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12 Jun 2026

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An Coimisiún Pleanála

64 Marlborough Street

Dublin 1

D01 V902

Objection Submission to An Coimisiún Pleanála

Re: Planning permission for the construction of Tirawley Windfarm consisting of 16 no. wind turbines, a permanent 110kV substation, an energy storage system in the form of a battery array located within container units, 110kV underground cable and grid connection, and ancillary development in the townlands of Ballymurphy, Ballynaleck, Barnhill Lower & Upper, Barroe, Billoos, Carn, Carrickanass, Carrowmore, Castlelacken Demesne, and other townlands in County Mayo.

Case Number: PAX16.324258

Dear Sir/Madam

I am writing to formally oppose the proposed Tirawley Windfarm development consisting of 16 wind turbines, an energy storage system in the form of a battery array located within container units, a permanent 110kV substation, underground grid connection, and ancillary infrastructure in the townlands of Carrickanass, Ballymurphy, Ballynaleck and surrounding areas in County Mayo.

I make this submission as the owner and operator of an active beef farming enterprise at Carrickanass, Carrowmore Lacken, Co. Mayo, located approximately 5 metres across the road from the proposed Battery Energy Storage System (BESS) component of this development. My main grazing platform is directly across the road and the farmyard is approximately 500m downhill to the east of the BESS proposed location. This enterprise represents my primary livelihood and that of my family.

I acknowledge the national policy imperative for renewable energy development and do not make this submission in opposition to wind energy in principle. However, I have serious and specific concerns regarding the proposed BESS component of this development, which I submit has not been adequately assessed in terms of its impact on my adjacent agricultural enterprise, and which poses a direct, quantifiable threat to my livelihood at its proposed location.

The primary purpose of this submission is to request that the Commission impose conditions requiring the relocation of the BESS to a more appropriate position away from productive agricultural land, livestock, water sources, and residential dwellings or, in the alternative, to impose stringent conditions that eliminate the risk of contamination to my farm.

My Agricultural Enterprise

My farm operates as a **suckler-to-beef enterprise** and has been in continuous agricultural production for **four** generations. The following details are relevant to this submission:

- **Land area:** 45 acres of productive grassland, which are directly adjacent to and downslope of the proposed BESS location. Including the farmyard where cattle are housed for the winter and feed is stored.
- **Water sources:** My livestock drink from drinking troughs in the fields directly adjacent to the proposed BESS. The water is sourced from a well on the farm approximately 700m from the BESS proposed location.
- **Quality assurance:** I am a member of the Bord Bia Quality Assurance Scheme.
- **Calving season:** months February to April and August to September.

Grounds of Objection to the BESS Location

Grounds 1: Contaminated Fire-Water Run-Off to My Grazing Land

In the event of a thermal runaway fire at the proposed BESS, fire-suppression water will become contaminated with heavy metals (cobalt, nickel, manganese, lithium), electrolyte chemicals, and potentially PFAS (per- and polyfluoroalkyl substances) from battery components and fire-suppression foams.

Research following the Moss Landing BESS fire (California, January 2025) the largest grid-scale battery fire to date confirmed that heavy metal nanoparticles (specifically nickel, manganese, and cobalt) were deposited in soil and marshland within a two-mile radius of the facility. Researchers from San Jose State University's Moss Landing Marine Laboratories

identified "high concentrations of heavy-metal nanoparticles" in surrounding soil samples, transported via airborne particles and fire-water run-off.

My grazing land lies adjacent (approximately 5m across the road) to and downslope of the proposed BESS location. The natural topography of the site means that any uncontained firewater will flow directly towards my land in Carrickanass. If this contaminated water reaches my grazing land, the grass consumed daily by my cattle will be contaminated with heavy metals and toxic chemicals.

I submit that the applicant has not demonstrated:

- Total fire-water containment capacity (bunding) sufficient to retain 110% of maximum fire-suppression water volume.
- Zero discharge capability to any surface water or adjacent agricultural land
- A contaminated water removal and disposal protocol.
- Any assessment of the impact of fire-water run-off on adjacent agricultural enterprises

In the absence of such demonstration, the BESS must be relocated to a position where topography and engineered containment prevent any possibility of run-off reaching my productive farmland.

Ground 2: Airborne Toxic Deposition on My Grassland and Livestock

During a thermal runaway event, BESS fires release hydrogen fluoride (HF), hydrogen cyanide (HCN), carbon monoxide, volatile organic compounds, and fine particulate matter carrying heavy metal nanoparticles. This is outlined in further detail below.

During thermal runaway in lithium-ion Battery Energy Storage Systems (BESS), the decomposition of fluorine-containing electrolyte salts (e.g. LiPF_6) and the combustion of internal plastics produce acutely toxic gases, principally hydrogen fluoride (HF) and hydrogen cyanide (HCN) (Bugryniec et al., 2024). Experimental thermal-abuse testing across multiple cell chemistries (NCA, LTO, LFP) has demonstrated that HF concentrations routinely exceed the NIOSH (National Institute for Occupational Safety and Health) Immediately Dangerous to Life or Health (IDLH) threshold of 30 ppm, reaching 50–200 ppm in realistic fire scenarios (Ubaldi and Russo, 2024). Critically, HF is extremely water-soluble and does not simply remain airborne. When the gas plume contacts moisture-laden surfaces such as dew covered or wet grass, it is rapidly scavenged into the liquid phase, forming hydrofluoric acid (Agency for Toxic Substances and Disease Registry [ATSDR], 2003). This wet deposition mechanism means that surrounding vegetation and soil can become localised reservoirs of a highly corrosive acid capable of causing severe deep-tissue chemical burns and systemic fluoride poisoning on skin contact (ATSDR, 2003).

Plume-dispersion modelling tools (e.g. PHAST, SCICHEM) routinely account for this phenomenon, confirming that while wet deposition clears HF from the air more quickly, it simultaneously concentrates the hazard at ground level (Electric Power Research Institute

[EPRI], 2023). Concurrently, BESS fires act as extreme particulate emission events where fine particles (PM_{2.5}) released from nickel, manganese and cobalt (NMC) and other cathode chemistries are dominated by heavy metals including lithium, nickel, cobalt, manganese, and copper at concentrations that can exceed OSHA occupational exposure limits by orders of magnitude (Claassen et al., 2024). Toxicological assays on lung-cell models exposed to these metallic particulates have shown evidence of DNA damage, reduced DNA repair capacity, oxidative stress, and acute inflammatory responses, with manganese and cobalt rich chemistries inducing the strongest effects (Claassen et al., 2024).

Taken together, these findings confirm that BESS thermal runaway events present a multi-hazard toxic exposure combining corrosive gas inhalation, ground level acid deposition on wet surfaces, and heavy metal laden respirable particles, posing serious risks to first responders, nearby communities, livestock, and the surrounding environment. These particles settle on soil and vegetation downwind of the fire.

My grazing land lies to the east/northeast of the proposed BESS. The prevailing wind direction at this exposed Atlantic coastal site is westerly/south-westerly. This means that toxic airborne deposits from a BESS fire would be carried directly onto my fields, contaminating grass that my livestock consume and my home.

Hydrogen fluoride released during thermal runaway settles as hydrofluoric acid on wet grass. This is a substance that causes severe internal burns to any animal that consumes it. Heavy metal particulates (cobalt, nickel, manganese) deposited on grassland can bioaccumulate in livestock tissues, potentially entering the human food chain.

I submit that the applicant must be required to provide atmospheric dispersion modelling for a worst case thermal runaway scenario, demonstrating the deposition zone for toxic particulates and gases. The BESS must be sited such that no productive agricultural land falls within the modelled contamination zone under prevailing wind conditions. I have included the below references in relation to thermal runaway and BESS fires.

1. Agency for Toxic Substances and Disease Registry (ATSDR) (2003) Toxicological profile for fluorides, hydrogen fluoride, and fluorine. Atlanta, GA: U.S. Department of Health and Human Services. Available at: search "ATSDR toxicological profile hydrogen fluoride 2003".
2. Bugryniec, P.J., Resendiz, E.G., Nwophoke, S.M., Khanna, S., James, C. and Brown, S.F. (2024) 'Review of gas emissions from lithium-ion battery thermal runaway failure — considering toxic and flammable compounds', *Journal of Energy Storage*, 87, 111288. doi:10.1016/j.est.2024.111288.
3. Claassen, M., Bingham, J.P., Galea, K.S. and Fernández-Cañero, R. (2024) 'Characterization of lithium-ion battery fire emissions—Part 1: Chemical composition of fine particles (PM_{2.5})', *Batteries*, 10(9), 301. doi:10.3390/batteries10090301.
4. Electric Power Research Institute (EPRI) (2023) Battery energy storage system (BESS) hazard analysis and consequence modelling. Palo Alto, CA: EPRI. Available at: search "EPRI BESS hazard consequence modelling HF dispersion 2023".

Ground 3: Contamination of My Livestock Water Supply

My livestock drink from drinking troughs in the fields directly adjacent to the proposed BESS. The water is sourced from a well on the farm approximately 700m from the BESS proposed location. This well also provides water to the family home.

In the event of a BESS fire or electrolyte leak, contaminated run-off could enter this water source, rendering it unsafe for livestock consumption. Heavy metals, fluorinated compounds, and PFAS in contaminated water are toxic to livestock and humans and would trigger immediate regulatory intervention.

I further note that this proposed site for the BESS drains into a stream (approx. 100m from the BESS & approx. 50m from AT01 turbine proposed location in Carrickanass) that is connected to the Killala Bay/Moy Estuary system, which includes the Killala Bay/Moy Estuary SPA (Site Code: 004036) and Lacken Saltmarsh and Kilcummin Head SAC (Site Code: 000516), located approximately 1.2km from the site. The contamination risk, therefore, extends beyond my farm to designated European Sites protected under the Habitats Directive.

I request at an absolute minimum that the BESS be relocated away from any watercourse used for livestock watering/dwellings or with hydrological connectivity to European Sites, and that the applicant be required to demonstrate zero hydrological connectivity between the BESS and my farm's water sources.

Ground 4: Regulatory Consequences DAFM Restrictions and Loss of Income

Under Regulation (EC) No. 178/2002 (General Food Law) and the FSAI Act 1998, I am legally obligated to ensure that my livestock are not exposed to contaminated water or feed. If a BESS fire contaminates my grazing land, stored feed stock or water supply, the consequences for my enterprise would be immediate and severe:

- The Department of Agriculture, Food and the Marine (DAFM) have the power to impose immediate movement restrictions on my herd, prohibiting the sale or movement of any animal from my holding.
- The Food Safety Authority of Ireland (FSAI) may prohibit the sale of meat from my farm pending laboratory testing of soil, water, and animal tissue samples.
- My Bord Bia Quality Assurance certification would be suspended pending investigation.
- I would face total loss of income for an undetermined period. Potentially months or years, given the persistence of heavy metals and PFAS in soil.
- I would incur ongoing costs of feeding a restricted herd with no revenue.
- Land remediation costs for which no liability framework currently exists between BESS operators and adjacent landowners could be substantial.
- The mass excavation of soil and removal of hedgerows presents serious risks to our farm as the disruption of wildlife such as badgers and deer from their habitat is common factor in TB outbreaks. The displaced animals spread out into the surrounding areas and cause TB to be passed on to cattle. This can have a huge financial impact on farmers as they will have to cull any cattle affected by TB.

These are not speculative risks. They are the documented regulatory consequences of a chemical contamination event on agricultural land in Ireland. The applicant has provided no assessment of these impacts on adjacent farming enterprises, and no mechanism for compensation or remediation in the event of a BESS fire affecting my land.

Ground 5: PFAS - Permanent, Irreversible Contamination.

Some lithium-ion battery components contain fluorinated polymers that release PFAS ("forever chemicals") when burned. Some fire-suppression foams (AFFF) historically used on battery fires also contain PFAS. These are persistent, bioaccumulative substances that do not degrade in soil or water.

The EU is currently advancing a near-total restriction on PFAS (ECHA restriction proposal), reflecting the severity of this contamination risk. Ireland's EPA has identified PFAS as an emerging contaminant of concern.

If my grazing land is contaminated with PFAS from a BESS fire, it will remain contaminated permanently, with no known remediation technology capable of restoring it to safe agricultural use. This represents a permanent, irreversible threat to my farm's productive capacity effectively rendering my land worthless for agricultural purposes.

I request that the Commission impose a condition requiring PFAS-free fire suppression systems for the BESS, and that the applicant demonstrate the absence of PFAS containing materials in the battery chemistry and associated infrastructure.

Ground 6: The HSA Regulatory Gap

The record of the pre-application consultation meeting (20th January 2026) confirms that the Health and Safety Authority (HSA) was consulted and advised that the BESS *"does not fall within their remit."*

The HSA is the national competent authority for the control of major accident hazards under the Seveso III Directive (2012/18/EU). If the BESS does not fall within the HSA's remit, then no national authority with specialist expertise in major industrial hazards is providing independent safety oversight of this installation.

The Commission advised the applicant to *"liaise with Fire Officer in Mayo County Council."* I submit that a local authority fire officer however competent in general fire safety matters, does not possess the specialist expertise required to assess the unique risks of grid-scale lithium-ion battery thermal runaway, toxic gas dispersion, and environmental contamination. This is not a criticism of the Fire Officer; it is a reflection of the fact that BESS technology presents novel hazards that fall outside the training and experience of local fire services.

I request that the Commission to impose a condition requiring an independent fire safety review of the BESS by a competent authority with specific expertise in battery energy storage systems, and that this review be completed and approved prior to consideration of any BESS planning application.

Ground 7: Location Outside the "Open to Consideration" Designation

I submit that the proposed BESS is located outside the area designated as "Open to Consideration" for wind energy development in the Mayo County Development Plan 2022–2028 (incorporating the Renewable Energy Strategy for County Mayo 2011–2022). It is also important to note that the proposed site location is incorrectly marked on Figure 4.2 - Proposed Site Overlain on Map 8 of the Mayo RES, refer to attached Appendix 1.

The wind energy designation map was prepared in 2011 to identify suitable areas for wind energy generation. A grid-scale BESS which is an industrial battery storage facility with distinct fire safety, noise, and environmental risk characteristics was not contemplated by the 2011 Renewable Energy Strategy and cannot be considered as "ancillary" infrastructure that automatically inherits the designation status of the wind turbines.

I note that the Commission's own pre-application meeting record confirms that *"robust planning policy justification is required for the wind turbines proposed outside of the designated area for wind energy."* This requirement applies with equal or greater force to the BESS, which is a distinct industrial installation with a fundamentally different risk profile. At an absolute minimum I request that the BESS be relocated to a position within the "Open to Consideration" designated area, or at an alternative location that satisfies the separation distance and environmental protection requirements set out in this submission.

Ground 8: Continuous Operational Noise Impact on Livestock

Unlike wind turbines, which generate noise intermittently depending on wind conditions, the BESS cooling systems and inverters produce continuous, low-frequency noise on a 24/7 basis regardless of weather conditions.

Research indicates that chronic noise exposure particularly sudden or unfamiliar noise can affect livestock behaviour, feeding patterns, and stress levels. My cattle graze approximately 5 metres across the road from the proposed BESS location throughout the year, including during the sensitive calving period.

I submit that:

- The BESS requires a separate and distinct noise assessment from the wind turbines, as its operational profile is fundamentally different.
- The applicant should be required to demonstrate compliance with appropriate noise limits at my farm boundary specifically attributable to the BESS.
- A noise limit of 35 dB(A) at the nearest livestock receptor should be imposed as a condition.

Ground 9: Inadequate Community and Agricultural Consultation

The Commission's meeting record notes that only one formal public consultation was held and recommended *"an additional consultation event in respect of the now proposed development description"* (referencing REP 4, Chapter 11 of the Mayo CDP).

I submit that:

- The BESS was not part of the original pre-application consultations (ABP-315864-23 or ABP-320703-24).
- It was first introduced in the application that was returned as incomplete (ACP-323778-25) in November 2025 partly because the BESS had not been consulted upon.

- At no point has the applicant engaged with me regarding the specific risks the BESS poses to my agricultural enterprise.
- No Agricultural Impact Assessment has been prepared or consulted upon.

Grounds 10: Potential fire and explosion risk in the BESS and substation.

The Project Fire Safety Assessment and Advice Report for a proposed Battery Energy Storage System (BESS) facility in Tirawley, Co. Mayo is well presented but it is fundamentally flawed. The first page of the report refers to a client which is not mentioned in any other submission documentation, Regnum Renewables Developments Limited.

Page iii of the report specifically states that all information and references to legislation must be re-written before any construction work takes place. An Bord Pleanála (ABP) should review this report very carefully.

The developer specifies the scope of this assessment is associated to the proposed BESS facility only and will specifically address the fire and explosion hazards which have been identified at design stage. There is little mention about the substation and the operation building. More details on fire hazards associated with the substation and operations building should be included in the planning because of the operation there is a high potential for fire at this location which could then spread to the BESS and nearby forestry.

The following is extracted from page 6 of the report “The purpose of this assessment is to support the planning application for the project which involves the construction of the aforementioned BESS facility, a windfarm, a sub-station and (at a future date) expansion to include solar photovoltaic (PV) panels at an existing greenfield site.” An Bord Pleanála please review this statement. Is it a planning issue if one document mentions a Solar Farm and the other omits the fact. Is this not Project Splitting ABP please review.

Refer to Page 6, how can any assessment take place when the developer’s consultant specifically states the following, “At the time of writing, the Irish Government has not prepared any definitive guidance on minimum requirements with regard to the design, installation/construction and operation of energy storage facilities/systems. In fact, public consultation was carried out by the Irish Government on developing an electricity storage policy framework for Ireland which closed in January 2023. The outcome of this framework at the time of writing remains unclear. Furthermore, as this is an ever changing and advancing industry, the content of this report may, in all likelihood, be outdated by the time of construction.

The design and construction of BESS facilities such as the proposed facility in Tirawley, Co. Mayo does not adhere to or conform to the typical examples which are outlined in Technical Guidance Document B: lack of regulation how can planning be granted. Page 10.

“It is unclear if the scope of the Fire Services Act 1981 and 2003 extends to facilities such as the proposed BESS facility. It will be a matter for the approving authority/local Fire and Rescue Service to advise accordingly if BESS facilities fall within the scope of the Fire Services Act and, therefore, are expected to comply with the relevant sections of the act”. How can planning be approved when the developer has stated the above.

The report starts off saying in the facility will be manned 24/7 and then it states, “While the BESS facility will be, for the most part, unmanned”.

Refer to page 18, Suppression systems are effective at extinguishing fires; however, the phenomenon of cascading thermal runaway requires more preventative measures than just a suppression system. This technology is located in a rural community with no current fire safety applicable standards.

The report systematically goes through a variety of serious incidents that have happened with this unlegislated for technology.

The following is extracted from page 27 of the report Under the 2026 ACOP from the HSA. For example, Cobalt is a suspected Carcinogen. There is no mention of a Chemical Risk assessment for the use of such substances and must be included in the Design Risk Assessment for the design of such a facility.

Lithium cobalt oxide (LiCoO₂ or LCO);

Lithium iron phosphate (LiFePO₄ or LFP);

Lithium-ion manganese oxide (LiMn₂O₄, Li₂MnO₃ or LMO);

Lithium nickel manganese cobalt oxide (LiNiMnCoO₂ or NMC).

There is no HAZOP study included to examine the process that will take place on this site to identify any issues which may arise during operations and how they may be addressed/prevented from occurring.

On Page 36 of the report the writer confirms correctly that “Where BESS sites are located rurally and sited within close proximity to or bordering forestry, there is a credible risk that a fire in the facility (irrespective of whether the fire originates in a BESS unit or transformer) could spread beyond the site to the forestry/vegetation, resulting in a forest fire. This risk would be extremely high were prolonged periods of dry or hot weather to occur, presenting ideal conditions for fire spread.” This fire risk must be inspected by ABP to determine potential harm to our community.

On Page 39 of the report, they say “consideration of the explosion hazard, all BESS enclosures should be designed and fitted with explosion vents capable of venting a deflagration event, “but there is no reference standard and specific design criteria. Planning should not be granted for a facility with such a risk of fire and explosion that is not even governed by any standards. The close proximity to multiple homes and farms exacerbates the already high risks significantly.

Ref page 43 Vehicle Access. There should be sufficient vehicle access to the site and to the building. The following are minimum requirements as set out in Table 5.2 of TGD-B:

- a. Minimum width of road between kerbs – 3.7m
- b. Minimum gateway width – 3.1m
- c. Minimum carrying capacity of roadway – 12.5 tonnes

This we believe conflicts with the drawing which has been revised.

Grounds 11: Wastewater discharged and surface water run off could contaminate our well which supplies water to the house and the farm.

There are inadequate details demonstrated by the applicant in relation to containment, storage, treatment and discharge of wastewater and surface water from the proposed BESS, substation and operation buildings.

- There is no indication of the quantity of water that will be discharged from the site once it is operational and the specifications to which the water must adhere to and how it will be monitored.
- There is inadequate information regarding the containment of the battery contents in the event of a leak.
- There is not sufficient information for the wastewater discharge location and where it will drain to once it leaves the site.
- There is insufficient information regarding chemicals that may potentially be used to treat wastewater and inhibitor chemicals that are commonly used in cooling systems. In the event that these chemicals are released how will they be contained and disposed of. There is no evidence of a wastewater treatment facility on the current layout drawings for the BESS substation and operation buildings site.
- Sprinkler/firewater systems are typically flushed out on a regular basis to ensure system is operating correctly. This water has potential to contain bacteria such as legionella as it will have been stagnant for a period of time within the pipework. There is not adequate evidence to show how this water will be tested/treated or where it will be discharged too.

The SID Application for states that a waste emissions license is not required from the Environmental Protection Agency (EPA). Refer to page 12 part 15 of the application form. Given the lack of information regarding the points highlighted above I would suggest that An Coimisiún Pleanála refers this to the EPA for further assessment. Typically, an emissions license would be required to define the quantity of wastewater allowed to be discharged and also the requirements to which the wastewater must meet in order to be discharged ie. pH, temperature, conductivity, nitrates and phosphates etc.

Complaint:

When the news broke initially in regard to this development, I attended a public meeting set up by concerned parishioners in order to gain more information on the proposed development. This was due to a complete lack of consultation by the applicant with people who will be affected by the proposed development. Following this meeting I received an intimidating message from a neighbour who has a relationship with the applicant. I have retained the message as evidence and can provide it upon request. I do not name the individual concerned, as my purpose is not to make allegations against a neighbour but to record the fact that pressure has been applied and to affirm that it has not deterred me from exercising my legal rights.

I regard this communication as an attempt to intimidate me and to interfere with my statutory right to make a submission to An Coimisiún Pleanála under the Planning and Development

Act 2000 (as amended). Every person, regardless of their professional or representative roles, has an unqualified right to make observations on a planning application. The exercise of that right cannot be made conditional on resigning from a voluntary or representative position which I hold in a farm organisation.

I wish to make the following points clear:

My submission does not oppose wind energy or renewable energy in principle. It raises specific, evidence-based concerns about the location of the BESS component and its potential to contaminate my agricultural enterprise. These are legitimate planning considerations that I am entitled to and indeed obligated as a responsible farmer and food producer to raise.

The suggestion that I should resign from a representative role for exercising my statutory planning rights is, in my view, an attempt to suppress legitimate public participation in the planning process. I bring this to the Commission's attention not to seek any remedy from the Board, but to place on record the atmosphere in which this submission is being made, and to note that the applicant's community engagement strategy appears to have created a climate in which adjacent landowners feel pressured not to raise legitimate concerns.

These issues, coupled with shortcomings in the Environmental Impact Assessment Report, justify a refusal of permission for this project.

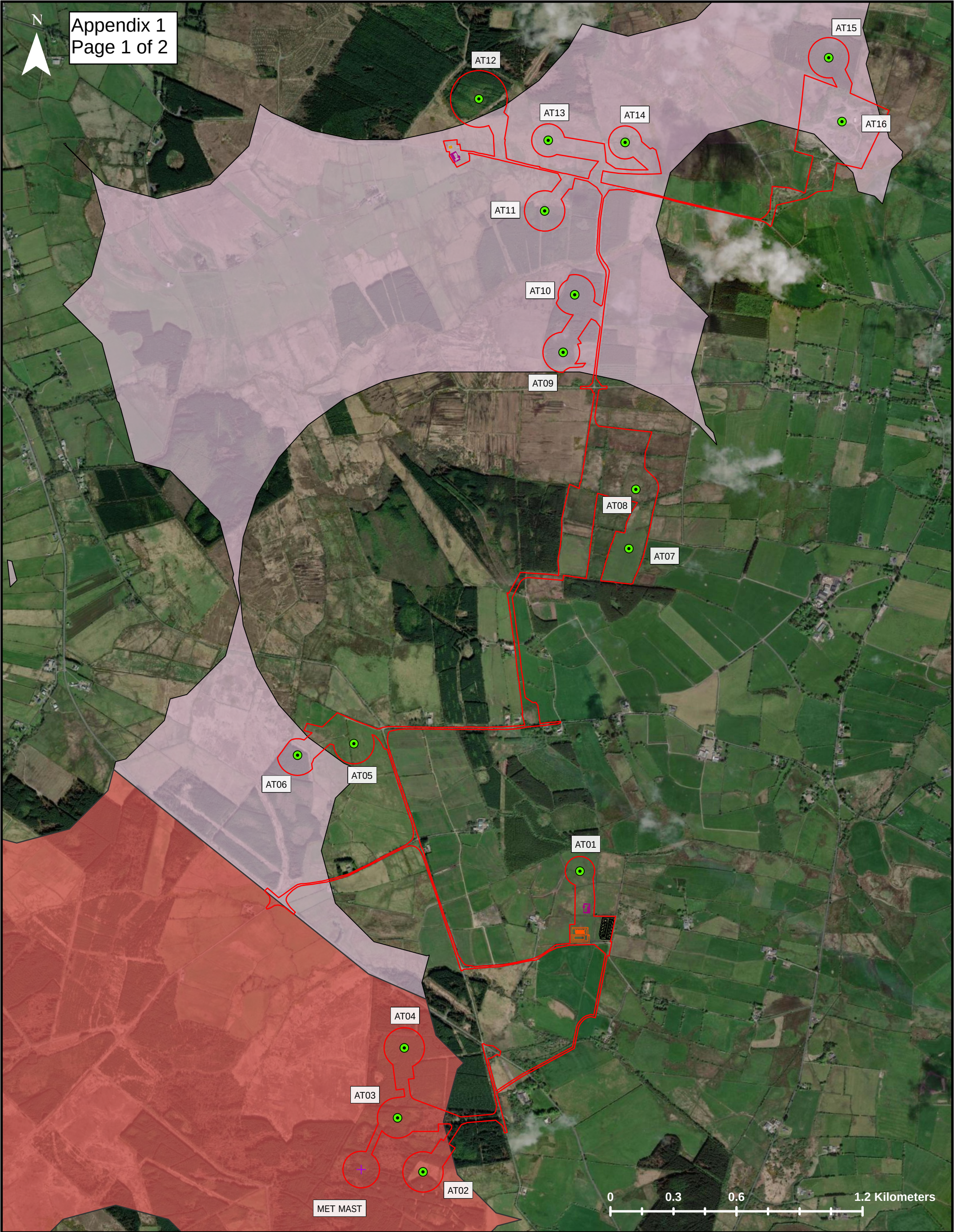
Based on all the above I believe that it is incumbent on the board to refuse this application based on the concerns as outlined.

Yours sincerely

Brendan Golden

References:

- 2006-Wind-Energy-Development-1.pdf (pp. 22, 25, 60, 97-98)
- draft-revised-wind-energy-development-guidelines-december-2019 (pp. 2, 33, 60, 144-156)
- ABP-315864-23 - 1st Meeting Record (pp. 4, 7, 9)
- ACP Direction Report (pp. 1, 5, 10)
- Pre Planning Inspectors Report (pp. 13, 18, 24)
- Appendix 1.6 - Public Consultation Responses (multiple pages)
- Appendix 2.1. CEMP – Emergency Response Plan (p.20)
- Agency for Toxic Substances and Disease Registry (ATSDR) (2003) Toxicological profile for fluorides, hydrogen fluoride, and fluorine. Atlanta, GA: U.S. Department of Health and Human Services. Available at: search "ATSDR toxicological profile hydrogen fluoride 2003".
- Bugryniec, P.J., Resendiz, E.G., Nwophoke, S.M., Khanna, S., James, C. and Brown, S.F. (2024) 'Review of gas emissions from lithium-ion battery thermal runaway failure — considering toxic and flammable compounds', *Journal of Energy Storage*, 87, 111288. doi:10.1016/j.est.2024.111288.
- Mayo County Development Plan 2022–2028 (incorporating the Renewable Energy Strategy for County Mayo 2011–2022).
- Claassen, M., Bingham, J.P., Galea, K.S. and Fernández-Cañero, R. (2024) 'Characterization of lithium-ion battery fire emissions—Part 1: Chemical composition of fine particles (PM_{2.5})', *Batteries*, 10(9), 301. doi:10.3390/batteries10090301.
- Electric Power Research Institute (EPRI) (2023) Battery energy storage system (BESS) hazard analysis and consequence modelling. Palo Alto, CA: EPRI. Available at: search "EPRI BESS hazard consequence modelling HF dispersion 2023".



LEGEND Windfarm Site Boundary Turbine Location Points BESS Proposed 110kV Substation Met Mast Location Point Proposed Operations Building Temporary Site Compounds Mayo Wind Designations Tier 1 Preferred Large Windfarms Tier 2 Open for Consideration Priority Areas Tier 1 Preferred Clusters of Turbines	Client Representative JENNINGS O'DONOVAN an RSK company © copyright of JENNINGS O'DONOVAN AND PARTNERS LIMITED FINISKLIN SUGO IRELAND @JOD_Sligo Jennings O'Donovan & Partners Jennings O'Donovan Tailte Éireann CYAL50512615 © Tailte Éireann – Surveying.	Client CONSTANT ENERGY LIMITED. Project TIRAWLEY WIND FARM, CO. MAYO Title MAYO COUNTY COUNCIL - POLICY LANDSCAPE	Drg. By DT Checked By MG Approved MG Scale 1:16,000 (A3) Stage Planning Date 22/04/2026	Job No. 6289 Figure 4.1 Rev 1
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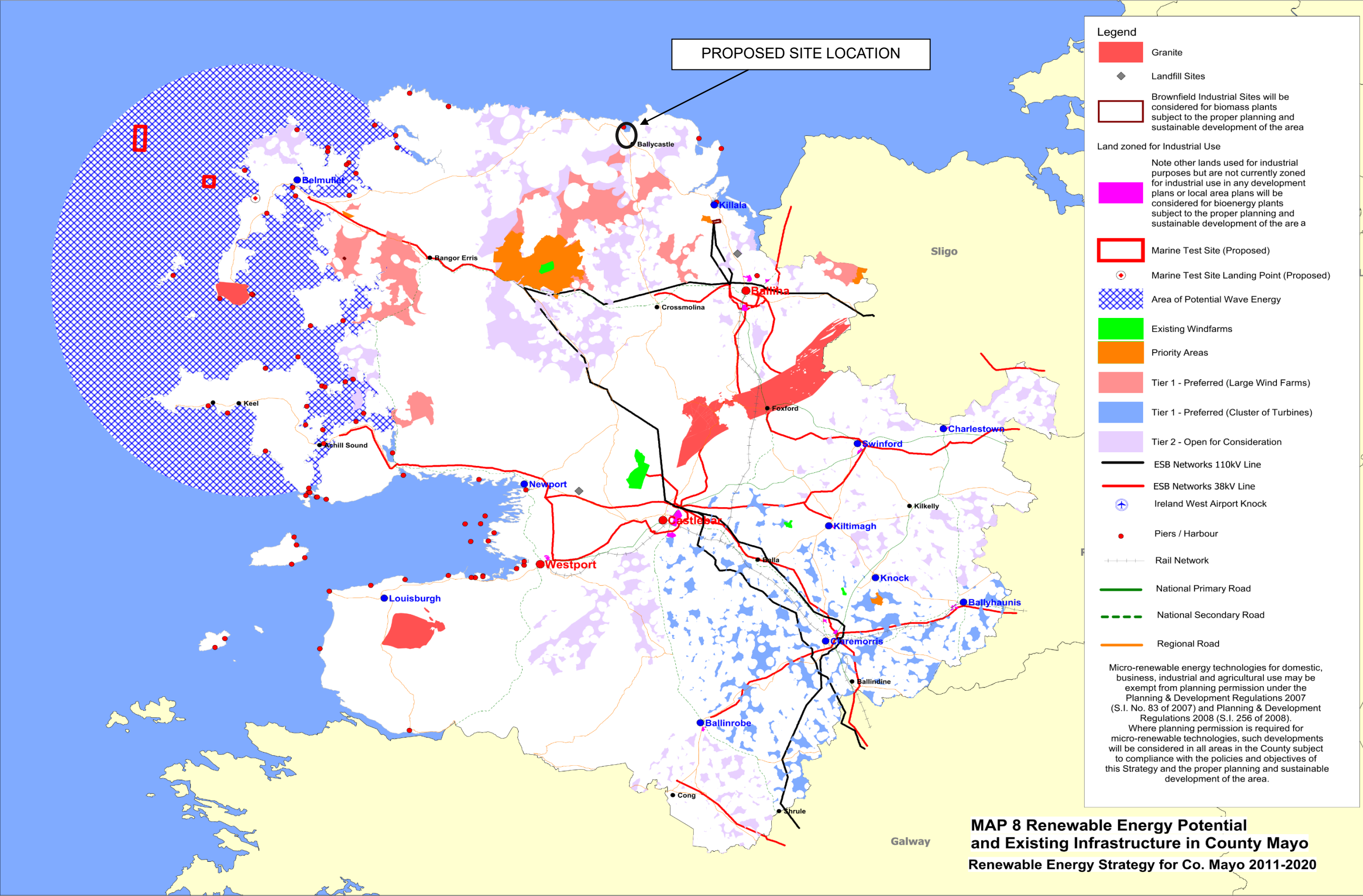


Figure 4.2 – Proposed Site Overlain on Map 8 of the Mayo RES