An Taisce
The National Trust for Ireland

An Taisce's Response to the Public Consultation on the Design and Implementation of a Renewable Heat Incentive (RHI) in Ireland

March 2017

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Glossary

AR5	The Fifth Assessment Report by the IPCC, published 2013 to 2014
ATCC	An Taisce Climate Change (Committee)
CCAC	Climate Change Advisory Committee, an expert advisory group set up by the Climate Action and Low Carbon Development Bill 2013
CO2	Carbon dioxide
CO2e	Carbon dioxide equivalent (includes all GHGs including methane and nitrous oxide)
DAFM	Department of Agriculture, Food and the Marine
DCCAE	Department of Communications, Climate Action and Environment
ETS	Emissions Trading Scheme
GHG	Greenhouse Gas
IAM	Integrated Assessment Model, combining climate and economic models
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change
NMP	National Mitigation Plan
Non-ETS	Non-traded national domestic emissions (transport, agriculture and buildings limited by the EU 2020 target of a 20% reduction relative to 1990).
NPP	Climate Action and Low-Carbon Development National Policy Position. This is the Government's current outline mitigation plan.
RHI	Renewable Heat Incentive
SEAI	Sustainable Energy Authority of Ireland
tCO2	tonnes of carbon dioxide
UNFCCC	United Nations Framework Convention on Climate Change
WFQA	Wood Fuel Quality Assurance scheme

1 Executive Summary

The Renewable Heat Incentive (RHI) subsidy aims to make savings against penalties likely to be incurred by Ireland for not meeting the EU 20% Renewables-by-2020 obligation. However, the Consultation Document fails to show that it will in fact save public money. An RHI would commit the State to long-term funding of a biofuel heat sector despite there likely only being a couple of years to make savings against compliance costs. There are financial, administrative, air pollution and climate reasons to avoid expansion of domestic biofuel production and combustion. This Document fails to make a substantive, quantified or costed case to address these problems. Due diligence in the Department of Finance, DPER and in public consultation requires a far more finalised proposal to be made available for comment once more costing and academic assessment is done.

An Taisce favour charging a carbon pollution fee on all carbon dioxide emissions, including those from burning biomass at the same rate as the current carbon tax on fossil fuels. This revenue raised can then be used to fund the retrofit measures in both the ETS and Non-ETS sectors that will reduce both heat demand and emissions. If they meet strict sustainability criteria, showing real emission reductions, biomass and biogas production could be funded on a feed-in tariff basis like other renewables such as solar where a subsidy makes sense.

There are multiple strong reasons for rejecting an RHI. In particular:

- The lack of quantified costs, estimated emission savings, or costed alternatives (such as a national retrofit scheme) in this consultation makes it impossible to judge the value of this scheme on any of its stated criteria. As Northern Ireland's Government has found to its cost, such schemes are all too likely to be economically, politically and environmentally ill-advised. State funding cannot be justified on the basis of such a vague proposal and administrative costs for a well-run RHI are likely to be high.
- There is no clear climate benefit in burning woody biomass over burning fossil fuels unless, and often even if, very strict forest management and sustainability criteria are followed by producers and enforced by government.
- Acting in line with the Paris Agreement demands zero emissions within fifty years yet burning wood pellets is very likely to increase real CO_2 emissions over this timescale. This deeply challenging reality invalidates the logic of having an RHI that subsidises near-term increases in CO_2 emissions. Better to tax all emissions and fund permanent, not-to-be-burned woodland to store carbon instead.
- Moreover, deeply flawed emission accounting is allowing the EU to claim bioenergy as having zero emissions even when imported from nations that are not properly accounting for land-use. This loophole is likely to be closed before the RHI subsidy expires, leaving the State to pay continued subsidies for predictably 'stranded' assets in a boosted, bioenergy combustion sector;
- The climate benefit of biogas can easily be cancelled out by the greenhouse gases emitted by fertiliser used in grass and food production and by fugitive emissions during transport and combustion;
- The very serious threat to biodiversity and water quality likely from an expansion of forestry in Ireland is left out of the baseline assessment criteria and is omitted from detailed examination;
- Encouraging large numbers of small biomass and biogas installations is likely to result in greatly increased air pollution from PM2.5 particles, NOx and organic pollutants, directly contradicting the advice of the Environmental Protection Agency and Ireland's commitment to a Clean Air policy.

The highly complex and technical consultation document also falls far short in assisting the general public to understand it. The Aarhus Convention puts the onus on government and public authorities to provide comprehensible information to enable public participation and access to justice. This industry-expert focused consultation falls far short in this respect.

An Taisce welcome the new commitment by DCCAE and Minister Naughten to a Clean Air Strategy and a National Dialogue on Climate Action. We are very concerned though that this RHI is likely to subsidise activities that directly undermine these efforts. We urge the Department, the Minister and the Government to reconsider this RHI subsidy.

2 The RHI Does Not Meet its Assessment Criteria

In section 4 of the Document, RHI baseline Assessment Criteria are listed. An Taisce's view is that the RHI as proposed fails to meet any of these criteria. Moreover, critical points are omitted such as the likely expansion of coniferous plantation forestry for native biomass and the likely negative impacts on biodiversity and water quality. Below we list the given criteria and our relevant brief judgment of the RHI proposal relative to each criterion. The Document text is in italics, our (AT) response is in plain text.

1. Incentivising an efficient level of investment to meet the target. *Does the design option have the potential to meet the RES-H target, and would it result in the overall least cost mix of investment to reach the target?*
An Taisce: As the Climate Change Advisory Council have said in their report a rising carbon tax on carbon pollution is the best way to incentivise investment to meet climate targets. Subsidising specific technologies ("choosing winners") is economically inefficient. Charging for all carbon dioxide emissions including full life-cycle biomass and biogas emissions would provide revenues to return to fuel that can show life-cycle savings compared to fossil fuel. Then government only needs to be involved in early-stage roll-out of low emissions technology as is required for solar PV take-up in Ireland.

2. Minimising costs to the Exchequer (and appropriately profiling overall costs) *Does the design option minimise costs, and find the right balance between lowest overall cost, and short term budget pressures?*
An Taisce: Certainly the range of options offered in this document does not minimise costs or even begin to describe them. No RHI ***should*** be considered for public consultation or for Government approval without a far more quantified assessment than this Document provides of costs, full IPCC accounting of life-cycle emissions including impacts and a detailed consideration of environmental impacts (including an Strategic Environmental Assessment) due to likely expanded plantation forestry.

3. Impact on CO2 Emissions *What impact would the design option have on CO2 emissions in the non-ETS?*
An Taisce: As we detail in the next section, given the urgency and short and closing time window for climate action aligned with meeting the Paris Agreement targets, biomass and biogas are likely to have no climate benefit at all for the crucial next decades of Paris-aligned climate action to reach zero emissions and may well increase Ireland's real emissions, especially if they are correctly accounted for, which is not happening currently under flawed EU rules.

4. Impact on particulate matter emissions from solid biomass combustion. *What impact would the design option have on particle emissions from biomass?*
An Taisce: The EPA have made it clear in their Bioenergy Plan scoping document (see extract in the Appendix) that any additional air pollution above current levels is unacceptable. Ireland is committed to decreasing PM2.5, NOx and other air pollutants. An RHI is likely to greatly increase the number of biomass combustion installations. Without strict air pollution standards, high quality technology and regular maintenance, all being monitored and enforced by costly and complex administration the RHI is a recipe for large amounts of additional air pollution that will result in fines and reputational damage for Ireland.

5. Allocating risks efficiently. Does the design option allocate risk efficiently such as between government and the heat sector?
An Taisce: The Document provides no basis whatsoever for confidence that any of the design options allocate risk efficiently or cost effectively for the Government. As the experience in Northern Ireland has shown, there is every danger that some operators in the heat sector could take advantage of the scheme. Despite the references to "deemed" output far more detailed and itemised risk allocation needs to be described than is available in this document.

6. Incentivising efficiency at the system specification, installation and operation stages. Does the design option promote efficient effective design, installation and use of systems?
An Taisce: As stated in the first criterion response, the RHI is an economically inefficient way of promoting efficient effective systems. A pollution fee on all carbon emissions, including those from bioenergy, and high standards for all new heat combustion and heat demand reduction could well be a more efficient way to advance efficiencies in the heat sector than an RHI, leveraging market response and paying any 2020 fine that does materialise (likely only a one-off penalty given the new EU 2030 rules).

7. Impact on the diversity of the renewable heating technology mix: *Would the design option lead to a diverse technology mix?*
An Taisce: No, the RHI is preferentially emphasising bioenergy technology. Charging a carbon pollution fee on all emissions including on bioenergy emissions would allow the market to find the most emission-reducing solutions – including demand reduction such as home retrofits and greatly increased efficiency standards for buildings and technologies (e.g. strict pollution standards on biofuel burners and boilers).

8. Complexity/clarity: Would the complexity of the design option deter investors?
An Taisce: The uncosted administrative complexity, lack of baseline standards between sector-uses, and the vagueness of the proposed scheme and its administration should above all deter Government and the public purse from funding it. Investors who may well stand to benefit from the RHI subsidy, its complexity and inadequately defined standards, are likely to be far less deterred.

More importantly, the consultation is extremely exceptionally unsatisfactory because it fails to inform the public clearly about RHI options. Its complexity, length and highly technical language will certainly deter public engagement and participation in this decision-making process. DCCAE previously commited to the "Energy Citizen" yet such thinking seems to be completely absent from this process.

9. Impact on the long-term sustainability of the market: What is the impact of the design option on the low carbon heating sector in Ireland beyond 2020?
An Taisce: The RHI is very likely to skew the heating sector toward climate action-inappropriate uses of biomass and biogas for combustion while failing to prioritise heat sector demand reduction. This is an unsustainable market that cannot be counted as a low-carbon solution, especially given the likely impact of imported biomass in the short-term and the mis-accounting for bioenergy emissions being practiced by the EU. Belatedly meeting the RES-H target and avoiding the penalty may seem most important now but raising carbon and pollution taxes (including on diesel) may well be more financially efficient, cost-effective and climate-beneficial than an RHI subsidy. We would recommend consulting the Climate Change Advisory Council for their advice.

We do not believe that the Renewable Heat Incentive scheme, as described in the Document, meets its stated 'baseline assessment criteria'.

Furthermore, the consultation does not identify serious environmental and sustainability issues including biodiversity impacts that are likely to arise from subsidising biomass burning and thereby encouraging afforestation for bioenergy rather than for long-term carbon storage. For more on the biodiversity impacts of increased plantation we refer readers to An Taisce's detailed Submission on the National Biodiversity Action Plan 2017-2021 available at:
http://www.antaisce.org/articles/an-taisces-submission-on-the-national-biodiversity-action-plan-2017-2021

From An Taisce's biodiversity submission we note the following for this consultation [emphasis added]:

> Section 2.1.12
> "None of the listed actors/key partners include an environmental body. DAFM, COFORD and the Forestry Service may be biased by the national targets for forestry expansion. In our experience the Forest Service, DAFM and Coillte are unwilling to accept concrete scientific evidence which shows

that forestry is responsible for the ongoing collapse of species such as the Hen harrier. How then can these bodies be left responsible for carrying out research on the impact of forestry?

Given the aggressive targets set for afforestation, the age class structure of the forest estate and the distribution of existing forestry in Ireland it is clear that the negative impact of forestry on biodiversity will only increase over the lifetime of the current NBAP. Research needs to be carried out on how to address the already established negative impact of commercial forestry in Ireland on upland and freshwater biodiversity. This should include a mapping system which ensures that afforestation of land containing high nature value farming does not take place."

3 Bio-Energy Use Likely Has Limited Climate Benefit

There is a danger that using biofuels for heating as proposed in the RHI scheme will result in releasing more greenhouse gas emissions than not carrying out the scheme in the first place. Peer-reviewed science and the research summary 'Woody Biomass for Power and Heat Impacts on the Global Climate', published by Chatham House, concludes that the use of woody biofuels can only be considered carbon neutral in certain limited circumstances. Contrary to this reality, EU policy incorrectly treats using biofuels as carbon neutral[1] and also ignores uncounted land-use emissions on imported wood pellets from North America[2]. It is highly likely that the loophole due to these accounting flaws – already identified by the Intergovernmental Panel on Climate Change[3] – will be closed in the near term thereby undermining the carbon neutral assumption in the RHI document.

The climate impact of using biomass for energy will also depend on lifecycle emissions arising from land-use change, fertiliser use, harvesting, collecting, processing and transport. Estimates for emissions from these sources are problematic but could be considerable especially where methane emissions from wood storage are taken into account. Chatham House's recent report states that "while some instances of biomass energy use may result in lower life-cycle emissions than fossil fuels, in most circumstances comparing technologies of similar ages, the use of woody biomass for energy will release higher levels of emissions than coal and considerably higher than gas", see also footnote references[4]. The report adds that policymakers should tighten up accounting rules to ensure the full extent of biomass emissions are included. The analysis outlines how policies intended to boost the use of biomass are in many cases "not fit for purpose" because they are inadvertently increasing emissions by often ignoring emissions from burning wood in power stations and failing to account for changes in forest carbon stocks.

As a general principle, all use of biomass should only replace fossil fuels and under no circumstances replace other renewable fuels. In some cases investment in biomass results in less investment in other renewable energy sources which may have a better emissions profile.

In An Taisce's view, biomass policy frameworks including those in the EU and Ireland are not sufficient and are not fit for purpose. It is difficult to see how sustainability criteria fully apply to wood chips imported

[1] Ter-Mikaelian et al. (2015) The Burning Question: Does Forest Bioenergy Reduce Carbon Emissions? A Review of Common Misconceptions about Forest Carbon Accounting
http://www.ingentaconnect.com/content/saf/jof/2015/00000113/00000001/art00009
[2] Searchinger et al. (2009) Fixing a Critical Climate Accounting Error
http://science.sciencemag.org/content/326/5952/527
[3] IPCC (2016) Scoping document, see Table 1 on recommended action to prevent emission miscounting.
www.ipcc-nggip.iges.or.jp/public/mtdocs/pdfiles/1608_Minsk_Scoping_Meeting_Report.pdf
[4] Mitchell et al. (2012) Carbon debt and carbon sequestration parity in forest bioenergy production
http://onlinelibrary.wiley.com/doi/10.1111/j.1757-1707.2012.01173.x/abstract

from the US for example where serious issues in worsening forest management have been found[5] [6]. It is arguable that sustainability criteria should be used 'to restrict support to mill residues that are produced by and from legal and sustainable sources (as defined in many timber procurement policies and forest certification schemes) and do not divert raw material away from wood products' (Chatham House, 2017). This would result in major changes to the current EU policies on biomass so as to ensure that these policies do not have a negative effect on efforts to reduce the impacts of climate change.

It would be wise to ensure that policies and subsidies in the area of biomass do not result in the diversion of materials from lower carbon footprint uses such as making fibreboard (in the case of mill residues) to heat production.

In summary, quoting Stephen Mitchell[7] (lead author of the reference in Footnote 4):

> "The take-home message of our study is that managing forests for maximal carbon storage can yield appreciable, and highly predictable, carbon mitigation benefits within the coming century," [but]
>
> "Harvesting forests for bioenergy production would require such a long time scale to yield net benefits that it is unlikely to be an effective avenue for climate-change mitigation."
>
> "Substituting woody bioenergy for fossil fuels (link is external) isn't an effective method for climate change mitigation," he said. Wood stores only about half the amount of carbon-created energy as an equivalent amount of fossil fuels, he explained, so you have to burn more of it to produce as much energy.
>
> "In most cases, it would take more than 100 years for the amount of energy substituted to equal the amount of carbon storage achieved if we just let the forests grow and not harvest them at all,"

4 Answers to the Document's Specific Questions

As stated above, An Taisce believes that the RHI should not proceed if it is based only on this preliminary document. If the RES-H target needs to be met then raising a carbon tax on all CO_2 emissions including all bioenergy emissions (inclusive of those from biomass burned in peat-burning electricity generation) would both encourage heat demand reduction and emission saving, and raise revenue to pay any remaining RES-H fine. This would be more economically efficient and financially prudent than the industry-consulted plan being proposed. Addressing fuel poverty and retrofitting poor-quality buildings would be essential to such a plan.

Despite these strong reservations, we supply answers to the consultation questions, and responses to some of the comments.

Question. Page 20
the preferred option of the DCCAE is that the focus of the RHI would remain on the non-ETS sector to ensure a double benefit *to the taxpayer, and ensure a larger number of participants can avail of support. On the other hand, it is important that there is sufficient heat demand to meet the renewable heat target and that the administration of the scheme is not overly complex.*

[5] BirdLife International (2014) Wood pellet industry cheats on sustainability, evidence shows. http://www.birdlife.org/europe-and-central-asia/news/wood-pellet-industry-cheats-sustainability-evidence-shows
[6] Dogwood Alliance (2016) Letter to the EU Commission Re. Changes in EU Bioenergy Sustainability https://www.nrdc.org/sites/default/files/media-uploads/letter_to_eu_commission_re_changes_in_eu_bioenergy_sustainability_regime.pdf
[7] See: Large-scale forest bio-energy creates carbon debt http://forestindustries.eu/content/large-scale-forest-bio-energy-creates-carbon-debt

What are respondents' views on the inclusion or exclusion of the ETS sector?

An Taisce's Answer: If an RHI was introduced then the critical requirement is the administration of strong sustainability criteria including life-cycle emission accounting, pollution control and energy efficiency. This is true for ETS and Non-ETS. Given the serious EU emission accounting error, described above, there is unlikely to be any real benefit to climate action.

Ireland's ratification of the Paris Agreement commits it to urgent and rapid emission reductions starting now to align policy with the "well below 2ºC" limit. In addition to this imperative for emission reductions, 'negative emissions' will likely be required within 20 years. If serious climate policy to cut emissions quickly is being achieved then coherent climate policy would need to enable Carbon Capture and Storage in large ETS installations to further enable BioEnergy with Carbon Capture and Storage (BECCS) at a later stage. However, in the absence of coherent climate policy, speculation on CCS and/or BECCS investments at some unknown future time cannot and must not be used as excuses for Ireland's continued high emissions, as currently projected by the EPA under current climate-incoherent economic policies.

Question Page 21-22
Do respondents agree that energy efficiency standards should be included as part of the RHI?

The preferred option of the DCCAE is that the Building Energy Rating (BER) scheme will apply to buildings in the commercial and public sector participating in the RHI.
For smaller industrial and agriculture heat users, and those with no significant process heating, a minimum efficiency criterion based on the individual energy performance scheme will likely be needed.
For industrial and agricultural heat users with significant process heat loads the EXEED programme may be used. Are there any other options to consider for this group?

An Taisce's Answer: It is essential that energy efficiency standards should be included in the scheme to ensure value for money and reduce waste. It would make sense to use the BER rating system for setting a minimum energy efficiency for buildings, probably insisting on an A or B BER just as the Tipperary Energy Agency are achieving on SEAI-subsidised retrofits.. The EXEED system could be used where the BER rating does not apply. There should be a minimum level of efficiency applied to the plant that will use the biomass as fuel. This should maximise the energy delivered per unit of carbon emitted.

Question Page 22
Do respondents agree with the requirement to ensure minimum technology standards for each technology should form part of the RHI?

An Taisce's Answer: Yes, if an RHI is approved there should be there should be minimum and ever improving technology standards including high BER requirements on buildings to reduce heat demand.

Statement Page 23
It is proposed that the RHI beneficiaries in Ireland will be required to show that heat is supplied to meet an economically justifiable heating requirement that would otherwise be met by an alternative form of heating such as a gas boiler. In addition, heat load should be an existing or new heating requirement, and not created artificially purely to claim the RHI.

An Taisce's Comment: RHI beneficiaries must be required to show that heat is supplied to meet an economically justifiable heating requirement that would otherwise be met by an alternative form of heating such as a gas boiler. This will require significant administration by beneficiaries and by government bureaucracy to monitor such usage. In practice this is likely to be very difficult to prove.

Question Page 22 *The preferred option of DCCAE is that the WFQA is a mandatory requirement for participation in the RHI scheme for the purpose of fuel quality assurance. What are the views of respondents to this proposal?*
An Taisce's Comment: Adopting the WFQA is a minimum requirement. Any RHI-supported use of wood for fuel would need to ensure very high standard on wood stoves and boilers to ensure complete combustion of gases for energy efficiency and minimal air pollution. As noted though, a subsidy for woody biomass use locks in combustion that causes CO2 emissions rather than limiting heat demand.

Question Page 26 *The DCCAE is minded to adopt minimum standards for PM and NOX emissions in line with the UK which is implemented through an Emissions Certificate and on-site emissions testing where necessary for biomass appliances.*
An Taisce Comment: Consideration should be given to adopting minimum standards for PM, NOx and other pollutants that are in line with the UK standards and preferably higher standards should be adopted. We think that routine emissions testing must be required for all appliances involved in the scheme.
Revised figures for the UK, for example, show that domestic wood burning is the largest single source of PM2.5 and that these emissions are 2.4 times the emissions of PM 2.5 from traffic. Domestic wood stoves emitted 33% of PM 2.5 emissions in 2013-14 which is considerably higher than the 17% that was estimated to arise from this source. This seems to be a good example of a poor policy[8].
As mentioned above Ireland is committed to reducing PMs, NOX and other air pollutants and under this scheme there will be more sources of these pollutants.

Question Page 32 *What are the views of respondents on this matter - 'RHI should not be limited to end-of-life replacement of the incumbent system'.*
An Taisce Comment: Careful consideration should be given to this proposal as some applicants may retire a system earlier than is prudent to get a grant. This may result in an increase in GHG emissions when the life cycle of the retired system is taken into account.

Appendices: Context Absent from the Document

Extracts from EPA letter Re: Bioenergy Plan SEA Scoping

5th November 2015 EPA Ref: SCP150801.1

"On-going research has indicated the significant public health impact associated with particulate matter, and in particular PM2.5, which is associated with both fossil fuel and biomass combustion activities. A number of references are provided below. Given the significant health impacts associated with particulates, the SEA should address particulate pollution in detail. As detailed in the EPA report 'Air Quality in Ireland 2013 – Key Indicators of Ambient Air Quality' a key future challenge for Ireland is in decreasing our PM10 and PM2.5 concentrations to below that of the WHO air quality guideline values.

The World Health Organisation has stated in relation to particulate matter that 'there is little evidence to suggest a threshold below which no adverse health effects would be anticipated', thus any measure that is adopted to decrease concentrations of PM in ambient air should result in positive health effects for the general population."

"Combustion of biomass will also result in emissions of other pollutants such as nitrogen oxides (NOX), sulphur dioxide (SO2), carbon monoxide, polycyclic aromatic hydrocarbons (PAH) and PM10 particulates.

[8] UK-DEFRA, Department for Environment Food & Rural Affairs. Statistics Release: Emissions of air pollutants in the UK, 1970 to 2014. Available at: https://www.gov.uk/government/statistics/emissions-of-air-pollutants

The EPA report 'Air Quality in Ireland 2013 – Key Indicators of Ambient Air Quality' stated that future PAH concentrations in Ireland will likely depend on the choices of fuel for home heating that is used by the public in Ireland in the coming years. The report notes that peat, wood and biomass are high in PAH, especially when burnt inefficiently. The overall impact of switching to biomass on the concentrations of these pollutants in the atmosphere should be considered as part of the SEA"

"**PM2.5 National Exposure Reduction Target**
To meet the PM2.5 NERT (National Exposure Reduction Target) Ireland must reduce PM2.5 emissions by 10% by 2020. This should be included as part of any consideration of the impacts of the plan. In particular the potential for emissions abatement techniques or technology to address increased particulate emissions due to biomass should be analysed. Policies encouraging the use of biomass should be tailored to ensure facilities and consumers are directed towards efficient combustion methods and biofuels with the lowest emissions."

"Potential Persistent Organic Pollutants (POPs)
Requirements for the reduction and/or elimination of unintentionally produced Persistent Organic Pollutants: The Stockholm Convention on Persistent Organic Pollutants entered into force for Ireland in 2010. Article 5 of the Convention requires Ireland to reduce or, where feasible, eliminate emissions of unintentionally produced persistent organic pollutants listed under Annex C of the Convention. Furthermore, Article 6 of Regulation (EC) No. 850/20045 requires the reduction with a view to elimination of releases of Stockholm Convention Annex C substances with the addition of polycyclic aromatic hydrocarbons. The use of fuels containing biomass for residential heating is likely to result in the production and emissions of these persistent organic pollutants and hence all relevant plans must take into account the State's obligations under the Stockholm Convention relating to the reduction, minimisation or elimination of releases of these substances.
The relevant Aspects of the above under Air Quality should be considered in preparing the Plan and in the scope of the SEA."

Relevant extract from An Taisce's Biodiversity Plan Submission

See:
http://www.antaisce.org/sites/antaisce.org/files/25012017_an_taisce_submission_re_public_consultation_on_the_draft_national_biodiversity_action_plan_2017_-_2021_-_jan_2017.pdf

2.1.12 Continue forest research programme on forest biodiversity, carbon accounting and the interaction of climate change and forest systems

"None of the listed actors/key partners include an environmental body. DAFM, COFORD and the Forestry Service may be biased by the national targets for forestry expansion. In our experience the Forest Service, DAFM and Coillte are unwilling to accept concrete scientific evidence which shows that forestry is responsible for the ongoing collapse of species such as the Hen harrier. How then can these bodies be left responsible for carrying out research on the impact of forestry?

Given the aggressive targets set for afforestation, the age class structure of the forest estate and the distribution of existing forestry in Ireland it is clear that the negative impact of forestry on biodiversity will only increase over the lifetime of the current NBAP. Research needs to be carried out on how to address the already established negative impact of commercial forestry in Ireland on upland and freshwater biodiversity. This should include a mapping system which ensures that afforestation of land containing high nature value farming does not take place.

Research should be carried out on the benefits of agroforestry, continuous cover forestry and species diversification. The research recommendations of the HYDROFOR and EPA Strive report 99 on the Management Strategies for the Protection of High Status Water Bodies should be implemented."

See as mentioned above the following relevant document:
The environmental integrity of Irish forestry in the context of the EU's effort sharing decision (2016)
http://www.antaisce.org/publications/the-environmental-integrity-of-irish-forestry-in-the-context-of-the-eu%E2%80%99s-effort-sharing

Relevant extract from An Taisce submission Re: Draft Environmental Requirements for Afforestation (2016)

http://www.antaisce.org/articles/an-taisce-submission-re-draft-environmental-requirements-for-afforestation-2016

"An Taisce know from experience that the forestry service are not regularly carrying out ecological assessments prior to approving afforestation and as a result inappropriate afforestation of sensitive habitats including areas of HNV farming is taking place. In effect there is no policy in place to implement the obligation to protect HNV sites (Kelly, 2016).

In recent times there has been a lot of research carried out in relation to the availability of land in Ireland for forestry expansion. This research has been ongoing at a time when mapping projects are also identifying the distribution of HNV farmland in Ireland. Based on the most recent produced maps it is clear that there is a direct overlap with land which is being earmarked for afforestation and HNV farmland (Teagasc Research, 2016). This is a clear indication of the threat posed by forestry to Irish biodiversity."

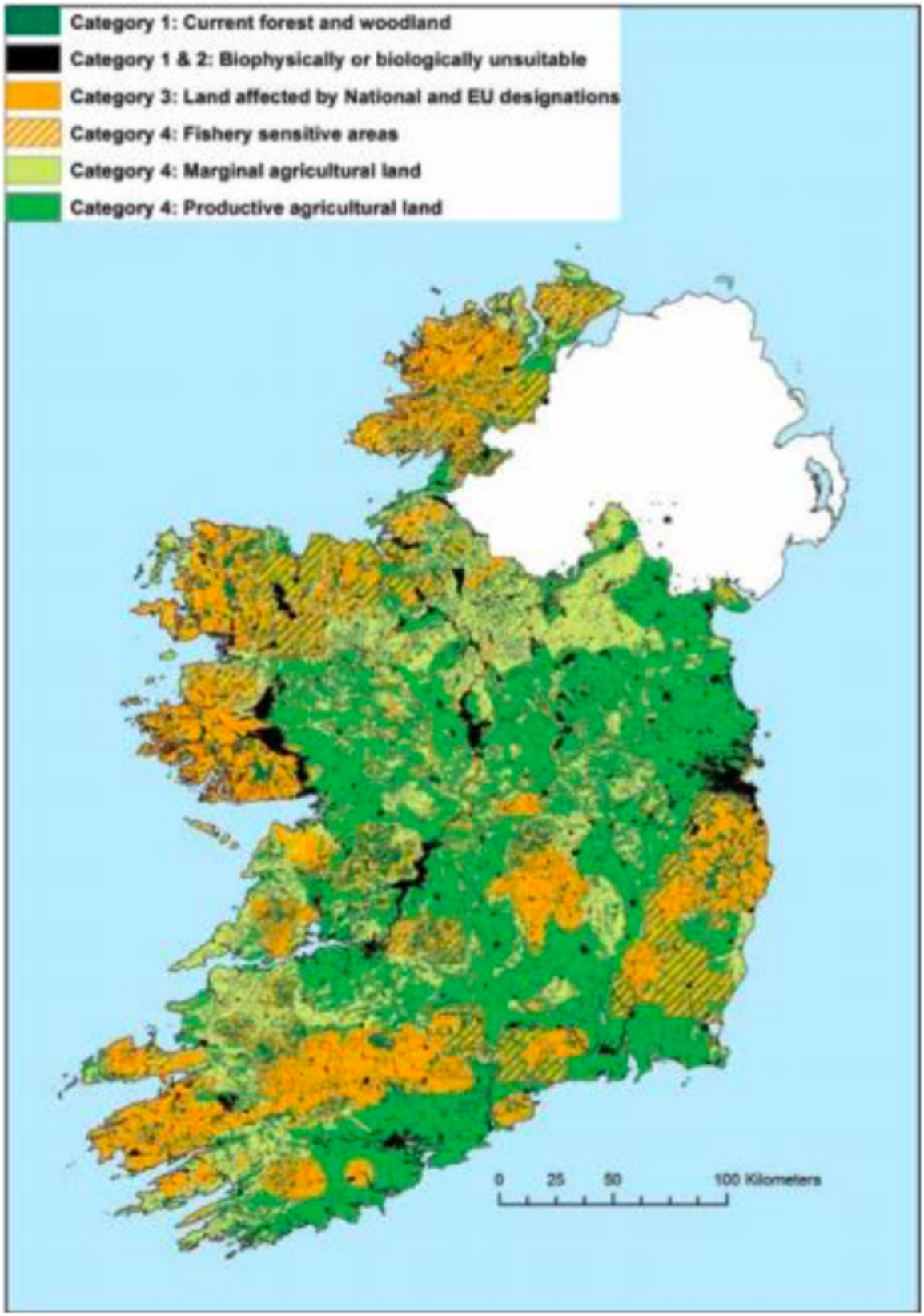


Figure 1. Classification of Ireland's land area in relation to availability for forestry expansion and the area of productive and marginal agricultural land with most potential for forestry expansion (Teagasc, 2016)."

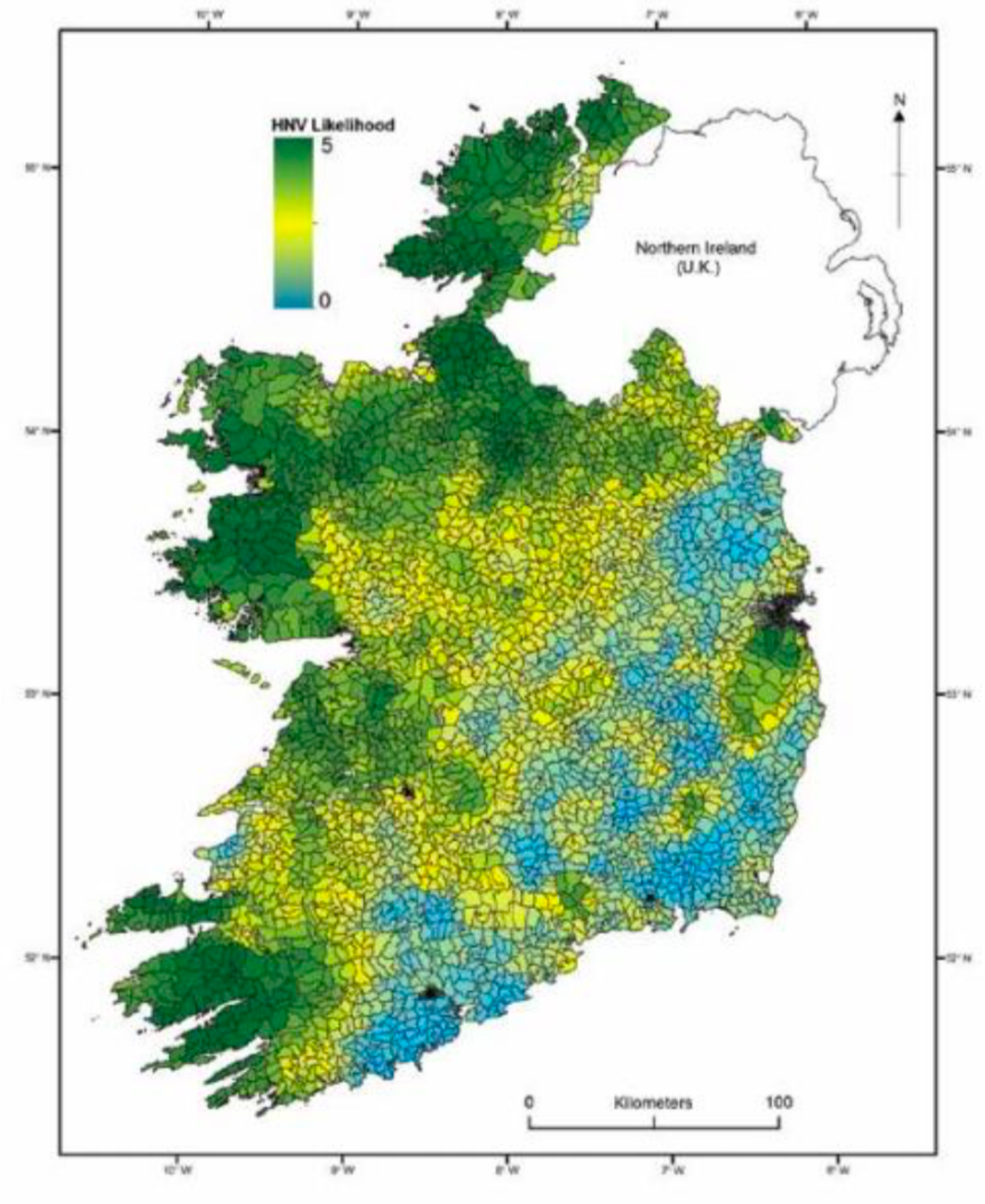


Figure 2. Likely occurrence and distribution of HNV farmland in each Electoral Division, based on a scale ranging from low (blue) to intermediate (yellow) to high (green). Note that non-HNV farmland may still occur in areas with high likelihood of HNV farmland, and vice versa (Teagasc, 2016)

Carbon Sequestration and Joined Up Thinking: Peatlands

An Taisce urges coordinated work among all government departments with a stake in Ireland's peatlands for the greater good of GHG mitigation. At present, four departments (Dept of Environment, Dept of Arts & Heritage, Dept of Agriculture and the Dept of Finance) increasingly recognise peatlands as a valuable store of carbon but another department (Energy) is seeking approval to put a scheme in place to give out consumers' money to extract and burn the same resource as a source of fuel.

Peatlands are one of the world's most important ecosystems. Covering a mere 3% of the world's terrestrial surface, global peatlands contain 550 Gigatonnes (Gt) of carbon making them **the most important long term carbon sink in the terrestrial biosphere**. This ability of peatlands to store carbon means they have a net cooling effect on the global climate. It has been estimated that in the last 10,000 years since the last Ice Age the atmospheric carbon sequestered in peats has served to reduce global temperatures by about 1.5 – 2°C.

In terms of encouraging the fostering of terrestrial carbon sequestration, Ireland is uniquely placed. The Republic of Ireland is third only to Finland and Canada in proportional area of peatland cover. According to the EPA's Bogland report (2011) peat soils cover 20.6% of Ireland's national land area and contain more than 75% of the national soil organic carbon. Ireland's peatlands are estimated to store 1085 MtC, equivalent to 53% of all soil carbon in Ireland. **Near-intact peatlands may actively sequester c. 57,400 tC/year** over the whole country.

Neither our past nor our current management of peatlands in Ireland has been sustainable. Disturbances in the form of industrial and domestic peat extraction, private afforestation, overgrazing, wind farms and recreational activities have had and are having major negative impacts on the hydrology and ecology of these habitats. **There are no more intact raised bog landscapes in Ireland.** The current area of active raised bog stands at a mere 2,000 ha, less than 6% of the protected raised bog area. It is estimated that between 2% and 4% (40–80 ha) of this active area is being lost every year, mainly as a result of turf cutting. Even if turf cutting were to cease, peat oxidation would continue due to drainage unless measures are employed to stop and reverse the deterioration. Damaged peatlands become a persistent source of carbon dioxide (CO_2) and, at the national level, Irish peatlands have become a large net source of carbon emissions, estimated currently at around 2.64 MtC/year.

Carbon dynamics should be a key driver of Agri Policy. The rewetting and restoration of peatlands has the capacity to secure existing carbon stocks and reinitiate the carbon sequestration capacity of degraded peatlands. International climate change talks have agreed that carbon savings from rewetting drained peatlands, and other forms of peatland restoration, may be used to meet emissions reduction targets, alongside those from other land use activities such as new forest planting.

Peatland restoration projects have been recognised by the Kyoto Protocol and should be incorporated into National Mitigation Policy. Active and remedial management options, such as avoiding drainage (conserving) and re-wetting may be effective ways to maintain the carbon storage of peatlands and to recreate conditions whereby the peatland may actively sequester carbon in the future.