or transport facilities*".

An Taisce would highlight, however, that the future technological development of CCS of any significant scale and in any immediate time frame is very uncertain. Moreover, the United Nations Environment Programme is clear in saying that meeting Paris Agreement

targets means a global emissions reduction of almost 8% annually[6]. Irish planning and energy policy should not promote continued fossil fuel exploration and combustion. As such, continuing or developing energy intensive industries based on the hope that future CCS deployment will be feasible would be premature.

We consider that Irish energy policy is being disproportionately influenced by the international fossil gas lobby, through the Irish state company Gas Networks Ireland (GNI). In its current ten year plan, GNI is aiming to expand the fossil gas pipeline network; increase its domestic, commercial and industrial customer base; and promote new heavy energy users, including data centres. To justify this, GNI claims that the emissions impact can be mitigated by the progressive injection of agriculturally-sourced biomethane into the fossil gas pipeline network and the eventual application of CCS. An Taisce has made a submission to the Commission for Regulation of Utilities on GNI's current strategic plan on the flawed assumptions on which this strategy is predicated.

Section 7.11 of the Draft NMPF states that "*CCS has the potential to aid Ireland in meeting CO2 reduction targets*" and "*ensure that the State maintains its level of energy security needed to provide for economic growth*." However, we submit that energy security and economic policy should not be predicated on the uncertain application of a future technology. CCS in some form will need to be part of the global energy future, but the uncertainty about its application on any scale within any immediate time frame, should not deflect from the immediate, deep and sustained emission cuts needed now.

Recommendation:

1. The NMPF should focus on emissions reductions by proposing policies for transitioning away from fossil fuel use rather than relying on an uncertain technology such as CCS. No CSS proposals or objectives should be included without the caveat that any CSS development must be predicated on the determination of its overall feasibility and efficacy.

3.4. Energy - Offshore gas storage

The Draft NMPF states as an objective the "*analysis of options for increased gas storage*". It is noted in Section 8.3 that the 230 million cubic metres of storage capacity at Southwest Kinsale ceased use in 2017. An Taisce submits that the Draft NMPF must consider the potential for all new and existing gas infrastructure to become stranded assets as Ireland transitions from fossil fuels to renewable energy as required by national and EU law. The long-term viability of offshore gas infrastructure, including storage facilities must be evaluated in this context.

The referencing in Section 8.4 to the proposed Shannon LNG import facility in relation to gas storage is unclear. The proposed facility is not being developed as a storage facility to be managed like the National Oil Reserves Agency (NORA) strategic oil reserve. Rather, it is a

[6] United Nations Environment Programme (2019) Emissions Gap Report 2019: https://wedocs.unep.org/bitstream/handle/20.500.11822/30797/EGR2019.pdf?sequence=1&isAllowed=y

transmission facility to import globally supplied LNG, including fracked gas from the United States, to process and feed into the European gas pipeline transmission system.

Recommendations:

1. Include in the primary objective a commitment to consider sustainability issues surrounding gas and its storage offshore.
2. All consideration of gas storage needs to take into account the issue of gas infrastructure becoming a stranded asset as Ireland transitions away from fossil fuel use as required by national and EU law. This should be included as an Issue for Sustainability.
3. References to the potential Shannon LNG project should be removed from this section as it would constitute transmission infrastructure rather than storage.

3.5. Energy - Transmission

Transmission Policy 1 states that: "*Gas or electricity transmission proposals that maintain or improve the security and diversity of Ireland's energy supply, including interconnections should be supported*." This does not properly distinguish the different strategic arguments for electricity and gas interconnection. Electricity interconnection enhances renewable energy capacity by allowing better management of peaks and troughs. Gas pipelines, on the other hand, lock in dependence to fossil gas and will become stranded assets as Ireland transitions away from fossil fuels.

An Taisce notes that section 9.16 states: "*Natural gas has a much lower CO_2 content per unit of energy than coal or oil*." We submit that this claim is somewhat misleading. Though often touted as a "clean" or "low-carbon" fossil fuel, natural gas is only the lowest CO_2-emitting fuel at the point of combustion. When its full lifecycle is accounted for, there are significant additional emissions of both CO_2 and CH_4 (methane). (See Appendix A).

Recommendations:

1. Draw the distinction between electricity interconnection and gas pipelines in the objectives, policies and Issues for Sustainability.
2. Include a more complete perspective on the emissions impact of natural gas in the Issues for Sustainability (as discussed above), particularly the issue of lifecycle emissions.
3. We acknowledge that section 9.11 states: "*it is not envisaged that any further international interconnector [gas] pipelines will be constructed*." However, all consideration of gas transmission and the associated infrastructure needs to take into account the issue of gas infrastructure becoming a stranded asset as Ireland transitions away from fossil fuel use as required by national and EU law. This should be included as an Issue for Sustainability.

3.6. Energy - Petroleum

This states as a first objective: "*Explore and develop Ireland's indigenous petroleum resources in order to deliver significant and sustained benefits, such as import substitution, fiscal return, national and local economic development and technology learning.*"

This provision is based on longstanding policies that predate the Paris Agreement 2015 and the declaration of a climate emergency. The 2019 decision that new oil exportation licences would not be granted does not resolve the issue of continued oil exploration in existing licenced areas as it was determined that existing licences would not be affected. At the same time, Ireland is still actively promoting exploration for gas and is open to issuing new exploration licences and allowing Gas Networks Ireland to have a disproportionately large voice in determining public policy on energy.

The Minister for Communication, Climate Action and the Environment (DCCAE) announced a major review into the security and sustainability of Ireland's energy (primarily electricity) supply in November 2019. The submission by three Dublin City University independent energy researchers (see Appendix A) provides an overview to inform this process. We submit that the considerations detailed in this document should inform the NMPF sectoral policy on petroleum exploration.

Recommendations:

1. The considerations laid out in the appended submission from DCU researchers to the DCCAE review of Ireland's energy should inform the policies, objectives and sustainability considerations in the NMPF with regard to petroleum exploration.
2. The Issues for Sustainability should consider the problem of petroleum exploration and processing infrastructure becoming stranded assets as Ireland transitions away from fossil fuel use as required by national and EU law.

3.7. Energy - Offshore renewable energy

The development of a sustainable and effective offshore energy regime for Ireland is a major strategic priority for the decade ahead. Wind energy installation has been decreasing in costs, and the technology for the deployment of floating turbines is now in place, radically increasing the marine area open to consideration for use.

It is essential to ensure that the advancement of wind turbine deployment to address the climate emergency is reconciled with the biodiversity loss emergency. Yet this is not addressed in the 11 specific policies set out in the Draft NMPF, notwithstanding the reference under "Issues for Sustainability" to potential impacts on marine mammals and birds.

The spatial designation of marine planning zones for offshore wind is an urgent priority. The Marine Planning and Development Management Bill provides for designation of Marine Activity Zones, which would be subject to both SEA and Appropriate Assessment. This

should identify and exclude areas ecologically unsuitable for development as well as other constrained areas such as shipping lanes.

Information is emerging on the importance of the Kish Bank and other shallow sea sand and gravel banks on the east coast to marine bird life and the potential adverse impact of wind turbine development in these areas. Birdwatch Ireland has been trialling a bird sensitivity mapping tool[7] which could be used to identify potential constraints early in the planning process. It would allow developers to further investigate the potential risk of impacts and include suitable mitigation measures where necessary. An example of this trial sensitivity mapping is given in Figure 1 below, adapted from Figure 4 in the original publication.

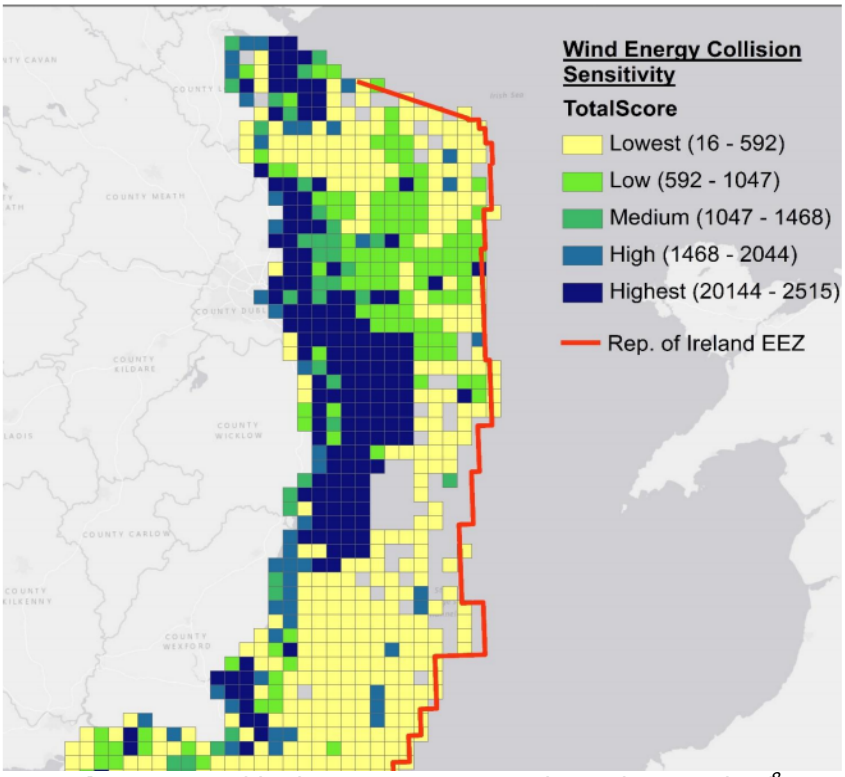


***Figure 1**: Trial bird sensitivity mapping by Birdwatc Ireland[8]*

Wave, tidal and other offshore renewable technologies remain at an early stage of development with research and prototype testing. The Draft NMPF section 11.22 accepts that "*the level of risk and ecological significance is largely unknown.*" A policy is required to ensure that research test activity and installation are fully subject to the planning regime and Appropriate Assessment.

[7] Burke, B. (2018) Trialling a Seabird Sensitivity Mapping Tool for Marine Renewable Energy Developments in Ireland. BirdWatch Ireland, Kilcoole, Co. Wicklow.
[8] Ibid

Recommendations:

1. Include a policy requiring the use of a seabird sensitivity map in the early stages of planning, to assess the risk posed by marine renewable energy developments, and to fully comply with our legal obligations to protect birds and their habitats.
2. Include a policy requiring that research and testing activities for offshore renewables, particularly ones such as wave and tidal that are early in their development, are fully subject to the planning regime and Appropriate Assessment.

3.8. Aggregates and Mining

The Draft NMPF sets out objectives to:

- Support sustainable mineral exploration;
- Maximise the contribution of the mining sector to the economy;
- Promote Ireland's marine mineral potential; and
- Support Ireland's decarbonisation journey for the sustainable extraction and processing of minerals and metals to secure supply for clean energy technologies.

While marine sand and gravel extraction is increasing internationally, it has major ecological impacts. The Draft NMPF has not demonstrated the need for seeking to exploit Irish waters for sand and gravel extraction or mineral mining.

Recommendation:

1. Provide data and evidence justifying the need for sand and gravel extraction or mineral mining in Irish waters.

3.9. Ports, harbours and shipping

We welcome the Draft NMPF's recognition of the inextricably linked nature of shipping and associated land-based transport, particularly the need for sustainable land transport links, as outlined in section 14.34:

> "*Integration and alignment is needed between terrestrial and marine planning processes to ensure that ports link with public transport to encourage sustainable travel. Terrestrial planning should coordinate with and support ports with the necessary transport links and suitable road networks*."

However, this need for sustainable land transport to and from ports is not reflected in any of the objectives or policies. Moreover, it does not include any mention of restarting and expanding the freight rail network.

We note that Article 41(2) of the Trans-European Transport Network (TEN-T) Regulations[9], which the Draft NMPF cites heavily, with regard to transport infrastructure requirements states that Member States shall ensure that: *"Maritime ports of the core network [...] shall be connected with the railway and road and, where possible, inland waterway transport infrastructure of the trans-European transport network by 31 December 2030, except where physical constraints prevent such connection."* A policy is needed to require the development of sustainable terrestrial transport to and from ports and to ensure compliance with the TEN-T regulations.

Furthermore, the Draft wholly fails to consider the climate implications of ports and shipping. From 2007-2012, shipping accounted for approximately 3.1% of annual global CO_2 emissions[10]. The Brussels-based NGO, Transport and Environment, predicts that this could increase to 10% of global emissions by 2050 if current growth rates continue. As such, the ongoing increase in the level of goods transported internationally is no longer sustainable due to the transboundary levels of extraction, land use change, emissions and resource consumption created. The National Climate Action Plan fails entirely to address and mitigate the impact of freight shipping and the associated land transport of goods, particularly heavy goods road transport. Therefore, as one of the key policies that will shape marine activities, the NMPF has a vital role to play in reducing the climate impact of shipping.

The only objective that addresses climate change merely mentions adapting to its consequences, not mitigating it by curbing the sector's emissions: "*Sustainable development of the ports sector and full realisation of the National Ports Policy with a view to providing adequate capacity to meet present and future demand, and to adapt to the consequences of climate change.*"

Similarly, the Issues for Sustainability include only a token mention of ship carbon footprints and power use in section 14.39:

> "*Irish Lights Risk Assessment processes can identify any increase in navigational risk and potential mitigation measures. Issues include:*
> - *The protection of the use of the shortest routes to ports thus the most economic route with the least carbon footprint.*
> - *Development of facilities to allow ships to connect to the national grid when in port would reduce the need for ships to produce their own power in port and would result in cleaner air in port areas.*
> - *Supporting the tourist sector, promoting safety at sea, and encouraging safe development of coastal infrastructure and commercial activity, such as offshore exploration and renewable energy*."

[9] REGULATION (EU) No 1315/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU: https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A32013R1315

[10] Transport and Environment, "Shipping and climate change": https://www.transportenvironment.org/what-we-do/shipping-and-environment/shipping-and-climate-change

Sustainability constraints also apply to the goods being shipped. In order to address the challenges posed by climate change, a significant number of existing import and export cargo tonnages will need to be reduced. For example:

- Imports of coal, oil, biomass, and animal feed need to be reduced in order to meet climate targets;
- Grain, vegetable and fruit imports need to give way to more domestically produced plant-based foods;
- Bovine animal exports need to be reduced; and
- Peat compost exports need to be eliminated.

The Draft NMPF does not address this.

The Draft's consideration of ports and shipping appears to be largely grounded in the National Ports Policy as well as in TEN-T goals, policies and designations. Like these policies, the Draft NMPF focuses almost exclusively on the expansion of Ireland's port network and shipping industry for the purpose of economic growth, however, there is no assessment of the sustainability of such proposals. Current models of the continued increases in tonnages passing through Irish ports and the resultant demand for land transport need to be revised to address sustainability and climate constraints. The continued accommodation of increased berthages and the building of motorways and dual carriageways for land haulage is being justified on the basis of rising demand on the TEN-T ports and connection routes in Ireland. At the same time, the share of freight transported more sustainably by rail is declining to only timber transported for processing to the two Suir Valley plywood plants and to lead and zinc ore mined in Navan for export.

As discussed earlier in this submission, the viability of the policies upon which the Draft NMPF is predicated needs to be reviewed in order to create a harmonised regulatory regime and ensure alignment with the SDGs as well as national and EU policies to address climate change and biodiversity loss. In this context, we consider that the current National Ports Policy and the TEN-T designations in Ireland are based on an excessive level of Tier 1 and Tier 2 ports where the associated growth projections do not meet future sustainable transport needs.

3.9.1. Example of Shannon-Foynes Port

The current designation on the status of the Shannon-Foynes Port as part of the European TEN-T ports network and the current proposal before An Bord Pleanála for a dual carriageway link from the port to Limerick provides a highly illustrative example of the unsustainability of the current shipping and haulage models in Ireland.

The Environmental Impact Assessment Report for the dual carriageway (lodged with An Bord Pleanála in 2019) states that:

> *"Shannon-Foynes Port is the largest bulk port in the country, handling approx., 20% of all seaborne trade in the State. The port's dominance in the dry-bulk sector is*

particularly pronounced, with a market share of around 63% in this sector. The National Ports Policy has, as a key strategic objective, the continued commercial development of Shannon-Foynes Port Company, and clearly identifies as a matter of reasonable priority, the improvement of the road and rail freight connections."

The figure of 63% is misleading as the bulk of freight traffic in the Shannon Estuary is generated by separate jetty terminals for other locations in the estuary, namely the bauxite and aluminium hydrate shipped into and out of Aughinish Island, coal shipped into Moneypoint and aviation fuel shipped into Shannon. None of this comprises cargo being transported to or from Foynes port by road or rail. Out of a total of 11 million tonnes, only 1.7 million tonnes is actually handled by the port company through Foynes and Limerick. Moreover, the high value economic goods originating from the main centres in the west, Limerick and Galway, are technology and medical devices, which do not require proximity to a bulk goods export port.

The majority of the bulk coming in through Foynes will be rendered obsolete when sustainable energy and resource use provisions are properly applied to address the climate and biodiversity emergency and Ireland's insecure food economy. This will mean the rapid ending of the current importation of oil, coal, biomass, animal feed, and fertiliser and the export of waste. Accomplishing the above would either eliminate or reduce current cargos coming through Foynes, thereby removing the justification its TEN-T Tier 1 status and the need for the current Foynes-Limerick road scheme. Not only is there no justifiable need to increase port capacity at Foynes, but the majority of existing port traffic has no sustainable future.

Even if a sustainable model can be advanced for continued and increased bulk traffic through Foynes, the current dual carriageway proposal is a road investment measure only – there is no proposal for restoration of the currently unused Limerick to Foynes freight rail line. If there is a case for expanding throughput of freight at Foynes this should be based on rail transport and not road use. The Limerick-Foynes rail line is existent; it is a regional and national asset, and there is a clear capacity to restore the rail freight line within an immediate time frame. Lower emission and lower environmental impact transport for freight as well as other transport demand should be maximised.

Recommendations:

1. The Draft NMPF should highlight that the expansion and growth of Ireland's ports must be predicated on an assessment of the various sustainability constraints (both at sea and on land), particularly those related to greenhouse gas emissions.
2. A targeted and timetabled policy is needed for assessing and reducing shipping emissions (both in the marine area and related to terrestrial haulage).
3. A policy requiring the development of sustainable transportation to and from ports should be included. This should align with Article 41(2) of the TEN-T Regulations and include the expansion of the rail freight network.
4. A review of the current policies, particularly the National Ports Policy and the TEN-T designations, is required.

3.10. Safety at sea

Section 15.13 of the Draft NMPF states that "*the greater frequency and severity of extreme weather events caused by climate change is likely to make the challenge of making safety at sea and navigational safety more difficult*."

The role and function of the Irish Coast Guard requires proper resourcing to ensure the optimum marine search and rescue service under Ireland's role as party to the UN International Maritime Organization Search and Rescue Convention.

3.11. Seaweed harvesting

Seaweed provides multiple ecosystem services, such as carbon sequestration, biogeochemical cycling, primary production, food web dynamics, biodiversity, habitat, and resilience[11]. As with many other marine species, many key seaweed species are in decline across Europe, largely due to climate change. Ocean warming threatens seaweeds as the functioning of populations and individuals are affected both directly and indirectly by ocean warming[12].

Despite the importance of these species, the objectives for seaweed harvesting in the consultation document do not mention the ecological importance of seaweed, framing it as purely an economic and social benefit. Any mention of sustainability in regard to seaweed harvesting is solely with a view to protecting the supply, to ensure the industry can continue, as opposed to the potential ecological damage that this harvesting could cause. While An Taisce recognises that there is a research programme underway which will set specific objectives for this sector, we would strongly highlight that none of the objectives of the programme, as outlined in the Draft NMPF, make reference to the ecological importance of seaweed, with the aims of the project being to:

- *Conduct a biomass assessment for certain types of seaweed;*
- *Improve the knowledge on the current and future spatial distribution and intensity of harvesting activity and resource usage;*
- *Improve the knowledge on the value of seaweed harvesting activity;*
- *Provide a better understanding of the true potential value of seaweed harvesting;*
- *Address gaps in governance knowledge.*

[11] Linus Hasselström, Wouter Visch, Fredrik Gröndahl, Göran M. Nylund, Henrik Pavia,
The impact of seaweed cultivation on ecosystem services - a case study from the west coast of Sweden, Marine Pollution Bulletin, Volume 133, 2018, Pages 53-64.

[12] Straub Sandra C., Wernberg Thomas, Thomsen Mads S., Moore Pippa J., Burrows Michael T., Harvey Ben P., Smale Dan A. Resistance, Extinction, and Everything in Between – The Diverse Responses of Seaweeds to Marine Heatwaves. Frontiers in Marine Science, Volume 6, 2019

Given the ecological importance of seaweed for the ocean ecosystem, it is vital that there is a policy in place to carry out an ecological assessment of the impact of seaweed harvesting in all areas proposed for licensing, in addition to a mandatory AA where they are within the zone of influence of a Natura site. In any areas where seaweed harvesting is allowed, there should be a stringent management plan to protect it and regulate the harvesting, with strict enforcement. There is significant scope for algae/seaweed farming in Ireland, both on the land and in the sea, but it should be developed and managed very carefully, using local natives species in non-contained areas.

In addition, the licensing and rights system needs to be regularised. Traditional seaweed harvest rights must be recognised and legally secured for both those registered on folios and those with traditional use rights but no matching folio. For those who are recognised as having harvesting rights, their obligations should be clearly elucidated in a seaweed management policy, and should include reporting on specific details such as harvest quantity and quality, in order to prevent over-harvesting. This is particularly relevant in commonage areas.

The licensing system should also differentiate between those harvesting for personal use, as opposed to commercial harvesting. Further, any management plan should set limits for different types of harvesting, for example different collection methods (seaweed washed up on the shore versus harvested live). The main issue with the sustainability of seaweed harvesting, other than the volume harvested, is how the seaweed is to be harvested. Seaweed aquaculture will often be more suited to mechanical harvesting, whereas wild seaweed should be harvested by more low impact, traditional methods. We would call for a clear differentiation between licences for harvesting of wild seaweed by hand, and those for seaweed aquaculture, with mechanical harvesting. Mechanical harvesting machines remove too much of the stalk of the seaweed and therefore render regrowth impossible, whereas hand cutting is far more sustainable. The traditional harvesting of wild seaweed would have the additional benefit of providing a high quality product, with a lower ecological footprint and would support more local jobs.

Recommendations:

1. The ecosystem benefit of seaweed must be recognised in any future policy objectives for seaweed harvesting in Ireland, and the objectives should be framed by that.
2. A rigorous and well-researched seaweed harvesting management plan is required, which implements strict controls on harvesting methods for particular species, and quantities which can be removed. This will require substantial public consultation and participation, in compliance with Article 7 of the Aarhus Convention.
3. The first step in achieving this is to regularise the licensing and rights system, and to make that information publicly available. Any licence application must be processed in compliance with the public participation rights under Article 6 of the Aarhus convention.
4. Different policy objectives should be set for the harvesting of wild seaweed, and the harvesting of cultivated seaweed, and the licensing system should clearly distinguish between these two very different approaches, with different harvesting methods

licensed in different situations. There are some best practice examples which could inform this, such as those implemented in France.
5. Ecological assessment should be a key part of the licensing regime, with a holistic ecosystem approach implemented, based on discrete ecosystem areas.

3.12. Sport and recreation

Policy 1 in the Draft NMPF states that *"proposals that promote sustainable development of water based sports and marine recreation should be supported."* However, of the 17 marine sport, leisure and adventure activities referenced jet skiing, power boating, wakeboarding and water skiing are problematic in their use of polluting diesel engines which has not been resolved by EU Directive 2013/53.

Moreover, these activities are disturbances to the marine environment both ecologically and by creating a conflict with other marine recreational users. No policy has been proposed in relation to assessing as mitigating the ecological impacts. Water sports activities can be a vector for non-indigenous species, with equipment being moved between areas. A policy addressing this risk should be included.

Recommendations:

1. A policy should be included to require appropriate ecological assessments for water-based recreation proposals.
2. Diesel engine-based proposals should not be supported in the NMPF.
3. Any water sports should be licenced with the requirement for adherence to best practice to minimise transmission of invasive species.

3.13. Telecommunications

The Covid-19 pandemic has shown the importance of telecommunications in maintaining social interaction and economic activity. It has also shown how so many international meetings having a high carbon footprint in aviation emissions can be substituted with teleconferencing. Ireland relies on international data connection in all aspects of daily life. Ireland has pursued a policy of securing the location of major international companies as a European base reliant on high capacity digital connectivity.

3.14. Tourism

3.14.1. Impacts of traveling *to* a destination

The economic benefits of tourism to coastal communities is well outlined in the Draft NMPF. Irish tourism policy, "People, Place and Policy: Growing Tourism to 2025," is referenced as "*a whole of Government policy which places a focus on maximising the export contribution of tourism, while protecting the invaluable assets which are our natural built and cultural heritage.*"

This must be reconciled with the sustainability constraints that confront tourism both globally and nationally. In this regard, Section 19.17 of the Draft states: "*Tourism policy recognises the importance of growing the sector in a sustainable manner which does not have negative environmental social or economic consequences.*" However, the Draft plan does not sufficiently acknowledge that the impacts of travel to a destination must be addressed in addition to impacts at the destination itself. This has particular relevance for tourism in Ireland's coastal areas, which draw substantial numbers of visitors from around the world.

The global aviation industry, which relies on a range of direct and indirect subsidies, is pursuing the continued increase in global aviation and lobbied to be excluded from the Paris Agreement[13]. The International Civil Aviation Organisation (ICAO) is advancing a dubious carbon offsetting scheme (CORSIA) which is seeking only to cover increases in emissions after 2020, will be voluntary until at least 2027, and only cover 21.6% of international aviation emissions at best[14]. A misleading expectation is being created on new lower carbon technologies, which would take decades to supplant the operating lifespan of the current generation of planes in service and continued production. Similar sustainability impacts arise from the global growth in high fossil energy and emissions-producing cruise ships.

3.14.2. The Wild Atlantic Way and car dependence

The impact of tourism in adding to car use and traffic generation is also problematic with peak congestion points emerging on the Wild Atlantic Way. Increasing car use also conflicts with the experience and attractiveness of the route for cycling. The promotion of the Wild Atlantic Way should be redirected from being a tour bus and car route to visit "Discovery" points, to a longer stay area focused on walking, cycling, appreciating the marine environments and engaging in activities to suit all ages and abilities. Ultimately, this would bring better benefit to rural economies.

Wales has completed a full coastal walking route, which Ireland should now emulate with a defined target date set in the NMPF.

Recommendations:

1. Assess the impact of overseas-generated, aviation or cruise ship-based tourism to Ireland's coastal areas as an Issue for Sustainability.
2. Include objectives and policies to refocus the Wild Atlantic Way to a long-stay area with an emphasis on walking, cycling, and sustainable activities for all ages and abilities that allow for a deep appreciation of the coastal and marine environments. Targeted, timetabled objectives and policies to lessen car-dependence on the route should also be included.
3. Include a targeted, timetabled policy for the completion of a full Irish coastal walking route.

[13] Transport and Environment, "Flying and Climate Change": https://www.transportenvironment.org/what-we-do/flying-and-climate-change
[14] Ibid

3.15. Wastewater treatment and disposal

Public attention was very much focused on wastewater treatment in 2019, with several major sewage incidents. Dublin Bay was closed for swimming on multiple occasions due to malfunctions in the Ringsend water treatment plant, and lengthy boil water notices were in place due to contaminated drinking water from the Leixlip water treatment plant. This was in addition to other frequent boil water notices around the country.

In the second River Basin Management Plan (RBMP), Irish Water committed to spending €1.7 billion on wastewater projects, programmes and maintenance. However, the second RBMP only takes us up to 2021, and many of the principal actions for UWWT remain to be delivered. The second RBMP committed to completing 255 large-scale wastewater treatment projects, but of that 255, 146 remain outstanding.

The EPA have been critical of the speed of action by Irish Water on this, and in their 2018 Urban Wastewater Treatment report[15] said:

> *"Irish Water is repeatedly extending the dates it expects to complete the important works needed at areas that are still releasing untreated wastewater,"*

and they highlighted that in 2016 Irish Water reported that it would stop discharging untreated wastewater from 30 of the 36 areas by the end of 2020. It is now only on target to provide treatment for two of these areas by the end of 2020. They highlighted the risks of this approach:

> *"Extending the time to eliminate discharges of untreated wastewater prolongs the risks to the environment and public health. It is important to provide the outstanding infrastructure to end discharges of untreated waste water without any further delays."*

The two policies put forward in the Draft NMPF do not indicate how this issue will be substantively dealt with. The first outlines that proposals by Irish Water in regard to wastewater that contribute to goals of the RBMP, the Water Services Policy Statement 2018–2025 and MSFD should be supported. The second policy relates to proposals that have the potential to significantly adversely affect existing and planned wastewater management and treatment infrastructure. There is no policy to realise the single objective they outlined:

> *"To bring and maintain public water and wastewater services to acceptable international benchmarks, verified by independent monitoring and reporting, through increased wastewater treatment with a focus on, inter alia, ensuring full compliance with the Urban Waste Water Treatment Directive and wastewater licensing requirements."*

[15] https://www.epa.ie/pubs/reports/water/wastewater/Urban%20Waste%20Water%20Treatment%20in%202018_Web.pdf

Further, An Taisce could not locate a detailed timetable or pathway for achieving the upgrades which Irish Water committed to under the 2nd cycle RBMP[16], and the roadmap for compliance with the UWWTD does not appear to be collated in any one standalone document, with just rough indications outlined in Appendix 1 of the RBMP. While Irish Water have admirable ambition[17], the EPA report has clearly demonstrated that the reality is falling short, and given the serious impact resulting from failures in wastewater treatment facilities on marine habitats it is vital that there is absolute clarity in regard to the plan for achieving 100% compliance with the UWWTD.

Recommendation:

1. A detailed, budgeted and timetabled plan should be provided by Irish Water demonstrating the roadmap to achieving UWWTD compliance. This should be included as an appendix to the NMPF final document, and they should be held to account for any deviations from that timetable.

3.16. Fisheries

Ireland has a strong track record of undermining fisheries conservation at EU level. In a 2018 report by the New Economics Foundation, Ireland was placed as one of the worst EU member states for overfishing in the Atlantic, undermining international efforts to restore fish stocks to sustainable levels[18]. It cited Ireland's decision in late 2017 *"to once again push for fishing quotas which ignore scientific advice is undermining efforts to end overfishing by 2020*" and that "*In the negotiations last December for 2018, Ireland, represented by Minister for the Marine Michael Creed, "topped the league table of setting quota at 18 per cent [of their total TAC] above scientific advice"* (this was based on 124 TAC decisions). The continued practice of setting fishing quota above scientific advice:

> "*harms the environment, is short-sighted politics, and goes against the objectives of the CFP*", *"Ireland celebrated its achievement at 'winning' quota for its fishing fleet above scientific advice . . .Topping the overfishing league table should be criticised – not celebrated – as it comes at the cost of delaying the recovery of European fish stocks and more sustainable jobs".*

The Draft NMPF is a good example of the celebration of winning a large quota:

> *"The 2019 fishing opportunities or TACs (Total Allowable Catches) secured for Ireland at the December Agriculture and Fisheries Council amounts to 193,619 tonnes of quotas worth €260 million."*

An Taisce would highlight that this is not an achievement to be lauded. The overall number and percentage of EU North East Atlantic stocks that had their Total Allowable Catch (TAC)

[16] https://www.housing.gov.ie/sites/default/files/publications/files/rbmp_report_english_web_version_final_0.pdf
[17] https://www.water.ie/docs/Irish-Water-Business-Plan.pdf
[18] https://neweconomics.org/uploads/files/NEF_LTB_ATLANTIC_2017.pdf

for 2020 set above scientific advice increased in 2020, with 47% (61/129) of TACs exceeding the scientific advice. According to Ireland's Marine Institute (MI)[19] the number of sustainably fished stocks in 2019 was just 47% (35 out of 74).

One of the most serious impacts of commercial fisheries is the impact on the seafloor, by dredging and trawling. This pressure is clearly recognised in section 12.24 of the Draft NMPF, which outlines that:

> *"Some types of fishing activity can negatively affect both pelagic and seabed communities, particularly those that support species with slow growth rates, soft substrates or cold water coral reefs, and some areas have been heavily impacted by fishing activity. There are also concerns about the level of by-catch of birds, sharks and marine mammals in certain fisheries."*

The document then outlines the benefits of the CFP, apparently to counteract these negative impacts:

> *"Fish populations are generally improving since reform of the Common Fisheries Policy and more sustainable management of fish populations with the setting of Maximum Sustainable Yield (MSY) for commercial species"*

and in section 12.28 it outlines:

> *"The Marine Strategy Framework Directive requires European Member States, including Ireland, to reach good environmental status (GES) in the marine environment by 2020. For commercial fish stocks this requires that populations of all commercially exploited fish and shellfish are within safe biological limits, exhibiting a population age and size distribution that is indicative of a healthy stock."*

However, we would highlight that Descriptor 3 (D3) in the MSFD does not assess sea floor integrity, and that Descriptor 6 - Seafloor Integrity - shows the actual spatial impact of bottom trawling on Ireland's seafloor habitats. To fully enumerate the impact of fishing, it is therefore essential that benthic disturbance maps, and results from the latest D6 assessment are included.

Sustainability is mentioned in each of the three objectives in the Fisheries section, but it must be recognised within the NMPF that the current unsustainable approach cannot be addressed by managing commercial fish populations with CFP/MSY alone. Single fish stock management and protection of the marine environment are not the same thing. A single stock could be harvested completely under MSY but the fishery could still cause significant damage to the seafloor.

Further to that, this consultation document does not address the wider ecological impacts of overfishing on birds and marine mammals. Seabird population collapse is becoming

[19] Marine Institute (2019) The Stock Book 2018: Annual Review of Fish Stocks in 2019 with Management Advice for 2020 https://bit.ly/35m83x3

increasingly common in the North Atlantic, due to the bird's inability to find enough fish to feed their young. A 2018 report from the RSPB[20] on the Shetland Islands revealed catastrophic seabird population collapse, attributable to declining marine feed sources. Overfishing also severely impacts on marine animals, for example the NPWS highlighted in 2016 that six species of cartilaginous fish are Critically Endangered and a further five species are Endangered[21]. The reasons outlined are "*over-exploitation by commercial fisheries and habitat destruction and disturbance*". It further outlines that while these species are no longer targeted for commercial fisheries, instead they are taken as by-catch in several fisheries, involving both Irish and non-Irish vessels.

As such, the assessment of fisheries in this document entirely fails to enumerate the true cost of environmental degradation of the fishing industry, and this must be addressed if the 'sustainability' objective is to be realised. Overall the document seriously underrepresents the actual and potential impact of commercial fishing (particularly mobile bottom contacting gears) on the benthic habitats, marine species and seabirds of Ireland's MSP area.

Policies 2 and 4 in the Draft NMPF reference sustainable fishing, and how measures which promote sustainability and climate resilience should be supported. While this recognition of the need for sustainability is welcome, this language is in no way strong enough, and takes far too narrow a view of what sustainability actually is. There should be unequivocal policy language requiring that all fishing be carried out in a truly sustainable way, that is taking a holistic ecosystem approach, and moving beyond the scope of D3 of the MSFD and the ability of the CFP to provide this protection. These policies have repeatedly been found to be failing, and further reliance on them will undermine the future of the fisheries sector, leading to further fisheries and ecosystem collapse. Ultimately this approach will undermine and decimate the resource upon which the industry is predicated, with serious environmental, social and economic ramifications.

Recommendations:

1. It is essential that the NMPF include strong policies requiring that fishing activity be carried out in a way that is truly compatible with ecosystem health, including marine species, seabirds and seafloor integrity and health. To properly consider the impact of mobile bottom-contacting gears on different benthic habitats, the recent assessment of the MSFD D6 – Seafloor Integrity – must be included in the fisheries chapter of the final NMPF. In particular, the relevant text and maps in the physical disturbance section of the D6 chapter in the final MSFD Article 17 report should be added.
2. The designation and careful management of no-take Marine Protected Areas will further facilitate sustainable fishing.

[20] https://www.theguardian.com/environment/2018/jun/03/shetland-seabirds-climate-change-catastrophe-terns-kittiwakes-puffins
[21] https://www.npws.ie/sites/default/files/publications/pdf/Red%20List%2011%20Sharks%20et%20al.pdf

3.17. Marine Protected Areas

While it is a requirement under Article 13.4 of the MSFD that a coherent and representative network of MPAs be designated, the Draft NMPF refers only to legislation 'being prepared'. No time commitment is given for legislation or designation of MPAs, and it is not clear when this coherent network of sites is likely to be in place. Ireland's MPA network is many years away from being considered ecologically coherent.

The likelihood is that the designation of Marine Protected Areas (MPAs) will not be complete prior to the finalisation of the NMPF. As such, there is a very real risk that planning applications may be granted in some of the most diverse and ecologically important areas in Ireland's marine waters, which would likely be designated as MPAs in the future. This would put these areas at immediate exposure to development that may reduce their ecological value. It could also lead to the designation of MPAs occurring in the remnant areas after all of the other marine sectors have been allocated their geographical area. This runs completely counter to the ecosystems based approach required by the MSP Directive and MSFD. There are numerous ecologically sensitive areas which have already been identified, and these should be mapped and made available to planners as a GIS layer, in addition to any further sensitivity mapping which is readily available. These layers could be used to identify important ecological areas, so that environmental concerns could be factored in to any planning decision. Sensitivity mapping of ecosystems and future maritime activities is important in determining the scale of future pressures on the marine environment. In carrying out this exercise, planners should seek to direct activities away from highly sensitive/protected areas by identifying areas of least and highest environmental constraint. Sensitivity mapping could also be carried out to identify areas suitable for habitat and species recovery and enhancement.

While the consultation document makes reference to implementing protection in lieu of a coherent MPA network:

> *"Until the ecological coherence of the MPA network is confirmed proposals should demonstrate that they will, in order or preference a) avoid, b) minimise, or c) mitigate adverse impacts on features that may be require to complete the network or d) if it is not possible to mitigate adverse impacts,* ***proposals should state the case for proceeding****."* [An Taisce emphasis]

Yet the statement indicates that under the NMPF projects would be allowed which may have 'adverse impacts' on habitats and species which are later deemed critical for our MPA network. The policy does not indicate what grounds would be deemed acceptable for proceeding with adverse impacts, and this requirement to simply "*state the case for proceeding*" leaves the process open to misinterpretation and mismanagement. While any development in a potential MPA that is also designated as a Natura site will have to prove beyond reasonable doubt that the proposal will not harm the integrity of the site, the same strict protection will not apply to those outside that network. As such, there must be strong policy protection in place for these potential MPA sites.

To achieve this, An Taisce would suggest that option D be entirely removed from the NMPF, and that if a proposal will damage the integrity of the site, and the impact cannot be mitigated for, then it should not be allowed to proceed. However, we recognise that allowance should be made for situations where there is overriding public interest, similar to the imperative reasons of overriding public interest (IROPI) clause under the Habitats Directive. As such option D could be reworded to reflect that. The application of this option should only happen once strict tests have been applied to ascertain the necessity of the development, and that no alternatives are available. Further to that, similar to the application of IROPI, the area of potential MPA impacted by the development should be compensated for to ensure the future coherence of the MPA network is not compromised.

Recommendations:

1. Rewording of Option D to only allow adverse development where there is overriding public interest and no alternatives, with compensation applied.
2. In the absence of a coherent MPA network, GIS layers should be made available to planners which identify the location of ecologically sensitive and important habitats and species. This data should be used to preserve key areas from further degradation until adequate MPA legislation is enacted.
3. Expedite the legislation required for the designation of MPAs as a matter of urgency

4. Strategic Environmental Assessment

4.1 Overview of legal requirements

An Taisce would like to highlight several key legal objectives of the Strategic Environmental Assessment Directive that must be considered in the relation to the SEA report prepared for the Draft NMPF. Ireland needs to demonstrate exemplary engagement and compliance with the provisions of the SEA Directive and address the 2001 Guidance[22] provided by the Commission: "Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment".

The preamble to the Directive states that it arises from a range of Treaty obligations and other considerations including under (1):

> *"Article 174 of the Treaty provides that Community policy on the environment is to contribute to, inter alia, the preservation, protection and improvement of the quality of the environment, the protection of human health and the prudent and rational utilization of natural resources and that it is to be based on the precautionary principle. Article 6 of the Treaty provides that environmental protection requirements are to be integrated into the definition of Community policies and activities, in particular with a view to promoting sustainable development."*

[22] EU Commission (2001) Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment: http://ec.europa.eu/environment/archives/eia/pdf/030923_sea_guidance.pdf

And under (4) with regard to biodiversity:

> *"The Convention on Biological Diversity requires Parties to integrate as far as possible and as appropriate the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans and programmes."*

Article 5(1) of the Directive requires that:

> "*Where an environmental assessment is required under Article 3(1), an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated. The information to be given for this purpose is referred to in Annex I.*"

The provisions of Annex I are significant and detailed:

> *"The information to be provided under Article 5(1), subject to Article 5(2) and (3), is the following:*
>
> *a) an outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes;*
> *b) the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme;*
> *c) the environmental characteristics of areas likely to be significantly affected;*
> *d) any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC;*
> *e) the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation;*
> *f) the likely significant effects (1) on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors;*
> *g) the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme;*
> *h) an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information;*

i) a description of the measures envisaged concerning monitoring in accordance with Article 10;
j) a non-technical summary of the information provided under the above headings.

(1) These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects."

There is a clear provision in Article 5(1) for the consideration of "reasonable alternatives". Section 5.14 of the Commission guidance in referring to plans or programmes covering long time frames states: "*The alternatives chosen should be realistic. Part of the reason for studying alternatives is to find ways or reducing or avoiding the significant adverse effects of the plan or programme*."

Articles 5(2) and 5(3) set out information requirements:

"2. The environmental report prepared pursuant to paragraph 1 shall include the information that may reasonably be required taking into account current knowledge and methods of assessment, the contents and level of detail in the plan or programme, its stage in the decision-making process and the extent to which certain matters are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment.

3. Relevant information available on environmental effects of the plans and programmes and obtained at other levels of decision-making or through other Community legislation may be used for providing the information referred to in Annex I."

Section 5 of the 2001 Commission guidance sets out extensive considerations for the "*scope and level of detail in the environmental report*" as defined in Article 5(4) of the Directive. Section 5.26 specifically refers to the explicit provision for consideration of human health, biodiversity and cultural heritage in the Directive, which represented additional considerations to the annexes in the EIA Directive in place at that time.

Article 12(2) of the Directive is a provision on the quality of SEA Environmental Reports. The 2001 Commission Guidance sets out a key concern on the quality of the Environmental report on which the SEA is based that the information should be "*complete and reliable*" and be "*adequate for the purposes of the Directive*".

Article 6 sets out the consultation provisions for the Directive with 6(2) requiring that the public be given *"an early and effective opportunity within the appropriate time frames to express their opinion on the draft plan programme and the accompanying environmental report before the adoption of the plan or programme or its submission to the legislative procedure."*

Article 8 requires consideration of "*the opinions expressed pursuant to Article 6.*" The Commission Guidance also notes that the parallel provisions of Articles 6(8) and 7 of the Aarhus Convention require public participation.

Article 7 relates to transboundary impacts, which are not just relevant to Northern Ireland, but also applicable to Ireland's wider environmental footprint including per capita climate emissions.

Article 10 sets out the provisions for monitoring:

> *"1. Member States shall monitor the significant environmental effects of the implementation of plans and programmes in order, inter alia, to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action.*
>
> *2. In order to comply with paragraph 1, existing monitoring arrangements may be used if appropriate, with a view to avoiding duplication of monitoring."*

The provisions of Article 10 relate not only to monitoring but to the remediation of unforeseen adverse effects. Section 8.12 of the Commission guidance states that: "*Unforeseen adverse effects is better interpreted as referring to shortcomings of the prognostic statements in the environmental report (e.g regarding the predicted intensity of the environmental effect) or unforeseen effects resulting from change of circumstances.*" Section 8.13 of the Guidance states that "*One purpose of monitoring is to take appropriate remedial action if monitoring reveals adverse effects on the environment that had not been considered in the environmental assessment*."

Article 11 sets out the provision for relation to other EU legislation:

> *"1. An environmental assessment carried out under this Directive shall be without prejudice to any requirements under Directive 85/337/EEC and to any other Community law requirements.*
>
> *2. For plans and programmes for which the obligation to carry out assessments of the effects on the environment arises simultaneously from this Directive and other Community legislation, Member States may provide for coordinated or joint procedures fulfilling the requirements of the relevant Community legislation in order, inter alia, to avoid duplication of assessment.*
>
> *3. For plans and programmes co-financed by the European Community, the environmental assessment in accordance with this Directive shall be carried out in conformity with the specific provisions in relevant Community legislation."*

4.2 Minimum requirements for Draft NMPF SEA Report

The preliminary requirement of the SEA Environmental Report should be to assess the extent to which the policies set out in the Draft NMPF address the range of sustainability objectives required to tackle the climate and biodiversity loss emergency, meet the SDGs and comply with the achievement of the Good Environmental Status objective as required by the MSFD. This requires quantitative and timetabled targets and policies for mitigation which are then subject to an effective monitoring and implementation regime.

4.3 SEA assessment of overarching policies

An Taisce would highlight the following deficiencies in the SEA's evaluation of various components of the Draft NMPF.

While the SDGs are referenced in the SEA report, the delivery of the SGD-specific objectives and targets, including the designation of Marine Protected Areas, is not addressed. The SEA report gives no critique of the failure of the Draft NMPF to provide for the implementation objectives of the SDGs.

While it is stated that the GES objective of the MSFD is being met, the justification for this conclusion has not been made.

Table 7, "Assessment of Preferred Scenario General Marine Policies," states that the "*suite of general marine policies*" are "*broadly positive for all environmental receptors*." In relation to fishing, it is stated that existing policies are "*generally neutral to positive for environmental receptors*". No overview of fish population conservation is provided. Similarly, no attempt is made to reconcile Ireland's continuing Common Fisheries Policy quota negotiation position, which is in conflict with scientific advice.

In relation to Marine Aggregates and Mining, it is stated that: "*there may be reduced emissions from marine aggregate extraction over comparable terrestrial activities*." Data is required to substantiate this claim.

With regard to Seaweed Harvesting, simply concluding "*No specific policies presented*" does not address the current situation by which licences continue to be granted with inadequate public consultation and environmental assessment regimes.

No analysis is provided on reconciliation of the measures and targets set out in Harnessing Our Ocean Wealth 2012 and how the economic exploitation and extraction objectives it contains are reconcilable with the overarching objectives of the SDGs and MSFD.

It is correctly stated that the Draft NMPF lacks "*a spatial dimension to the plan*" and that this "*at this stage limits the potential for integrated planning. It is particularly challenging to consider cumulative effects where no spatial dimension exists*". This concern can be

addressed if effective overarching policies are set out to govern spatial planning for marine, fish species conservation and other sectors.

It is not sufficient to say as in conclusion of policy assessment of the Draft NMMP in SEA report section 9.5 Summary of Assessment that "*The draft NMPF promotes a broad sustainability agenda*." This is contradicted by the admission that existing sectoral policies are taken as a given namely "*a policy base which is driven by the existing sectoral plans and targets already in place*."

While the lack of "*integration of policies to address competing interests*" is accepted and concern is raised that a situation of "*first come first served may therefore develop*," the whole point of having an effective Marine Plan accompanied by a robust SEA is to prevent this.

4.3 Mitigation

Table 10-3 of the SEA report sets out revised and additional mitigation measures. It references Appropriate Assessment for all sectors as well as SEA and EIA where appropriate.

The SEA report correctly highlights and proposes amendment of the policies for a number of sectors including Aquaculture, Energy Transmission, Marine Aggregates and Mining, Safety at Sea, Telecommunications where the Draft NMPF contained measures breaching the provisions of the Habitats Directive and EIA Directive in stating that:

> "*Proposals must (or should) demonstrate that they will in order of preference*
> *a) avoid*
> *b) minimise*
> *c) mitigate adverse effects*
>
> *if it is not possible to mitigate significant adverse impacts, proposals should state the case for proceeding*."

While all of the revised mitigation measures set out in the SEA Report are welcome and desirable, what is proposed in the Draft NMPF remains inadequate because it does not meet the requirements of the MSFD or the national legislation. It fails to set out overarching mitigation measures. It also references and endorses a range of existing sectoral polices which are incompatible with climate action, reversal of biodiversity loss, and the specific marine objectives and targets in the SDGs.

4.4 Monitoring

Section 10.2 of the SEA Environmental Report sets out the monitoring measures proposed to meet the requirements of Article 10 of the SEA Directive. The SEA report delineates the SEA objectives, monitoring requirements and remedial actions in a tabulated format. Table

10-4 details the proposed environmental monitoring programme, which will be the responsibility of the Department of Housing, Planning and Local Government.

In general, the objectives stated lack specific targets and timetables.

4.4.1. Population and human health

The only monitoring proposed relates to the delivery of Irish water infrastructure and the reporting of seafood quality incidents. The remedial action proposed in addressing polluting urban wastewater discharge is merely "*continuous review by Irish water of the remedial action list".* No target is set.

No objective monitoring and remedial actions are set for the following:

- Marine waste, including from the fishing industry;
- Tourism impacts as well as sport and recreational activities;
- Oil and gas exploration and extraction;
- Mineral exploration and extraction.

4.4.2. Biodiversity, flora and fauna

The measures proposed with regard to biodiversity, flora and fauna are entirely inadequate and will not support the achievement of GES under the MSFD or the designation of Marine Protected Areas as required by the SDGs.

The Habitats Directive requires European Sites to be maintained in favourable conservation status. Yet the SEA report only proposes intervention in Natura sites when a site's condition is found to be deteriorating. Even in these cases, all that is proposed is a "*tailored response… in consultation with stakeholders*".

No objective monitoring or remedial actions are set for the following:

- Monitoring and maintaining fish, marine bird, and marine mammal population health;
- Protecting the seabed from damaging activities, in particular bottom trawling.

4.4.3. Water

The remedial action proposed is that "*where water bodies are failing to meet at least good status this will be investigated with reference to the DHPLG water section, the EPA Catchment Unit, the relevant local authorities*" and "*a tailored response will be developed*". This is also applied to "*water bodies failing to meet good ecological status*." This is not a meaningful remedial action. All that is proposed is coordinating a response with no target.

The same applies to planning applications in major growth towns with insufficient wastewater capacity. For example, development is continuing to be permitted in the Dublin

area without wastewater capacity problems being resolved. The real issue is that development consents are not being refused.

4.4.4. Air quality

No air quality target is set for shipping pollution in ports and navigation channels. All that is proposed is a "tailored response".

4.4.5. Climatic factors

Climate action requires reducing existing emissions as much as developing new renewable energy. The issue of existing direct and indirect emissions from shipping is not addressed, and neither is the conflict between emissions reduction and the accommodation of offshore oil and gas explorations. Reference is made only to development consents for offshore renewal energy.

4.4.6. Cultural heritage

Protection of historic marine wrecks is not addressed.

4.4.7. Seascapes and landscapes

The European Landscape Convection requires an effective regime of landscape assessment and protection. Despite that, cumulative impact on seascapes is not part of current Irish planning policy in coastal areas. The mitigation measures in effect propose that a further lack of consideration of marine seascape impact needs to be revealed and demonstrated before unspecified "marine planning guidelines" are proposed in mitigation.

4.5 SEA conclusion

The SEA Objectives, monitoring measures and remedial actions are systemically deficient in scope, particularly in relation to biodiversity, water and the impacts of human activities. Where objectives are proposed, there is lack of quantifiable and timetabled targets that can be externally referenced. Hence, the monitoring actions proposed are inadequate and the remedial actions ineffective. Many of the remedial actions proposed are stated as "tailored responses" which is not an action that can be quantified assessed or measured. Accordingly, the obligation of Articles 5, 9 and 10 of the SEA Directive have not been met.

5. Appropriate Assessment

5.1. Benefits of spatial planning for biodiversity and Natura sites

Spatial planning should be used to regulate and strategically manage a land area, and to identify the mutual benefits that can be achieved for different sectors, and for the environment and to identify the tradeoffs needed.

The NIS references a European Commission document[23] on spatial planning for Natura 2000 sites, which clearly articulates the benefits for biodiversity from a well-conceived spatial plan:

> *"planning which considers the needs of nature from the early stages of the spatial planning process (i.e. from initiation of a spatial plan) is highly beneficial for different sectors and nature conservation, and at the same time it offers more cost-effective solutions to land-use developments. This way of working can also ensure win-win opportunities for potentially competing sectors, as well as nature, and has great potential for the practical delivery of water, air, flood control, health care and tourism policy (among others)."*

and:

> *"The preparation of spatial plans and projects for specific sectoral developments needs to be based on ecological principles and knowledge. These plans should therefore ideally be developed by interdisciplinary teams of experts;"*

This was similarly echoed by the Department of Culture, Heritage and the Gaeltacht (DCHG) in their submission on the baseline report, which outlined:

> *"The NMPF should include explicit ecological objectives and recognise the need for maintenance and restoration of biodiversity – this should be a strategic aim"*

and:

> *"Biodiversity and ecological considerations should be integrated in aims, objectives and policies in a positive, proactive and precautionary way."*

However, it would appear from the first chapter of the Draft NMPF that it was an interdepartmental team who drafted the plan, with a focus on effective governance and implementation, as opposed to an interdisciplinary team of experts who would be fully cognisant of the ecological principles which best practice would indicate should be the basis for the plan.

Further to that, the Draft NMPF document does not define any new overarching policies, nor does it provide an overarching spatial plan with broad objectives or targets on a national spatial scale. Many of the relevant sectoral plans will compete with each other, and will have cumulative impacts. This draft NMPF does not address the necessary tradeoffs between the different sectors that will be required to protect our Natura sites, the majority of which are failing to achieve the Habitats Directives targets.

[23] https://ec.europa.eu/environment/nature/knowledge/pdf/Natura_2000_and_spatial_planning_final_for_publication.pdf

5.2. Biodiversity Objectives

There are five biodiversity objectives outlined in the draft NMPF. We would note that all of the biodiversity policies would require ecological expertise to assess how particular projects or proposals are supporting, protecting and restoring biodiversity or ecosystem function. For example, Biodiversity 3 outlines that:

> "*Proposals that protect, maintain, restore and enhance coastal habitats where important in their own right and/or for ecosystem functioning and provision of ecosystem services will be supported. Proposals must take account of the space required for coastal habitats where important in their own right and/or for ecosystem functioning and provision of ecosystem services."*

An Taisce would query who within the planning system will provide the ecological expertise to assess this?

While Table 6.2 in the NIS in its assessment of the impact of these objectives concludes that:

> "*these policies seek to protect, maintain and enhance biodiversity which will have direct positive impacts on European sites ...and indirect positive impacts for supporting features such as breeding/nesting habitats, prey items, spawning grounds etc. Ecosystem services approach is noted.*"

However, we submit that without significant ecological expertise and input to assess any development against the overarching policy objectives for biodiversity these objectives are meaningless, and should be considered as providing only limited biodiversity benefits. In essence, the policies will provide unsubstantiated confidence that biodiversity concerns are being integrated into the marine planning system.

As the DCHG outlined in their consultation submission "*Biodiversity and ecological considerations should be integrated in aims, objectives and policies in a positive, proactive and precautionary way."* The five overarching biodiversity objectives listed in the draft NMPF could not be described as being proactive, or precautionary. They are reactionary, requiring that any development consent be supportive of the biodiversity objectives. What's more, the DCHG outlined that: "*The NMPF should set out a framework to ensure an environmental assessment of associated plans/ projects happens early*." What we are presented with is five overarching biodiversity objectives, which will be applied in a piecemeal fashion, if and when development proposals arise. What is needed is a far more strategic approach, to provide the necessary framework within which well informed decision-making can happen.

The NIS document itself highlights the paucity of data: "*Ireland has yet to conclude an assessment of bird data from offshore waters to determine if SPAs are required there."* It would be far more proactive to include policies requiring that development can only proceed with robust biodiversity information. If there is a lack of information, such as that for bird

data in offshore waters, then development in those areas should be precluded. In addition, information such as bird sensitivity mapping, as outlined in Section 3.7 above, should be utilised for any offshore renewable energy development. Ireland is clearly failing to fulfil its Habitats Directive objectives, as highlighted in the most recent Article 17 report, and to address that we need a new approach, with a more holistic, proactive and truly integrated view of Ireland's biodiversity.

5.3. Impact of sector specific policy areas

Further mitigation measures were recommended for the majority of the sectors in the NIS, namely: aquaculture; defence; transmission policy; petroleum; ORE; fisheries, marine aggregates, ports, harbours and shipping; sport and recreation; telecommunications; tourism; and waste water treatment and disposal. Despite this, only three sectors are singled out for specific mitigation measures in Chapter 7 (ORE, aquaculture and tourism, sport and recreation). It is unclear why this is the case, given the clear indication that there is a potential risk for nine other sectors. The language used in most of the sectoral assessments is: "*Notwithstanding these protection policies*, *further mitigation would be required to ensure significant adverse effects as a result of the* [specific sector] *Policies on the integrity of European site(s) can be avoided."*

An Taisce submits that potential impacts for specific sectors have been highlighted, but the sector specific mitigation measures are absent for the majority of the sectors identified as being a potential risk. As such the conclusion "*Having regard to the reasons outlined above and subject to the inclusion of the mitigation measures presented in Section 7 in the final NMPF, it could be concluded that the draft NMPF would not adversely affect the integrity of a European site (whether individually or in combination with other plans or projects)."* is invalidated by the lack of specific mitigation measures. The general mitigation measures are insufficient to mitigate for the risks outlined. Even the sector specific mitigation measures which are not targeted or specific enough to provide substantive mitigation for the 'significant adverse effects' of the particular sector. For example, for aquaculture the mitigation measure is:

> *"Site selection which considers avoidance of adverse effects on European sites should be undertaken to inform designation of areas for aquaculture. Cumulative impact assessment of multiple aquaculture licenses must be taken into account."*

Firstly, the avoidance of adverse effects on a European site should not simply be considered, it is a legal obligation. Secondly, cumulative impact is already a requirement under the Habitats Directive, under the in-combination assessment. This mitigation measure is essentially calling for the measures that are currently already implemented in the aquaculture licensing process, and as such it is proposing business as usual with no mitigation for the potential adverse impact identified in the NIS.

As such, we submit that without the inclusion of specific, clear and targeted sectoral mitigation measures in the final NMPF, the plan will not be in compliance with Article 6(3) the Habitats Directive, and could be subject to a legal challenge on those grounds.

5.4. Impact of in-combination plans

The NIS identifies potential in-combination effects between several sectoral policies and the NMPF, such as Foodwise 2025 and HOOW, but these do not appear to be addressed within the mitigation measures.

In regard to HOOW, the AA screening document outlines that: *"where HOOW provides the strategic national policy context for Ireland's maritime area, the NMPF will be the spatial articulation of that overarching policy vision."* We would highlight that HOOW was adopted without AA, SEA or integration with the MSFD, and is based on an exploitative rather than ecosystems-based vision. The document has a narrow focus on GDP and economic growth. It adopts the objective of creating a 'thriving maritime economy' and supports 'sustainable economic growth', which does not address ecological boundaries. HOOW is not compatible with achieving GES under the MSFD, or Goal 14 of the Sustainable Development Goals, and as such is no longer a valid or appropriate policy position.

In addition to HOOW itself lacking the necessary environmental assessment and focus, the assessment exercise in the NIS found further potential negative in-combination impacts with HOOW and the NMPF:

> *"This increased productivity and activity proposed in Harnessing our Ocean Wealth is likely to have implications for coastal areas e.g. impacts to coastal and marine European Sites as a result of a greater intensity of development and activity. The NMPF includes a number of marine policies which also see greater productivity in the maritime space and as such there is potential for in-combination effects."*

It would appear that one of the general mitigation measures proposed in Chapter 7 of the NIS aims to address these in-combination impacts between the NMPF and other sectoral policies, requiring that mitigation measures from sectoral AAs are implemented to protect the Natura network. It is our considered opinion that this will not mitigate the in-combination impacts of HOOW and NMPF, given that an AA was never carried out for HOOW, and as such no mitigation was put in place.

Further, an overarching spatial plan such as the NMPF must assess the synergistic impacts and take a holistic view of the whole landscape, not just adopt a sector specific focus, as would be the case in the individual sectoral policy documents. The synergistic impacts on Natura sites may be far greater than those identified for individual sectoral policy AAs, and as such the general mitigation measures proposed in Chapter 7 of the NIS will not mitigate the in-combination risk identified earlier in the NIS. As such, the in-combination risks outlined in the NIS cannot be considered to have been mitigated for, and if this is not

remedied in the final NMPF the plan will be in contravention of Article 6(3) of the Habitats Directive.

In summary, we submit that the NIS has highlighted several instances where adverse impacts on Natura sites are likely, and have failed to provide sufficient, or indeed in some cases any, mitigation measures. If the NMPF is finalised without including additional and sufficient mitigation measures, it will be in breach of the Habitats Directive and open to legal challenge.

Recommendations:

5. Provide substantive and effective mitigation measures to offset the risks that were outlined in the NIS for the sectoral and in-combination pressures.
6. Draft a policy position requiring use of the best data and tools, like bird sensitivity mapping, in order to avoid adverse impacts to Natura sites.
7. Preclude development in offshore areas lacking data, as identified in the NIS for off-shore bird data
8. Requirement for ecological expertise for the relevant authorities to critique the environmental assessments (NIS, EIA etc) submitted against the policy objectives.

6. Implementation Arrangements

Section 21 of the Draft NMPF correctly states that the success of the final plan "*will be dependent upon its effective implementation.*" The plan has a legislative basis under the 2018 amended Planning Act. It is correctly stated that: "*Learning from experience with the National Planning Framework, legislative support, backed up by wider political and institutional commitments, is central to ensuring that the NMPF will influence public policy across government.*" However regrettably, the lesson to learn from the National Planning Framework is to avoid planning for failure. The National Planning Framework is supporting unsustainable road investment projects, one-off housing sprawl, the expansion of fossil gas use, and beef and dairy intensification (which conflicts with climate action, ammonia air pollution reduction, and meeting water quality targets). The SEA and Appropriate Assessment process for the National Planning Framework was systemically flawed with results that are now obvious.

The NMPF risks going down a similar path. The Draft has not achieved key quantitative objectives, particularly with regard to climate action, reversal of biodiversity loss, water and air quality improvement, and sustainable travel. If an effective NMPF is to be achieved and implemented it must contain measurable timetabled and quantifiable sustainability targets and ensure that the plans and policies for all sectors are revised and updated accordingly, particularly those such as Harnessing Our Ocean Wealth, which are based on an exploitative and extractive view of the marine area.

There will be major sectoral issues to address including: ensuring that aquaculture and fishing is reconciled with the overarching MSFD Good Environmental Status obligation, accommodating marine renewable energy in a manner that does not conflict with habitat

and species protection, and addressing the incompatibility between climate action and continued hydrocarbon exploration in Irish territorial waters.

Surprisingly, the Draft NMPF does not address the integral role of the SEA and Appropriate Assessment process in informing both the content and implementation of the plan, in particular Article 10a of the SEA Directive on monitoring and intervention if unanticipated adverse impacts arise. The NPPD Stakeholder Advisory Group established for the consultation process for the formulation of the plan, should be maintained to have an ongoing role in its monitoring and implementation.

Appendix A
Submission to the Review of Irish Energy Security and Sustainability by Dublin City University energy researchers

Dublin City University
Faculty of Engineering and Computing
Glasnevin Campus
Dublin D09 V209

Contact email: barry.mcmullin@dcu.ie

13th January 2020

Mr. Richard Bruton TD,
Minister for Communications, Climate Action and Environment
29-31 Adelaide Road
Dublin D02 X285

Re: Forthcoming Review of Irish Energy Security and Sustainability

Dear Minister Bruton,

As researchers active in developing effective pathways for rapid energy system decarbonisation, aligned with the temperature and equity goals of the Paris Climate Agreement, we take this opportunity to write to you in connection with the major review into the security and sustainability of Ireland's energy (primarily electricity) supply which you announced in November 2019[1].

There is no doubt that Ireland faces significant challenges to both security and sustainability of energy supply in the decades immediately ahead. The critical dependence on natural gas for both electricity generation and heating in residential and large scale/industrial applications is already especially concerning, given the lack of significant domestic methane storage facilities, likely depletion of supply from the Corrib field within the next ten years, and new uncertainties associated with the exit of the UK from the European Union. In any case, natural gas is, of course, a fossil fuel and the current practice of unabated natural gas combustion is fundamentally unsustainable due to the direct ongoing (and accumulating) territorial release of CO_2 to atmosphere, and the upstream releases of both CO_2 and CH_4 arising in extraction, processing and transport.[2] Accordingly, we strongly welcome this important and timely review process.

The effectiveness of the review will, of course, depend critically on the terms of reference and methodology adopted. In that regard, we would like to advocate for incorporation of the following specific points:

1. We note, in the announcement of the review, the characterisation of natural gas as “the lowest CO_2 emitting fossil fuel”. We would emphasise that this is, at best, a highly simplified perspective. It is correct only at the point of combustion, and only for CO_2, and even then tacitly assumes the highest efficiency conversion plant (CCGT in the case of electricity generation); that is, it neglects the risk of migration toward lower efficiency (higher GHG intensity) plant (OCGT), and the significant role of upstream emissions of both CO_2 and CH_4. We suggest that it is essential that

[1] *Minister Bruton Initiates Major Review into Ireland’s Energy Supply.* Media Release, DCCAE, 15 Nov 2019. https://tinyurl.com/wt3molb
[2] McMullin et al, 2018. *Is Natural Gas “Essential for Ireland’s Future Energy Security”?* Independent academic review commissioned on behalf of Stop Climate Ireland. https://tinyurl.com/sjutvfm

the latter issues be properly and adequately addressed in the course of the review. This is particularly crucial for any assessment of the sustainability and security of unconventional ("fracked") natural gas (potential for significantly *increased* upstream CH_4 release) *or* the use of CCS with natural gas (having zero mitigation potential for upstream emissions, by definition).

2. We welcome the recognition that there are already identified technical alternatives to fossil fuels for firm electricity generating capacity. In particular, chemical electrofuels (H_2, NH_3) clearly offer technical routes toward very large scale (TWh+) energy storage which, in tandem with other measures (migration away from current liquid fossil fuels in transport and heat to the use of zero-carbon energy carriers, specifically electricity and hydrogen) *could* allow a significant majority of Irish energy needs (not just electricity) to be met from indigenous very low-GHG sources. This would consist primarily of wind, onshore and offshore, but also with some significant solar PV. This presents the possibility of a "triple-win" on energy security, sustainability and economic development, by allowing Ireland to achieve global leadership in the commercialisation and large-scale deployment of these technologies. Of course, this can plausibly happen only with strong political vision leading to decisive and sustained state intervention, at scale, to support it; but given the synergy with wider EU objectives, it is reasonable to expect that significant EU-level supports could also be effectively leveraged for this strategy.

3. We recommend that the key governing sustainability parameters of the review should be expressed, not in terms of a particular "renewable penetration" in one energy sector (such as electricity generation), but in terms of r*apid absolute GHG emissions reduction across the energy system as a whole*. This is critically important because it is absolute emissions (or more precisely, cumulative GHG forcing) that determines whether or not climate disruption will be effectively constrained within prudent and equitable limits. That is, the *sustainability*, in climate terms, of any given energy supply scenario, can *only* be properly determined by reference to absolute GHG emissions. While renewable energy penetration metrics do bear some relationship to absolute emissions, this relationship is a tenuous and potentially misleading one. This is both because penetration obscures the potential effects of underlying growth in energy consumption, and because the definitions of "renewable" in current use are a poor proxy for GHG profile (some "non-renewable" supply options *may* have relatively low GHG intensity, and, conversely, some "renewable" options may have relatively high GHG intensity).

4. **Current collective GHG emission reduction ambition is known to fall far short of the scale and urgency required to align with the Paris temperature goals.**[3] This remains the case *even* under the anticipated marginal increase of ambition at EU level to target so-called "nett zero" emissions by 2050. Independent assessments suggest that prudent, equitable, ambition, consistent with the Paris goals, will require the EU as a whole to reach nett zero *well before* 2050. In the case of the relatively wealthy EU member states with high per capita emissions – such as Ireland – nett zero would likely have to be achieved c. 2035; and even then would rely on achieving significantly nett *negative* emissions over an indefinitely extended period thereafter. Nett negative emissions currently have only very poorly characterised technical feasibility and cost[4]. *This ongoing disconnect between mitigation ambition and what is prudentially, equitably, physically, required is central to the unfolding climate crisis.*

[3] See for example, the Climate Interactive assessment: https://tinyurl.com/gw9xa6e
[4] McGeever et al 2019, *Assessing the terrestrial capacity for Negative Emission Technologies in Ireland.* https://tinyurl.com/tu8dsld

5. Accordingly, a meaningful review of future energy supply security and sustainability must not be limited to considering only *existing, inadequate,* emissions reduction targets. As a minimum, it should consider multiple mitigation scenarios, specifically including scenarios that are actually consistent with a fair, prudent and equitable national contribution to the scale of mitigation now required physically to limit global temperature increase within the Paris agreement goals[5].

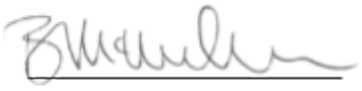
6. Conversely, in assessing *risks* to energy security, the review should be required to present and assess worst case scenarios for climate impacts (including cascading effects such as climate-induced conflict) with possible disruption of existing international supply chains, including potential for early, severe and prolonged disruption of supply of fossil fuels.

7. Given the cumulative nature of CO_2 climate effects, and the unavoidable time lags in replacing large scale energy supply infrastructure, *early* action to limit emissions *in advance of supply decarbonisation*, must now be considered as a key element of energy system sustainability. That is, while the review is focussed on security and sustainability of energy *supply* this cannot be assessed in isolation from consideration of energy *demand.* Again, as a minimum, the review should consider the implications of *multiple* energy demand scenarios, specifically including scenarios of significant near-term demand *constraint*.[6]

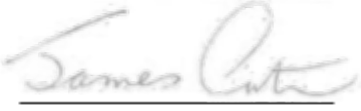
8. Given the pervasive importance of energy security and sustainability to wider societal functioning, resilience and well-being, we strongly urge that the review actively incorporate large scale and substantive public engagement, offering all citizens (but especially those from younger demographics), meaningful opportunities to be informed of the parameters and considerations underlying the review, *and to influence its outcomes*. Such engagement is likely to be an essential prerequisite for wide public acceptance of the need for decisive, prioritised, action.[7]

We would appreciate a response acknowledging these inputs to the review. We would welcome an opportunity to meet with you and relevant staff in your Department to elaborate any of the points made, and address any queries that may arise in advance of the review proper commencing; but more importantly, we would specifically request an opportunity to formally engage with the review team when it is appointed. Please advise as soon as possible if this can be facilitated.

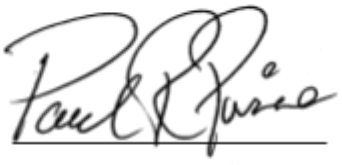
Yours sincerely,



Prof. Barry McMullin



Dr. James Carton



Paul Price

[5] McMullin et al, 2019. *Assessing Negative Carbon Dioxide Emissions from the Perspective of a National 'Fair Share' of the Remaining Global Carbon Budget.* https://tinyurl.com/y6tkw383

[6] McMullin, 2017. *TEQs: Empowering Citizens for Radical Climate Action.* A submission to the Citizens' Assembly. https://tinyurl.com/y5oaq8uz

[7] *A Citizens' Convention for a PostCarbon Ireland.* An open letter addressed to all parties and candidates in General Election 2016. https://tinyurl.com/suvw7rj