Validation Checklist

Lodgement Number : **LDG-080361-25**
Case Number: **ABP-322575-25**
Customer: **Co... Doyle**
Lodgement Date: **21/05/2025 09:24:00**
Validation Officer: **Cathy Carleton**
PA Name: **Mayo County Council**
PA Reg Ref: **2460708**
Case Type: **Normal Planning Appeal PDA2000**
Lodgement Type: **Appeal**

Validation Checklist	Value
Confirm Classification	Confirmed - Correct
Confirm PA Case Link	Confirmed-Correct
Confirm ABP Case Link	Confirmed-Correct
Fee/Payment	Valid – Correct
Name and Address available	Yes
Agent Name and Address available (if engaged)	Not Applicable
Subject Matter available	Yes
Grounds	Yes
Sufficient Fee Received	Yes
Received On time	Yes
3rd Party Acknowledgement	Yes
Eligible to make lodgement	Yes
Completeness Check of Documentation	Yes
Valid Lodgement Channel	Yes

New 3rd party appeal - Digital

- BP01
- BP05
- BP07 Digital
- Set up SharePoint Site

Run at: 21/05/2025 10:53

Run by: Cathy Carleton

PA notified on 21/5/25

Cathy Carleton

From: Cathy Carleton
Sent: Wednesday 21 May 2025 10:55
To: Planning
Subject: New appeal

Hi,

The Board has received an Appeal dated 21 May 2025 from a 3rd party Colin Doyle in relation to your reference 2460708.

In order for the Board to validate this appeal, can you please confirm the following;

1. Your date of decision

2. Name and Address of Applicant:

3. Name and Address of Agent (if any):

4. Full Development Description

5. If an EIAR was submitted with the planning application at any stage?

6. If an NIS was submitted with this planning application at any stage?

7. If this planning application is for an LRD (Large Residential Development) or if it is for Normal Planning Application?

Please note our reference is ABP-322575-25.

Kind regards,
Cathy Carleton

Lodgement Cover Sheet - LDG-080361-25

An Bord Pleanála

ABP-322575-25

DD-021417-25

Details

Lodgement Date	21/05/2025
Customer	Dr. Colin Doyle
Lodgement Channel	Post
Lodgement by Agent	No
Agent Name	
Correspondence Primarily Sent to	
Registered Post Reference	

Lodgement ID	LDG-080361-25
Map ID	
Created By	Shirley Connolly
Physical Items included	No
Generate Acknowledgement Letter	
Customer Ref. No.	
PA Reg Ref	246708

Categorisation

Lodgement Type	Appeal
Section	Processing

PA Name	Mayo County Council
Case Type (3rd Level Category)	

Fee and Payments

Specified Body	No
Oral Hearing	No
Fee Calculation Method	System
Currency	Euro
Fee Paid	220.00 ✓
Refund Amount	

Observation/Objection Allowed?	
Payment	PMT-063017-25
Related Payment Details Record	PD-062862-25

DOD: 25/4/25

L/D: 22/5/25 ✓

ACK ✓

Name + address ✓

Appeal

Digital.

BP01

BP05

BP07 D.

Run at: 21/05/2025 09:29

Run by: Shirley Connolly

PA Case Details Manual	
PA Case Number	
PA Decision	
PA Decision Date	
Lodgement Deadline	
Development Description	
Development Address	

Appeals Type	

Run at: 21/05/2025 09:29

Run by: Shirley Connolly

The Secretary
An Bord Pleanála
64 Marlborough Street
Dublin 1

Dr. Colin Doyle
12 Cottage Gardens
Ennis
Co. Clare
20th May 2025

Appeal against grant of permission by Mayo County Council for proposed Data Centre Development, at Killala 2460708

A Chara,

I wish to appeal against the decision of Mayo County Council to grant permission to Mayo Data Hub Ltd. for a data centre development at Killala.

I enclose a cheque for €220, and acknowledgement from Mayo County Council of receipt of my submission.

Mise le meas,

Colin Doyle

AN BORD PLEANÁLA
LDG- 080361-25
ABP-
21 MAY 2025
Fee: € 220 Type: Chq
Time: 9.11 By: Reg Post
SC

Introduction – Net point of Contention

1. The primary grounds for my appeal relate to climate impact and are as set out in my original submission to Mayo County Council sent on 25th January 2025. I include a copy of this submission and ask the Board to take it into account in arriving at your decision.

2. I agree with the finding in the EIAR that the development would have a significant adverse climate impact (Ch. 9, p. 38, Table 9.10). However I contest the claims made in the EIAR that this impact can be mitigated to "minor adverse" impact by the mitigation measures described in the EIAR.

3. I consider that the conclusion in the Mayo County Council Planner's Report that the development "will not have a significant adverse impact on climate" to be in error and irrational in view of the unsubstantiated claims in the EIAR, which I challenged point by point in my submission.

4. I note that the conditions attached to the grant of permission have no definitive enforceable mitigation measures for climate impact, other than installation of pipes to serve district heating "If deemed necessary and appropriate by Mayo County Council ".

5. The net point of contention regarding climate impact is therefore whether the measures described in the EIAR, Further Information, and grant of permission are capable of mitigating the climate impact to a level whereby a grant of permission would be consistent with the national climate action plan.

6. CAP 24, and the recently published CAP 25 require a sustained reduction in GHG emissions from the Electricity Sector to 2030. A development which increases GHG emissions would evidently not be consistent with this objective.

Summary of Main Points in Submission to Mayo County Council

7. My original submission was quite detailed, and I will therefore summarise the main points here, under the same headings as in the submission.

Questionable Reliability of the EIAR

8. Significant errors and deficiencies were identified in the EIAR such that one could not be satisfied that it represented an adequate or reliable basis for carrying out an assessment of climate impact.

Misleading Narrative on Progress to National Targets

9. Sections 9.3.1 and 9.3.3 of the EIAR paint a rather positive picture of the prospects for achieving national GHG targets. The reality as confirmed in EPA and EEA reports is that Ireland falls significantly short of the required trajectories to achieve any of its legally binding national or EU GHG reduction and energy targets.

Invalid Mitigation Claims

10. None of the following mitigation claims *summarised below* stand up to scrutiny.

False Assumption of Automatic Alignment

11. The claim that because the state has targets for renewable electricity and reduced GHG emissions that the development will follow the same trajectories is a specious argument which does not stand up to scrutiny. If this claim is accepted by planning authorities then any development of any power demand connected to the national grid would have to be judged to be in alignment with national policy (and we could dispense entirely with climate impact assessments for all future projects).

EU Emissions Trading System (ETS)

12. There is no mechanism in the EU ETS to ensure that Ireland's legally binding national GHG reduction targets are met.

Inadequate Embedded Mitigations

13. The solar PV panels would meet just 0.01% of annual power demand of the data centre.

False Claim for Mitigation by Renewable Gas

14. National policy requires that renewable gases such as biomethane shall be reserved for large heat loads, and not used for electricity generation (other than short-term back-up).

IEMA Guidance - Unsupported Mitigation Claims

15. The main claim made was that the data centre would result in emissions savings elsewhere as data storage is more efficient in a data centre. If there is such a benefit it would be outside of Ireland, and with the advent of AI there is unlikely to be any such energy savings.

Corporate Power Purchase Agreement (CPPA)

16. The claim that CPPAs for renewables constitute a GHG mitigation is a simplistic "get out of jail card" for planning authorities who are minded to grant permission for data centres in line with government policy on the digital economy. But this mitigation claim is untrue and threatens national climate action policy. Assigning a portion of existing or planned national renewable electricity to a new load has no benefit in reducing GHG emissions. Only if the contracted renewables represent "additional" supplies above the national policy targets could there be in certain cases a benefit.

Invalid GHG Calculations Based on Grid Emission Factors

17. The error here is related to the false assumption of automatic alignment, i.e. that the development can benefit from greatly reduced electricity grid emission factors in the future as per the national targets.

18. Even if the national targets are fully achieved, this would be an incorrect basis for calculation of indirect emissions as it ignores the physical effect of connecting a large new load to the grid.

19. A new load connected to the grid will in fact reduce the percentage renewables on the grid, and increase the overall grid emission factor. As new renewables cannot suddenly spring up to match the new load, the net effect is that resulting emissions should be calculated based on assumption of fossil fuel power generation.

20. GHG emissions from the 48MW data centre are calculated based on the above flawed methodology in section 9.7.2.2 of the EIAR to be 43,348 t/year in 2030. In reality, emissions would be in the region of 170,000 t GHG per year.

Energy Efficiency Directive (EED)

21. Achieving the national target for the EED will be key to the success of Ireland's climate action plan. If energy consumption in the electricity sector continues to grow, driven mainly by data centres, Ireland will not reach its 2030 EED target, nor its GHG target for the Electricity Sector.

Unsustainable Growth in Data Centre Power Demand

22. The growth in data centre power demand is significantly outpacing the deployment of renewables, which risks achievement of national renewable electricity and GHG reduction targets for 2030. Furthermore the failure of renewables to keep pace with growing data centre power demand demonstrates that mitigation of data centre GHG impact through CPPAs is at present inherently impossible.

Additional Grounds

23. Additional grounds for my appeal arise from a review of the Further Information submitted by the applicant, and a more detailed consideration of the impact of the energy demands of the proposed development.

FI Item 1

24. Item 1 of the Request for Further Information related to concerns on the lack of renewable supplies and compliance with CRU requirements for grid connection and back-up power. The applicant replied that the data centre would be powered from the national grid and went on to repeat the simplistic claim that the data centre would benefit from the CAP 24 target of 80% renewable electricity in 2030, i.e. the automatic alignment claim which was discussed and rebutted in detail in my original submission.

25. The Further Information provided went on to claim that the data centre would assist in absorbing excess wind energy, which at present cannot be transmitted onwards due to lack of transmission grid capacity. The solution to this issue is obviously strengthening of the national grid, which is currently in progress in a planned manner, and does not rely on *ad hoc* solutions proposed by developers.

26. The large fixed load of the proposed data centre would absorb around 50% of all of the wind energy in the county[1], which is hardly helpful, as this energy would never be available for transmission onwards to other consumers.

27. The suggestion by the applicant that the data centre would have a positive impact in the development of additional renewable generation facilities in the County is self-serving and highly questionable. I presume that this is a reference to the possibility of a CPPA agreement with renewables projects which are already in the development pipeline, i.e. projects with development consent and connection agreement. To be clear, any such CPPA would be of no benefit in terms of the objectives of the national CAP, as the data centre would consume the renewables that were required to meet the CAP targets for the rest of the economy.

28. Any objective analysis would have to conclude that the proposed development would in fact act against achievement of the national energy and climate targets. The CAP24/25 renewables targets were aligned with EirGrid[2] electricity demand growth projections to 2030 which were published in 2023. Allowance in these projections was made for a substantial median growth scenario in data centre power demand[3] to 2030 based on existing connection contracts only.

29. Consequently there is no allowance in CAP24/25 to accommodate additional large loads such as data centres granted planning consent and grid connection agreements since 2023.

30. Were the proposed data centre to have a neutral impact on the desired national decarbonisation transition, additional renewables supplies would be required, beyond the very ambitious targets in CAP24/25.

31. A simple calculation shows the scale of additional renewables required. Let us assume for the purposes of this discussion that the state will somehow achieve the 80% target. To ensure that the 80% is maintained and that there is no increase in GHG emission when the new 48 MW data centre load is connected, an additional renewable power supply of 48 MW would be required (annual average). This could be met for example by around 180 MW (installed capacity) of additional wind power (say around 60 large wind turbines), or around 480 MW (installed capacity) of additional solar PV (around 7 square kilometres of solar farms). These estimates represent renewable supplies which would have to be additional to the renewables targets set out in CAP24/25.

32. However there is no mechanism within CAP24/25 for automatic adjustment of renewables targets to accommodate new data centre loads (other than growth in demand from existing connection contracts). Operation of the proposed data centre would therefore impact negatively on achievement of the CAP24/25 targets.

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[1] According to Wind Energy Ireland, Mayo produced 829 GWh in 2023. The data centre would absorb around 50% of this energy.

[2] Shaping Our Electricity Future, EirGrid July 2023

[3] Around 6 TWh, corresponding to an additional 685 MW annual average demand from existing connections

33. Regarding the question of grid connection capacity, the applicant referred to an ESB networks demand capacity heatmap. However, the power heatmap provided indicates demand capacity availability of only 26.83 MVA [4] , whereas the power demand of the data centre is stated in the EIAR to be 48 MW, and in the further information 58 MW maximum import capacity is stated. No explanation was provided for the evident disparity between the reported available supply and projected maximum demand.

FI Item 2

34. Item 2 in the request for further information referred to an existing planning permission for a data centre nearby, and sought justification for a proposed second data centre. The applicant's rather lengthy response basically said that this already consented data centre would be in line with national and regional policy, from which one could conclude that the applicant believed that two data centres at this location were quite justifiable. There was no consideration of cumulative impact in terms of GHG emissions or cumulative power demand.

FI Item 5

35. Item 5 of the further information request referred to the potential for use of waste heat. The applicant stated that there were no identified users but would welcome a condition to explore future uses. This rather lame response ended up as a planning condition, which I suggest neither the applicant nor Mayo Council believed would ever need to be enforced.

Impact of Energy Demand of Proposed Data Centre

36. While the proposed data centre has a moderate power demand in the context of other data centre applications before the planning authorities, it would be an extremely large electrical load in the context of County Mayo.

37. The availability of electrical power in County Mayo is an energy resource which enables industrial/commercial development and makes possible the decarbonisation of residential heating, and of transport. The power demand of the proposed data centre needs to be considered in this context.

38. Based on CSO statistics, the total metered power consumption in County Mayo in 2023 was 69 MW[5] (annual average). Residential consumption represented 27 MW, and non-residential consumption represented 42 MW (annual averages).

39. The proposed data centre power demand of 48 (or maybe up to 58) MW would more than double the electricity consumption for the non-residential sector in Co. Mayo. This would have to be considered a profound consumption of an electricity resource.

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[4] One can take MVA to be a maximum estimate of the power in MW

[5] 605 GWh Total, Residential 238 GWh, Non-residential 366 GWh, CSO Table MEC03

40. In light of the limited available distribution capacity of 26.83 MVA, this is not an aspect that can be lightly brushed over, as was done by the applicant in the further information, referring merely to the applicant being:

> "in discussions with EirGrid who have confirmed that they will process an application for connection for this project once the project has been granted permission by MCC and not before that."

41. It is quite appropriate at this planning stage to consider if such a large resource allocation to a data centre could be economically or socially justified. A concern reasonably arises as to whether there would be sufficient remaining distribution capacity to serve the needs of future industrial/commercial development and to provide for the necessary electrification of the residential and transport sectors in the county.

42. The 48 MW data centre would consume 420,480 MWh of electricity per year. This would for example represent the electricity consumption around 100,000 households. The immediate economic benefit would be the creation of 96 jobs (3 shifts at 32 per shift), indicating an extremely large energy resource consumption of 4380 MWh per job.

43. Based on CSO data for the non-residential sector, and a national workforce of 2.78 million, I calculate the average annual energy consumption per job in Ireland to be just 8 MWh. The proposed data centre would therefore use around 550 times more energy per job, than is the case for the rest of the economy.

44. The question can be put another way: how many jobs could be supported by the same energy consumption as the proposed data centre? The answer is 96 x 550 = 52800 jobs.

45. The large energy consumption per job associated with the data centre would clearly compromise other less energy hungry job opportunities. The economic and social risk inherent in going ahead with the proposed data centre would therefore be to lock County Mayo into an energy constrained future, which would limit economic development and job creation for decades.

Gmail

Colin Doyle <colindoyle57@gmail.com>

Acknowledgement of receipt of submission on a planning application

1 teachtaireacht

OnlinePlanning <onlineplanning@planning.localgov.ie> 3 Eanáir 2025 ag 12:13
Freagair-Chuig: OnlinePlanning <onlineplanning@planning.localgov.ie>
Chuig: colindoyle57@gmail.com

Submission No.:
150000023597

Date of Issue:

03/01/2025
12:12pm

THIS IS AN IMPORTANT DOCUMENT

KEEP THIS DOCUMENT SAFELY. YOU WILL BE REQUIRED TO PRODUCE THIS ACKNOWLEDGEMENT TO AN BORD PLEANALA IF YOU WISH TO APPEAL THE DECISION OF THE PLANNING AUTHORITY. IT IS THE ONLY FORM OF EVIDENCE WHICH WILL BE ACCEPTED BY AN BORD PLEANALA THAT A SUBMISSION OR OBSERVATION HAS BEEN MADE TO THE PLANNING AUTHORITY ON THE PLANNING APPLICATION.

Mayo County Council

PLANNING APPLICATION REFERENCE No: 2460708

A submission/observation in writing, has been received from Colin Doyle on 02/01/2025 in relation to the above planning application.

The appropriate fee of €20 has been paid. (Fee not applicable to prescribed bodies)

The submission/observation is in accordance with the appropriate provisions of the Planning and Development Regulations 2001 and will be taken into account by the planning authority in its determination of the planning application.

Yours faithfully,
Mayo County Council

IS DOICIMÉAD TÁBHACHTACH É SEO

COINNIGH AN DOICIMÉAD SEO SLÁN. BEIDH ORT AN ADMHÁIL SEO A CHUR AR FÁIL DON BHORD PLEANÁLA MÁS MIAN LEAT ACHOMARC A DHÉANAMH IN AGHAIDH CHINNEADH AN ÚDARÁIS PHLEANÁLA. IS É SEO AN

tAON FHIANAISE AMHÁIN ATÁ ANN A NGLACFAIDH AN BORD PLEANÁLA LEIS GUR CUIREADH AIGHNEACHT FAOI BHRÁID AN ÚDARÁIS PHLEANÁLA MAIDIR LEIS AN IARRATAS.

Mayo County Council

UIMHIR THAGARTHA AN IARRATAIS PHLEANÁLA: 2460708

Maidir leis an iarratas pleanála thuasluaite fuarthas aighneacht/tuairim i scríbhinn ó Colin Doyle ar 02/01/2025.

Íocadh an táille chuí de €20. (Ní chaithfidh comhlachtaí forordaithe aon táille a íoc)

Tá an aighneacht/tuairim ag teacht leis na forálacha cuí atá i Rialacháin Phleanála agus Forbartha 2001 agus cuirfidh an tÚdarás Pleanála sin san áireamh agus é ag déanamh cinneadh ar an iarratas pleanála.

Is mise le meas,
Mayo County Council

********** This message is intended only for the use of the person(s) to whom it is addressed. It may contain information which is privileged and confidential within the meaning of applicable law. If you are not the intended recipient, please contact the sender as soon as possible. The views expressed in this communication may not necessarily be the views held by LGMA (Local Government Management Agency). Any attachments have been checked by a virus scanner and appear to be clean. Please ensure that you also scan all messages, as LGMA does not accept any liability for contamination or damage to your systems. ********** Is faoi rún agus chun úsáide an té a sheoltar an ríomhphost seo agus aon comhad atá nasctha leis. Má bhfuair tú an ríomhphost seo trí earráid, déan teagmháil leis an seoltóir a luaithe is féidir. Ní hionann na tuairimí luaite sa ríomhphoist seo agus tuairimí An Gníomhaireacht Bainistíochta Rialtais Áitiúil Deimhnítear leis an bhfo-nóta seo freisin go bhfuil an teachtaireacht ríomhphoist seo agus aon comhad atá nasctha leis scuabtha le bogearraí frithvíorais chun víorais ríomhaire a aimsiú agus is cosúil go bhfuil siad glan. Bí cinnte an ríomhphoist seo a mionscrúdú, mar ní ghlacann An Gníomhaireacht Bainistíochta Rialtais Áitiúil freagracht faoi aon damáiste a dhéanfaí le do chórais ríomhaireachtaí. ********** **********

Copy of Submission to MAYO CC

Dr. Colin Doyle
12 Cottage
Gardens
Ennis
Co. Clare
02/01/2025

Re: Proposed Data Centre Development, Killala – 2460708

A Chara,

I wish to make a submission regarding the above planning application.

Introduction

My main concern is indirect greenhouse gas emissions (GHG), and the resulting impact on climate in the national context. The EIAR submitted by the applicant concluded that the climate impact would be "not significant". However, in my considered opinion the proposed development would in fact have at least a major adverse climate impact as it would contribute to exceedance of the legally binding carbon budgets and hinder achievement of national decarbonisation goals as set out in Climate Action Plan 2024 (CAP 24).

The climate assessment presented in the EIAR was based on a number of misleading and incorrect interpretations of national and EU climate policies, and on unjustifiable assumptions which minimised the magnitude and impact of the GHG emissions. There are also a number of untrue statements, misattributed references, along with many errors. Small errors and omissions can be expected in any large report, but in this EIAR the errors are of such a nature that they totally undermine the report. I submit that the report is an inadequate basis for the council to undertake their environmental impact assessment.

There is no consideration in the EIAR of the impact of the proposed development in the context of Ireland's obligations under the Energy Efficiency Directive (EED). The EED requires Ireland to reduce both its primary energy consumption and final energy consumption by 2030. The proposed development will increase both primary and final energy consumption contrary to the national objectives as set out in the recent National Energy and Climate Plan 2021-2030 (NECP).

D ailed Submission

Climate Impact

The IEMA and TII guidelines referenced in the EIAR (Ch. 9, p. 13) provide an appropriate framework for assessing climate impact. The EIAR spends quite a number of pages considering the impact, but the assessment procedure is in fact very simple and can be summarised as follows:

Firstly, one asks will the proposed development cause additional GHG emission and result in an adverse impact. Secondly one evaluates the mitigation measures and assesses the residual impact

The proposed development will give rise to 62,450 tonnes of mainly indirect GHG emissions according to the EIAR (Ch. 9, p.35). By IEMA/TII criteria, this is considered a significant adverse climate impact as any increase in GHG emissions is not consistent with a pathway to net zero. Ireland's national climate policy includes legally binding carbon budgets which will require steep reductions in emissions to 2030. A proposed development which increases national GHG emissions evidently would not be consistent with this objective.

The EIAR concluded that there would be a significant moderate adverse climate impact (Ch. 9, p. 38, Table 9.10), indicating that it "falls short of full contribution to Ireland's trajectory to net zero".

I submit that there is "no meaningful absolute contribution to Ireland's trajectory towards net zero" and consequently the adverse impact is major, and not moderate as concluded in the EIAR.

Regarding mitigation, the EIAR appeals to a number of mitigations including: achievement of renewable electricity targets in CAP 24, achievement of the national transition objective of net zero in 2050, the EU ETS, and Corporate Power Purchase Agreements for renewables (CPPAs). As discussed in detail further below, none of these claimed mitigations stand up to analysis, and all can be dismissed as fundamentally flawed.

Given that there is no demonstrated mitigation, in accordance with the criteria set out in Table 9.4 in the EIAR, the data centre could justifiably be characterised as having a major adverse impact. The criteria for major adverse impact are as follows:

"

- The project's GHG impacts are not mitigated.
- The project has not complied with do-minimum standards set through regulation, nor provided reductions required by local or national policies; and
- No meaningful absolute contribution to Ireland's trajectory towards net zero. " (extract from Table 9.4, p. 16.)

As the proposed data centre will result in an increase in national GHG emissions, with no demonstrable mitigation, it clearly could not contribute to a trajectory to net zero.

Mayo County Council as a "relevant body" under the Climate Act 2015 (amended 2021) is required to carry out its functions in a manner consistent with the current climate action plan (CAP 24). Granting permission to a project which will increase GHG emissions would not be consistent with CAP 24.

Questionable Reliability of the EIAR

In any large report it is inevitable that there may be small errors and omissions. Generally these are obvious clerical errors or minor mix-ups, and do not interfere with interpretation of the document, or cause one to lose confidence in the document. However a number of elements of the EIAR struck me as being in serious error and some elements were frankly inexplicable. The following is a list of these significant errors which I picked up on a preliminary reading of chapter 9:

Ch. 9, p. 6:

Under a discussion of CAP24, the EIAR states:

> "CAP24 provides that emissions from industry sectors covered by the ETS are subject to EU-wide rather than national targets set out under EU Effort Sharing Regulation." (emphasis added)

The above statement is quite confused. Obviously ETS is subject to EU-wide control, and the Effort Sharing Regulation is quite a separate matter as by definition it applies to non-ETS sectors. Use of the word "rather" suggests that national targets may not apply to the Irish ETS, which is obviously incorrect. To be clear, CAP24 does not contain any text which could be interpreted as above. It is clear that the Irish ETS is subject to EU-wide control, as well as national control with assigned legally binding carbon budgets in CAP24.

The EIAR goes on to quote from a box text in CAP24 as follows:

> "Box 2.1 states:
>
> "emissions from electricity generation and large industry in the ETS are subject to EU-wide targets which require that emissions from these sectors be reduced by 42% by 2030, relative to 2005 levels".

Reference to 42% could be forgiven as an ordinary error, as the correct figure of 62% was given elsewhere in the EIAR. But, the disturbing aspect of the above quote is that Box 2.1 in CAP24 does not contain the above text. The text was presented in the EIAR within quotation marks implying that it was copied from CAP24, but it was clearly an incorrect re-wording by the author, falsely presented as a quote.

Ch. 9, p.7

Table 9.1 presents details of the carbon budgets. There is a minor typo in the heading, but how is one to explain the annual reduction of 15.3% figure for the second budget period as a typo, when the correct value is 8.3% ?

C. 3, p.8

In a discussion of prospects for a pathway to net zero by 2050 the EIAR references a report by ESB Networks:

> "ESB Networks has recently published "Networks For Net Zero – Delivering the Electricity Network for Ireland's Clean Electric Future" (ESB Networks, 2023) which outlines a glidepath to net zero by 2050." (emphasis added)

The above is a gross simplification and misrepresentation of the ESB Networks report. The report provides an overview of the governance, management, innovation, and technical aspects required to address the challenge of decarbonising the grid. The report certainly does not provide a simplistic "glidepath" to net zero by 2050.

The EIAR then refers to a UCC / MaREI report "Our Climate Neutral Future – Zero by 50" (UCC / MaREI, 2021.)" Presentation of the MaREI projections as a realistic estimate of what is likely to happen in terms of decarbonisation is a complete misrepresentation of the report. The MaREI report is clearly a call for action, pointing out that there are already available renewables options, and that decarbonisation is theoretically feasible. This falls far short of any guarantee that net zero can be achieved by any particular date. The consultants who prepared the EIAR provide their own view on when the electricity grid will be decarbonised:

> "Although the pathway may vary somewhat depending on future policy decisions, it is likely that net zero electricity (shown in green in Figure 9.3) will be achieved prior to 2040"

This will certainly be news to anyone who is even vaguely acquainted with the national decarbonisation challenges, and is in direct conflict with projections by both SEAI and EPA. There are even uncertainties in energy projections to 2030, which is just 5 years away, and making projections to 2040 is fraught with much greater uncertainty. In the spreadsheet accompanying its recent report [1] the EPA provides estimates on GHG emissions from the electricity sector beyond 2030, based on the most comprehensive energy and socioeconomic models available. The modelled emissions from the electricity sector in 2040 are 2.48 million tonnes of GHG/year, implying that based on present knowledge and implementation of all additional measures that the electricity grid is unlikely to be decarbonised by then.

The decarbonisation pathways shown in Figure 9.3 of the EIAR are therefore purely speculative. The Figure is titled:

> "Figure 9.3 Net Zero Energy System Emissions Reduction Profile (UCC / MaREI) (ESB Networks, 2023)"

This figure does not exist in the ESB Networks report referenced, nor in the MaREI report referenced. It is quite unsatisfactory to provide incorrect references in an EIAR.

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[1] Ireland's Greenhouse Gas Emissions Projections 2023 – 2050, EPA, May 2024

C), p. 10
The table of emission factors is titled:

"Table 9.3 Electricity GHG Emission Intensity 2022 - 2030 (SEAI, 2023)" (emphasis added)

The data is presented as being from SEAI, but no such table occurs in SEAI reports from 2023. I assume that the data has been calculated by the authors and falsely attributed to SEAI.

Ch. 9, p. 20
In discussing the EPA (2023) GHG projection report the EIAR includes the following quite strange statement:

> "While emissions are projected to decrease in these areas, emissions from agriculture are projected to grow steadily due to an increase in animal numbers." (emphasis added)

To anyone familiar with Ireland's emissions profile the above reference to emissions from agriculture increasing is quite bizarre, as these emissions are currently decreasing, and are projected by the EPA to decrease to 2030, under the "with additional measures" scenario. The sentence in question certainly did not originate from the EPA (2023) report.

Based on the same EPA (2023) report, the narrative in the EIAR goes on to state that Ireland will meet its EU Effort Sharing Regulation (ESR) target

> "However, the projections indicate that Ireland can meet its non-ETS EU targets over the period 2022 – 2030 assuming full implementation of the Climate Action Plan and the use of the flexibilities available (EPA, 2023b)."

This assessment was even out of date and irrelevant when published by the EPA in 2023, as the ESR reduction target for Ireland had at that stage changed from 30% to 42%, as in fact noted in the EIAR Ch.9, p.2. The new target was however not formally assessed by the EPA pending allocation of binding annual emission limits, but it would have been obvious that the new limit would pose difficulties.

The most recent EPA report (2024) [2] considers the likelihood of achieving the 42% reduction target and concluded that we will not achieve it:

> "When both ETS and LULUCF flexibilities are applied, the projections still indicate that Ireland will cumulatively exceed the ESR 2021-2030 emissions allocation by 17.7 Mt CO2eq even with implementation of policies and measures in the WAM scenario."

[2] Ireland's Greenhouse Gas Emissions Projections 2023 – 2050, EPA, May 2024

Ch. 9, p. 28
In discussing the GHG emissions baseline, and reductions achieved, the following strange sentence pops up:

> "Ireland's target is an emission reduction of 626 kt of CO2e by 2030 on an average baseline of 2016 to 2018."

This makes absolutely no sense in the context of the discussion in section 9.3.3 and would appear to have originated in the context of the LULUCF sector.

Ch. 9, p. 35
A number of the calculated percentages in the last column of Table 9.9 are incorrect. In any event using simple grid emission factors for calculating indirect GHG emissions impact of a new load is incorrect, as it does not allow for the reduction in percentage renewables on the grid when the new load is connected. This is discussed in detail later in the submission.

In view of the errors and irregularities identified above, I do not have confidence in the EIAR as a reliable unbiased description of the likely climate impacts of the proposed data centre. I submit that it does not form a reliable basis for the environmental impact assessment by Mayo County Council.

Misleading Narrative on Progress to National Targets

Sections 9.3.1 and 9.3.3 of the EIAR paint a rather positive picture of the prospects for achieving national GHG targets. This seeks to create the impression that all is under control, implying that accommodating a new data centre would be quite manageable. For a realistic unbiased assessment however it is better to rely upon the analysis conducted by the EPA. Based on its 2024 GHG projections the following is the objective status on Ireland's progress:

> **"Ireland's Climate Act Ambition**
> Ireland is not on track to meet the 51 per cent emissions reduction target (by 2030 compared to 2018) based on these projections which include most 2024 Climate Action Plan measures.
>
> **Carbon Budgets**
> The first two carbon budgets (2021-2030), which aim to support achievement of the 51 per cent emissions reduction goal, are projected to be exceeded by a significant margin of between 17 and 27 per cent.
>
> **Sectoral Emissions Ceilings**
> Sectoral emissions ceilings for 2025 and 2030 are projected to be exceeded in almost all cases, including Agriculture, Electricity, Industry and Transport.
>
> **EU Targets**
> Ireland will not meet its non-ETS EU targets of a 42 per cent emissions reduction

by 2030 in WAM even with both the ETS and LULUCF flexibilities."

(Ireland's Greenhouse Gas Emissions Projections 2023 – 2050, EPA, May 2024. Extract from Key Findings p.3, emphasis added)

If there is any doubt about the EPA analysis it would be that they are too optimistic, and have included measures which do not currently exist.

The European Environment Agency can also be relied upon to provide a no-nonsense impartial review of the progress of member states towards EU climate and energy targets. Information on Ireland's underperformance in climate and energy targets is further provided in the recent European Environment Agency Report "Trends and Projections in Europe, Report 11/2024".

In this report the performance of member states is considered under four headings:

- GHG Emissions
- Renewable Energy Share
- Primary Energy Consumption
- Final Energy Consumption

The report shows that Ireland is not on target for any of these four binding climate and energy targets. In fact Ireland has the worst performance in the EU, as no other state in the EU fails on all four of these binding targets.

The "existing baseline" therefore in which the EIA on climate should be conducted, is one in which the state is not on a trajectory to its climate and energy targets. Any sense of complacency that the state can cope with an additional load from the data centre of 48 MW must be dismissed as wishful thinking. This puts the onus on the applicant to demonstrate credible mitigation measures which are within its own control and which can be reliably implemented. The applicant has failed to demonstrate any such credible mitigation measures.

Invalid Mitigation Claims

False Assumption of Automatic Alignment

The various mitigation assumptions are spread throughout chapter 9 of the EIAR. In section 9.2.3 (National Legislation) the argument is made that the data centre will benefit from the projected decarbonisation of the grid and will therefore automatically align with national policy: :

> "The current project is in line with this strategy as the GHG emissions associated with electricity supplied to the project will reduce in line with national policy to obtain net zero by 2050."
> (Ch. 9, p.13)

Accordingly, as set out in Table 9.5 of the EIAR, the GHG emissions in 2028 are calculated based on a grid emission factor of 145 gCO2eq/kWh, which assumes that all targets in CAP24 will be on a favourable trajectory at that stage. One certainly hopes that this will be the case, but even in that scenario an automatic assumption that the data centre could claim this benefit is false. In essence it represents circular reasoning: we will meet our target because we will meet our target.

The reality is that for any new load connected to the grid additional dispatchable fossil fuel generation will be required, as additional renewable electricity generation cannot suddenly appear to match any arbitrary new load (i.e. wind/solar power is non-dispatchable). I discuss this aspect and the fallacy in this assumption in more detail further down in this submission.

EU Emissions Trading System (ETS)

There is extensive discussion in the EIAR on the EU ETS. With the numerous references to the ETS and its demonstrated progress in achieving targeted GHG reductions by 2030 the impression may have been created that this EU-wide mechanism would ensure reduction of the indirect grid emissions caused by the data centre, and of the direct emissions from the back-up generators. There is in fact no mechanism within the ETS to drive emission reductions in a member state to match any national targets which may apply, such as those in CAP24. Operators within the ETS are free to produce whatever GHG emissions they require, provided they pay for the allowances, which decrease annually to guarantee an EU-wide reduction. One can therefore not rely upon the ETS to mitigate GHG emissions in Ireland resulting from the proposed data centre. Section 9.5.3 states that the data centre will operate within the ETS. However, this just applies to the back-up generators, which generate direct GHG emissions. These emissions would be much lower than the indirect grid emissions.

Inadequate Embedded Mitigations

In section 9.6.2, a number of mitigation measures are listed. Most of these are energy efficiency measures embedded in the design, and have already been accounted for in the projected electricity load of 48MW. Consequently none of these measures could reduce this load, nor the resulting indirect GHG emissions.

Mention of the 50 KW Solar PV installation is indicative of the paucity of mitigation. It is a very small capacity (equivalent to about ten domestic roof-top systems) and would contribute around 0.01% of the annual electricity demand. This listing of rather insignificant mitigation measures is concluded with the sweeping statement:

> "These above identified measures will aid in reducing the impact to climate during the operational phase of the Proposed Development in line with the goals of the Climate Action Plan." (Ch. 9, p. 34)

Such a claim is evidently false and ridiculous.

False Claim for Mitigation by Renewable Gas

In section 9.7.2.2 of the EIAR where the GHG emissions are presented, there is also the assumption that renewable gas will be a future mitigation, which would lead to further decarbonisation of the grid. Unfortunately, there is at present no clear pathway with supporting measures to achieve the CAP24 target for biomethane by 2030. Existing biomethane production is only 1% of the 2030 target [3]. But even in the unlikely event that the target is achieved, it would not contribute to grid decarbonisation. The consultants who prepared the EIAR were clearly aware that national policy requires that renewables gas supplies will be reserved for heat loads which cannot be otherwise decarbonised, and will not be used for electricity generation. As stated in Ch.9, p.13:

> "This gas will be prioritised for difficult to abate emissions where alternatives are not readily available, such as high temperature heat in manufacturing."

This important national policy restriction appears to have been overlooked in section 9.7.2.2.

IEMA Guidance - Unsupported Mitigation Claims

Section 9.7.3 discusses additional mitigations in the context of IEMA guidance, which in principle could make an actual contribution to offsetting or reducing GHG emissions. However, these claimed mitigations do not stand up to analysis.

A detailed discussion is included on the energy efficiency of data centres compared with data storage by individual companies and enterprises (Ch.9, p. 36). It is credible that data centres will use less energy than existing enterprise systems for data storage. However, the benefit of this energy saving would not occur in Ireland. Data centres provide services for a worldwide market and any energy savings, and reductions in GHG emissions, would occur outside Ireland. The data centre efficiency argument therefore does not contribute in any way as an offset in the context of Ireland's energy and GHG policy and legally binding carbon budgets.

Furthermore, increasing AI applications which will be run in data centres entail greatly increased energy consumption, with no compensating reductions at the industry and enterprise level throughout the world.

The trivial PV panels are mentioned again in section 9.7.3, and the case is also made that the data centre will not start at full capacity, but will ramp up to 48MW over time. This is irrelevant, as once consent has been granted the data centre will be free to operate at maximum capacity, and as planning permissions generally do not set a limit on power consumption, the data centre could increase power consumption subject to availability of local grid capacity.

This brings us to the question of corporate power purchase agreements (CPPAs) for renewable electricity as a mitigation measure (Ch.9, p. 37). This is claimed as a mitigation

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[3] National Energy Projections 2023 Report, SEAI , p.51

measure in most data centre planning applications. In recent planning decisions on data centres in Ireland, planning authorities have adopted the approach of granting permission with a condition for a renewables power purchase agreement, presumably in the genuine belief that this will actually reduce or eliminate the GHG impact. This is not the case. Given the misinformation on CPPAs propagated by data centre developers and operators, and the absence of any comprehensive national guidance, the subject is discussed in detail below.

Corporate Power Purchase Agreement (CPPA)

Assessment of any potential benefit of a CPPA for renewable energy requires careful consideration. It is important to differentiate between existing and new large energy users. In general CPPAs entered into by existing large energy users have benefits, both financial and environmental. On the other hand CPPAs entered into for proposed new developments are of no environmental benefit, as the new developments just consume the renewables electricity that would otherwise have been used by the general economy.

In theory, there is the possibility for a new development to validly claim a neutral climate impact if the developer causes through a CPPA "additional" renewable energy to appear on the national grid matching its own power consumption, although I have not come across a single example of this in practice in Ireland.

There is little by way of national guidance on this subject. The government statement on the role of data centres [4] expresses a preference for data centre developments which can demonstrate "additionality" of their renewable energy use in Ireland, but does not expand upon how this would be assessed. The accepted definition of "additionality" is that it refers to energy supplied by a renewables project which would not have proceeded without the intervention of the data centre developer through a CPPA or otherwise.

The government roadmap for corporate power purchases [5] expands only marginally upon this matter. As a core principle it requires that corporate power procurement in Ireland:

> "Clearly delivers additional GHG emissions reduction and contributes to Ireland's 2030 climate and renewable energy targets." (p.10)

This could be taken to imply that not alone should the CPPA cover the expected energy consumption of the proposed data centre, but that it should also contribute to an emissions reduction, and towards the national renewable energy target of 80% by 2030.

The government roadmap does not elaborate on how any such claimed GHG reductions or contribution to national energy targets should be assessed. There is no national body or competent authority which can certify that a proposed CPPA results in emissions reductions. In the present planning system, the applicant is permitted to make the claim that a CPPA

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[4] Government Statement on the Role of Data Centres in Ireland's Enterprise Strategy, July 2022
[5] Renewable Electricity Corporate Power Purchase Agreements Roadmap, DECC March 2022

constitutes a GHG offset, with no requirement for supporting evidence, and it is up to the competent planning authorities to assess the claim. This is obviously quite difficult to do as CPPAs are private commercial contracts. Given the paucity of national guidance on this matter, and the complexity of the issues, I include the following detailed discussion of CPPAs which I trust will assist Mayo County Council in assessing the claims of the applicant.

CPPAs for Existing Developments

There are clear potential benefits in corporate CPPAs for renewable electricity entered into by existing industrial and large energy user developments, including existing data centres. CPPAs can provide a valuable support for renewable energy projects, and also provide financial security for the corporation purchasing the power. In the case of a wind farm or solar PV farm the price paid in the CPPA will be higher than the guaranteed minimum price which would have been secured in an open auction, and if the CPPA is for a long-term contract this contributes to a stable investment return. The power purchaser also benefits in negotiating a fixed future price for its energy, i.e. price hedging. When gas prices are high, the purchaser is insulated from the increasing price of electricity. There are the additional financial advantages of an electricity supply decoupled from any carbon costs, and exemption from payment of the Electricity Tax which must be paid by non-domestic consumers.

For renewables developments which have already achieved planning consent, and which have a connection agreement to the grid, a CPPA with an existing large energy user would be beneficial in marginally accelerating development of these renewables projects. A CPPA represents a "bankable" asset which can provide the necessary security for release of funds from investors and banks to permit rapid construction of the windfarm or solar PV farm. There would however be some downsides with large scale adoption of CPPA by existing industry, as it could result in price increases for other consumers [6].

In conclusion, an existing large electricity user entering into a CPPA can be beneficial for the energy user, and potentially supportive of the renewables sector, but appropriate regulation may be required to ensure other consumers are protected.

CPPAs as Mitigation for New Developments

It is a widely held opinion, that large energy development such as data centres can mitigate their GHG impact by entering into CPPAs with generators of renewable electricity. However only in a very restricted set of circumstances could such a claim be validly made. In considering this aspect in more detail one needs to differentiate between three scenarios:

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[6] Renewable Electricity Corporate Power Purchase Agreements Roadmap, Govt of Ireland, March 2022

- CPPA for renewables already on the grid
- CPPA for already consented renewables projects not yet operational
- CPPA for additional renewable energy supply.

CPPA by New Development for Renewables Already on the Grid

Many companies enter power purchase agreements with electricity suppliers for 100% renewable electricity. This provides a useful degree of market support for renewables. Physically, the electricity on the Irish grid supplying these companies is currently around 40% renewable, so the 100% figure is purely notional. It can however be validly included in corporate GHG accounting, and demonstrates in a quantitative manner the company's support for the transition to renewables. Domestic consumers can also sign up for 100% renewable electricity, which again is a form of market support. Physically of course the supply is still only around 40% renewable.

Companies engaging in these CPPAs for existing renewables cannot justify or offset any additional GHG emissions on this basis, no more than a 100% renewable electricity domestic consumer could justify heading off on holidays, and claim that the increased aviation GHG emissions are matched by notional GHG saving in their electricity supply. Whatever renewables are present on the grid would be used in any event, and such a CPPA could not reduce national GHG emissions.

CPPA by New Development for Renewables Projects in Development Pipeline

By projects in the development pipeline I mean renewables projects which have obtained planning consent and a grid connection offer, but are not yet constructed or operational. These projects enter into a public auction process and if successful will be permitted to supply to the grid at a certain guaranteed price, and can then obtain finance to construct the wind farm or solar PV farm. Projects which do not initially succeed in the public auction, or which do not wish to participate in the auction, can also seek a CPPA, which would facilitate financing and construction of the project. This is environmentally beneficial in the short term as it accelerates development of the renewables project. However as the state will require absolutely all consented renewables projects, and much more, to reach the 80% renewables targets, it would be inevitable that these projects in the development pipeline would have been completed by 2030 anyway. The advantage of the CPPA route to market is that the renewables development can be operational marginally earlier.

For the proposed data centre the options for CPPA would either be for renewables projects that are already operating or those which have planning consents and grid connection contract, but which have not yet been constructed, or begun operation. In neither of these two cases would the contracted renewable energy represent "additional" renewables, as this supply would already have been on the grid, or would have inevitably appeared on the grid by 2030. This includes the various renewable energy projects in the vicinity of the

development site referenced in the EIAR. Consequently a claim that GHG emissions had been offset would be invalid.

CPPA for New Development with Additional Renewables Generation

In certain circumstances, where a large energy user initiates and develops a renewables project themselves, or where an existing consented renewables project is enabled which for various reasons would otherwise not have happened, a valid claim could potentially be made that GHG emissions have been mitigated. Such a renewables supply is termed "additional", i.e. would not have happened otherwise. For an existing large energy user a CPPA with such an additional renewables supply could be validly claimed to contribute towards Ireland's decarbonisation targets.

However for a new load on the grid such a CPPA, even with proven additionality, would not contribute to Ireland's decarbonisation targets, as the new load would simply consume the additional renewables supply. Given the time-scale required for a renewables project, typically 5 to 10 years, it would in fact be extremely difficult for a new large energy user to develop an additional renewables project from scratch to ensure that it is operational by the time the proposed development is operational. For the proposed data centre development there is no commitment in the submitted application to develop matching additional renewable energy supplies.

Moreover, as discussed further down in this submission, the rate of growth of renewables on the national grid is evidently insufficient to assign any GHG offset to a new large energy user. There would need to be an excess of renewable electricity beyond the national trajectory to 80% in 2030, before any spare renewables capacity could credibly be assigned as a GHG offset for new large energy users. If plans for significant offshore wind power are successful there may well be excess renewable electricity available for data centre projects. But it would be the mid 2030's at the earliest before this happy state of affairs could conceivably be achieved. It would be premature to grant permission for a data centre on the basis of potential supply of renewables which may occur a decade in the future.

Invalid GHG Calculations Based on Grid Emission Factors

The calculation of emissions in section 9.7.2.2 in the EIAR relies entirely on a projected reduction in grid emission factor to 2035, which assumes that all targets in CAP24 are achieved. Even if all targets in CAP24 are achieved, the assessment methodology is fundamentally flawed for two reasons.

Firstly, if the projected declining grid emission factors are accepted as the basis for assessment, then any and all proposed future developments connected to the electricity grid could claim the same benefit without limit and claim to be aligned with national objectives. Secondly, basing GHG calculations for a new development on a grid emission factor is in itself inherently flawed, as it fails to take account of the actual consequences of

connection of a new load to the grid in terms of increased fossil fuel content and corresponding reduced percentage of renewables.

We do not need to get down to the nitty gritty of grid emission factors to see that basing the GHG assessment on a projected national declining grid emission factor is completely invalid. An assessment methodology must be capable of differentiating between a project which has a climate impact and one which has no climate impact. If the methodology cannot make this distinction it is of absolutely no use. The problem with the "decarbonising grid " claim is that it can be made for absolutely any large energy user connected to the national grid without any limit on power consumption, i.e. all such projects could be stated to have declining GHG emissions over time. All projects would then be assessed as in compliance with the national GHG reduction trajectory, and having negligible or no climate impact, which would be nonsense.

If a data centre drawing 48MW from the grid can claim the benefit of a projected low emission factor in 2028, what about a 480MW development? At what stage in power demand would the assumption of low emission factor break down? The flaw in such an assessment methodology is that it does not take account of the actual consequences of connecting a new load to the electricity grid, and the fact that any new load connected to the grid changes the overall grid emission factor.

The physical reality is that once a 48MW continuous load is connected to the grid there will have to be a corresponding increase in dispatchable fossil fuel generation, as there is no mechanism for a renewables supply to instantly respond to an additional load. The best case resulting GHG emissions would be if the additional generation was from an efficient CCGT power plant running on natural gas. For the proposed development this would result in GHG emissions of around 170,000 [7] tonnes per year in 2028 which is nearly three times the value calculated in the EIAR.

One could of course also calculate emissions based on the grid emission factor, but proper allowance would need to be made for the impact of the load on the grid characteristics. A new load connected to the grid will immediately reduce the percentage renewables on the grid, and increase the emission factor. The reduction in renewables percentage and the increase in the emission factors may be numerically quite small, but when account is taken of the total grid demand, the resulting increase in GHG emissions would be significant. For example, according to SEAI the grid demand is projected to be 45 TWh in 2030, and according to the EIAR the grid emission factor is expected to be 100, which would correspond to close to 80% renewable electricity. Connecting the proposed data centre load of 421 GWh would decrease the renewable component by 0.7 percentage points, and increase the grid emission factor to 103. If this increased emission factor is accounted for, then the effect of connecting the 421 GWh load to the grid can be calculated as a notional emission of around 42000 t/yr (as per the EIAR), plus an additional approximately 135,000 t/yr from the total load on the grid due to the elevated emissions factor. The overall physical impact would be the sum of these two: 42,000 + 135,000 = 177,000 t/year, which

[7] CCGT efficiency 55%, grid losses 9%, EF gas 204t/GWh : emissions = 421 GWh/0.55/0.91 x 204 = 171, 596t/yr

w..ks out to be much the same as assuming that additional CCGT generation is required to cover the load.

It is relevant to point out that the large electricity demand projected by Eirgrid in 2030 includes allowance only for data centres who already have connection contracts as of 2022 when Eirgrid produced its capacity statement [8]. Therefore it could not be argued that the proposed data centre has been accounted for in these projections.

Energy Efficiency Directive (EED)

The EIAR mentioned the EED only in the context of the built environment (Ch.9, p. 12) and failed to consider the effect of the proposed development on final energy consumption in the state. The recast Energy Efficiency Directive (EU 2023/1791) addresses a key weakness in previous EU energy policy. While the previous EED mandated improvements in energy efficiency throughout the EU economy, these improvements which should have led to reductions in GHG emissions and increased renewable energy share were undone in a number of member states by a continued rise in energy consumption. In Ireland, final energy consumption increased by slightly over 10% over the past decade[9]. This represented almost 70% of the entire increase in renewable energy deployed in Ireland over this period, with the result that the decarbonisation effect of the additional renewables was greatly reduced.

The recast EED sets limits on energy consumption for 2030. This will ensure that increases in renewable energy supply will not be simply undone by increased energy consumption. This will avoid the current "three steps forward two steps back" which has characterised Ireland's decarbonisation efforts over the past decade. The EED is incorporated as a key element in CAP 24, which sets out a clear commitment to reduce energy consumption:

> "Ireland aims to achieve a reduction in final energy consumption against anticipated 2030 levels, in line with the EU Energy Efficiency Directive (EED)." (CAP24, p. 64)

Envisaged EED measures in CAP 24 include control of growth in energy consumption by data centres with the aim of:

> "Managing energy demand in the commercial sector, with a potential focus on data centre power demand." (CAP24, p. 64)

Ireland has committed to a reduction target of 12.6% in final energy consumption relative to 2022, to be achieved by 2030 [10]. For existing industry, equipment and technologies, such a reduction should be achievable through modest improvements in energy efficiency and gradual replacement of older retired assets with much more efficient technologies.

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[8] Ireland Capacity Outlook 2022 – 2031, EirGrid/SONI October 2022

[9] Energy in Ireland 2024 Report, SEAI, December 2024, based on data in Table 5.1, p. 74

[10] Ireland's integrated National Energy and Climate Plan 2021-2030, Government of Ireland, July 2024

Consequently the EED does not present an insurmountable compliance burden for the existing economy.

However, the EED does have important implications for the relatively new data sector. This sector is driving increases in national final energy consumption, with no compensating reductions (unless a new data centre results in retirement of an old inefficient data centre in Ireland). The energy demand of the proposed development is 421 GWh (EIAR Ch. 9, p. 35), which would represent an increase in national final energy consumption of 1.4%. The proposed development would therefore hinder the national efforts to reduce final energy consumption.

The EIAR argues that new data centres will result in an energy saving (Ch. 9, p. 36) due to displacement of more energy intensive data storage. However this saving would inevitably be almost entirely outside of Ireland and would be of no benefit in achieving our EU EED target. Claims in the EIAR of offset of impact through CPPAs for renewable energy are grossly misleading, as discussed in detail earlier. However, even if a CPPA for genuine additional renewable energy could be demonstrated, the increase in final energy consumption would still occur, as the EED applies to total energy consumption renewable plus non-renewable.

Unsustainable Growth in Data Centre Power Demand

As has been widely reported in the media, it is clear that there has been very rapid growth in power demand by data centres in Ireland. CSO [11]data shows that data centres accounted for 20.7% of the total power demand in the state in 2023. Each new data centre increases this percentage. The proposed data centre development while relatively small in scale, would add 1.1% percentage points bringing the data centre sectoral share to 21.8% of national power demand. EirGrid projections[12] are that data centres will account for 30% of electricity consumption by 2032. This is based on existing connection contracts only. New data centres would add to this percentage. Such a large and rapidly growing share is unsustainable for the following three reasons:

Impact on the Grid. The growth in data centre power demand is placing strain on the national grid, and is crowding out available power for other enterprises which would have much greater employment potential than data centres. The additional loading is also impeding progress towards our 2030 target of 80% renewable electricity. If one excludes the data centre sector, it is evident from the CSO data that the state would already enjoy 51% renewable electricity on the grid, rather than the present situation where it is hovering around 40%.

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[11] Data Centres Metered Electricity Consumption 2023, CSO Statistical Publication July 2024

[12] Generation Capacity Statement 2023–2032, Eirgrid, January 2024

D a Centre Demand Outpaces Renewables Deployment. The rate of growth in data centre power demand has greatly outpaced the growth in renewable electricity on the grid. Recent SEAI data [13] shows that renewable electricity supply has grown by only 2 TWh over the five years from 2019 to 2023. CSO figures for the same period show that data centre power consumption increased by 3.8 TWh. It is clear that growth in renewable electricity supply cannot compensate for the much greater growth in data centre power demand. This further undermines any claim that a renewables CPPA could mitigate GHG emissions from the proposed data centre.

GHG Emissions: Based on latest CSO data for 2023, and a grid emission factor used in the EIAR the GHG emissions from the Irish data centre sector were 1.8 million tonnes per year. The proposed development would increase these GHG emissions by 170,000 tonnes per year. Because growth in renewable electricity supply is much less than the growth in demand from the data centre sector, any new data centre will inevitably cause an increase in matching fossil fuel generation with resulting increased GHG emissions. Over the past two years this GHG impact has been masked by large net electricity imports from the UK, which are counted as zero carbon in Ireland's GHG accounting, but are accounted in the UK. This contributed to a significant reduction in accounted emissions from the electricity sector in Ireland of 2.2 million tonnes/year between 2022 and 2023(Ch. 9, p.28). However, such large reliance on imported electricity is not sustainable, and depending on electricity price differential these net imports could suddenly cease, which would cause emissions from the Irish Electricity sector to suddenly increase, i.e. these accounted reductions are outside of national control and are subject to the vagaries of the electricity markets.

Conclusion

In view of the above significant concerns on climate impact, I ask Mayo County Council to refuse planning permission for this proposed data centre development.

Mise le meas,

Dr. Colin Doyle

[13] Mid-Year Review of Ireland's Energy and Related Emissions in 2024, SEAI, September 2024