The Preservation of the Biodiversity and Ecosystems of Peatlands
Bord na Móna

Dr. Catherine Farrell, Head of Ecology for Bord na Móna

- Good afternoon. My name is Dr. Catherine Farrell, I am Head of Ecology for Bord na Móna working on the conservation and restoration/rehabilitation of peatlands since 1996. I'm joined by my colleague Stuart Conaty, Land and Property Manager, Bord na Móna. We would like to thank the committee for inviting us here today to contribute to your consideration of this important topic, *The Preservation of the Biodiversity and Ecosystems of Peatlands*.
- Peatlands are specialised ecosystems, that comprise a range of habitats and species, leading them to being complex and unique areas of high biodiversity. Peatlands are broadly classified into raised and blanket bogs (rain fed/nutrient poor systems), fens (nutrient fed) and transitional types as well as degraded/highly modified peatlands such as afforested, agricultural, cutover and industrial cutaway sites.
- Peatlands are wetlands, and when presented in a relatively natural/unmodified state provide a range of ecosystem goods and services, including biodiversity, water/flood regulation and act as carbon sinks and stores.
- In the late 1960s, Bord na Móna recognised the value of bogs as habitats for indigenous plant and animal species. This gradual appreciation of the importance of bogs from an ecological perspective was ahead of the curve compared to other countries. Pollardstown Fen in Kildare was the first site chosen for conservation and was purchased by the company purely for its biodiversity value. A further series of bogs followed in the 1980s and 1990s, including Clara Bog, All Saint's Bog, Mongan Bog and Bellacorick Flush. A number of additional sites, for example Killaun Bog near Birr in Co. Offaly and Abbeyleix Bog in Co. Laois, remain in Bord na Móna's ownership but are managed for biodiversity by the local communities.
- Now with the focus of the company clearly set on decarbonisation, and the short timeframe for continued peat production, the company looks forward to working and collaborating for the significant benefits of peatland conservation, restoration and rehabilitation locally, nationally and internationally.
- With that in mind, those remaining near intact bog areas within the company's holdings - ~4,000 hectares of *degraded raised bog capable of regeneration* – are further earmarked for conservation and the necessary restoration works to reverse the impacts of drainage. These bogs will play an important role in the National Peatland Strategy and the conservation of *active raised bogs* in particular, under the EU Habitats Directive. Iconic species such as Curlew and Red Grouse are using these bogs, and their future management will be critical to sustaining these remnant breeding populations.
- Since 2009 Bord na Móna has applied machines full-time to the restoration of this nationally and internationally recognised habitat. To date, 2,000 hectares of raised bogs that were acquired for peat production (during the 1970s-oil crises), but not utilised for that purpose, have been restored (drains blocked according to NPWS protocol). A further 2,000 hectares are in the process of restoration (targeted drain blocking across the high bog).
- These bogs are earmarked by the NPWS for designation to replace other SAC/NHA sites that have been degraded since the time of designation by ongoing turf cutting in the margins. This includes well known sites such as Abbeyleix Bog, Ballydangan Bog and the Clonboley/Killeglan Group in County Roscommon. These bogs represent not only significant additions to the preservation of our national peatlands, but are also significant amenity and educational resources to local communities.
- With regard to the remaining Bord na Móna lands, I will further discuss the nature of these areas against the backdrop of the wider national peatland resource.

- Over the past centuries peatlands have been drained extensively in Ireland and globally. In Ireland, the traditional use has been for the production of domestic turf, with large scale afforestation and drainage for agriculture in the 1900s. According to the latest research on mapping peatlands from Dr John Connolly of DCU, peatlands account for approximately 20% of total Irish land cover, and 66% of those are converted to other land use including: agriculture 27%, forestry 35% and industrial peat (active peat fields) production 4%. A further 20% of the national peatland cover is considered degraded/drained, leaving few remaining unmodified examples of the original peatlands.
- Bord na Móna is the custodian of ~80,000 hectares of peatland in Ireland. Most of the peatland area is located in Midlands counties with one worked out site in Mayo (Oweninny Bogs) and smaller units in Donegal and Kerry.
- The company was established in the 1930s with the remit to use our natural resources to provide energy security for the new State and to support employment.
- Since the 1960s, technological advances have led to industrial scale milling of the Bord na Móna bogs and peat is harvested annually for energy (peat-fired electricity and domestic briquette production), horticulture (compost and growing media) with small amounts for animal bedding.
- In 2018, the company CEO Tom Donnellan announced that peat for energy will be significantly scaled down as part of the company's decarbonisation strategy and limited continued production for horticulture. The company is growing strong renewable energy and resource recovery businesses, and developing other commercial options as part of its ongoing remit to provide employment in the midlands.
- Of the total ~80, 000 hectares of Bord na Móna peatland (based on 2018 data) approximately ~50% is related to peat production (e.g. access, stock piles), of which half is peat production fields; ~15% comprises undeveloped margins (bog remnants, birch scrub etc.); ~5% is under forest cover (Coillte plantation mainly); and ~30% falls into the cutaway (bogs depleted of commercially viable peat resource) bog category.
- When Bord na Móna was established, originally the view was held at government and management level that once the commercial peat was extracted, the midlands and western cutaway bogs could be converted to productive growing land. Despite huge efforts that continue today, the cutaway bogs are largely inhospitable areas for crop establishment and growth (forestry/grassland/tillage/food).
- Some biomass trials continue on parcels of land where the subsoils and drainage have been managed to establish willow and other biomass species. This is in support of replacing peat with biomass in the peat-fired stations as part of the company's decarbonisation agenda which was covered in detail at a recent session of the *Joint Oireachtas Committee on Climate Action.*
- Since the 1990s, larger areas of bog have been emerging as cutaway and the company has been working to rehabilitate these cutaway bogs to develop replacement wet peatland systems (wetlands and wet woodland systems) that can provide a range of ecosystem goods and services, other than the traditional use for peat and/or land for agriculture/forestry.
- The best example of extensive rehabilitation is the Lough Boora Discovery Park in County Offaly. Since the rehabilitation work began in the 1990s, (work is still ongoing at the margins of this extensive bog complex which stretches over 3,000 hectares) this former bare production landscape is now home to a documented 1,000+ peatland species. The mosaic of wetland and woodland habitats found established on the remnant peat presents a range of ecosystem goods and services, most notably space for walking and enjoyment of the outdoor for all levels of human ability. It should be noted that these replacement peatland habitats are not akin to the former raised bog ecosystems that pre-dated peat production. They do however comprise poor fen, rich fen, wet grassland, reedswamp, open water and wet Birch woodland – all habitats that were present prior to the formation, and led to the

formation of the great bogs. Where we can restore recognised raised bogs systems, we will continue to do so, as highlighted already.

- The Rehabilitation of the Oweninny Bogs in County Mayo has involved the rewetting of up to 6,500 hectares of industrial cutaway blanket bog, leading to large scale re-establishment of peat forming communities that have been shown to be reverting to diverse peatland ecosystems with associated ecosystem goods and services (water filtration and flood attenuation) as well as switching already from carbon sources to healthy carbon sinks.
- Once peat production is stopped in an area, or in the lead up to that time, the Bord na Móna rehabilitation approach involves establishing a detailed baseline ecology and drainage map of the cutaway bog, followed by targeted internal field drain blocking and management of external outfalls. The methods have been developed over 30 years of rehabilitation activities, working with local community groups, ENGOs (including IPCC, IWT, BWI) and statutory bodies (NPWS, EPA, Local Authorities) to achieve a balanced outcome.
- To date, ~15,000 hectares of cutaway bog has been rehabilitated using this approach with 5,000 hectares in active rehabilitation (the Littleton Bog Group).
- Bord na Móna has highlighted that peat production will cease over a large part of its lands by the mid-2020s as peat burning is phased out in the peat fired stations in Edenderry, Shannonbridge and Lanesboro. In the interim, rehabilitation measures will continue to be carried out with the focus on rewetting and rehabilitation of the cutaway areas in line with National policy (such as the National Biodiversity Action plan, Climate Change, Water Framework Directive, etc.) and rehabilitation guidelines set down by the EPA.
- This will result in an extensive network of replacement peatland habitats, wetland and woodland systems, that will provide an expansive landscape for species and habitats that have been otherwise marginalised by agriculture, forestry and peat production. The new landscape will also provide a range of other ecosystem goods and services such as water filtration/attenuation and reduction of carbon emissions from the formerly drained peat production lands.
- Results from the work to date illustrate that national and internationally significant numbers of wintering birds are using the rehabilitated sites annually, and the breeding bird populations particularly of wetland species within the sites and in surrounding areas is also enhanced.
- Future rehabilitation work will extend across the full area of the Bord na Móna bogs, further enhancing peatland biodiversity and ecosystem goods and services as part of the transition away from peat.
- Bord na Móna has funded research in partnership with the EPA since the early 2000s to establish the potential carbon gains in this rewetting/rehabilitation work. The results clearly show that rewetting drained bogs results in reduction of carbon emissions for all areas, with the restored raised bogs and the Oweninny Bogs clearly reverting to carbon sinks.
- The results of the carbon studies clearly support the Bord na Móna approach of rewetting as part of the core activity of rehabilitation and restoration (where possible). Where we can rewet drained peatlands, we do. Where we can't – for example at the risk of backing up drainage in adjoining roads/lands, we are limited in our approach and alternative measures must be taken.
- In 2010 Bord na Móna launched the first Biodiversity Action Plan for a corporate body in Ireland. This plan sets out the framework of governance, reporting, practical rehabilitation and communications around the company's rehabilitation measures. In 2016, a follow up plan was launched and this is the main vehicle for communicating the results of our ecological baseline studies and rehabilitation work. The results and learnings can be shared in terms of targeted rehabilitation and/or restoration of peatlands outside of the Bord na Móna footprint to maximise the value in terms of resources to achieve/attain the full range

of ecosystem goods and services that peatland habitats, those near intact and those highly modified, can deliver nationally.

- In Sept 2018 Bord na Móna began the process of developing *natural capital accounts* for our bog areas. This work involves using the United Nations SEEA (System of Environmental and Economic Accounting) approach, and this will enable the company to demonstrate the transition from active peat production to rehabilitated and recovering peatland ecosystem services in terms of the benefits to water, climate, health and wellbeing and not least biodiversity.
- Use of such an approach will enable the company in the selection of the best sites for renewable energy/commercial developments taking all other aspects including biodiversity into account. It will also enable a common language across departments and agencies when deliberating on the value of sites for different purposes.
- We thank you for your time, and we extend a warm invite to the members of the committee to view and explore the outcomes of our bog restoration work, as well as the fruits of the rehabilitation work at the Lough Boora Discovery Park, to see first-hand what we are endeavouring to portray in a 10-minute presentation.

Stuart Conaty, Land and Property Manager

- To begin with, I would like to outline at a very high level how our approach to land use has changed over the past decade or so:
    - In 2008, the company announced that no new bog areas, that is no previously un-drained bog areas, would be developed for industrial peat production.
    - In 2015, Bord na Móna set out its sustainability strategy to transition from traditional operations and to cease peat production for electricity generation. The company stated that future strategy was to balance commercial development of the new cutaway landscape with its biodiversity, amenity and social values.
    - In 2018 we announced that we would accelerate the decarbonisation of our business. This involves Bord na Móna now moving away from what are declining traditional operations and into new low carbon businesses that will allow us to support jobs and economic development for a long time into the future.
- I want to highlight for the committee that at each of these important junctures in the area of commercial strategy, the company has also advanced new departures in the area of promoting biodiversity:
    - In 2008, the company's new contract with nature called out for the first time the company's principle based commitments to ecology and biodiversity. This paved the way for as Catherine has mentioned, the company's first Biodiversity Action Plan.
    - By the middle part of this decade we had expanded significantly our ecological resources and achievements.
    - Today we are looking to double the total area of cutaway rehabilitation in the coming decade.
- It is not an accident that this increased focus on ecology and biodiversity should occur in tandem with significant changes to our commercial focus. For Bord na Móna, and for most companies in our position, we recognise that were we to ignore the ecological impacts of our activities we would simply not be in business. The regulatory, legal, licencing and planning obligations on a company such as ourselves are such that it would be impossible to consider operating in such a manner.
- In any event, we believe that in most cases there is an inherent compatibility between our newer commercial activities and our objectives around ecology. In many cases for instance the physical footprint of these new developments is nowhere near what the former traditional operations would have been. In the case of a windfarm for instance, its footprint is less than 5% of the land, leaving the vast majority of the site as a rehabilitated cutaway

bog, bringing with it all the attendant improvements in biodiversity and other ecological goods and services.

- These improvements confer considerable benefits on the adjoining communities who directly gain from them.
- I would like to also extend an invitation to the committee to come to see our windfarm in Mountlucas, in East Co Offaly, which demonstrates how important wins in the area of biodiversity and ecology can be achieved in harmony with our new commercial operations on that site.

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