



An Taisce

The National Trust for Ireland

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20240911-09-60787

Kildare County Council
Áras Chill Dara
Devoy Park
Naas
Co Kildare

Sent by email to: plandept@kildarecoco.ie

11th September 2024

Ref: 2460787

App: Herbata Limited

For: for a Data Centre and will comprise of: The demolition of 3 no. dwelling houses, associated garages and farm outbuildings / agricultural buildings (total floor area 1,591m²); The construction of 6 no. two storey data centre buildings, each with loading bays, external plant area including electrical and mechanical plant rooms, fuel compound, sprinkler tanks and associated ancillary development; Data centre building Nos. 1, 2, 3, 4 and 6 will consist of: a data hall (24,756m², overall height 19m), an administration block (2,505m² overall height 15m) and include an external screened plant area of 18m in height and 6,164m²; Gas turbines, gas engine and battery energy storage systems will be provided within each plant area; Data centre building No. 5 will consist of: a data hall (24,756m², overall height 19m), an administration block (2,505m² overall height 15m) and include an external screened plant area of 18m in height and 6,375m² in area and includes infrastructure for district heating; Gas turbines, gas engine and battery energy storage systems will be provided within the plant area; Adjacent to each data centre building will be a screened sprinkler tank compound (408m² to 528 m² in area) comprising of 3 no. above ground sprinkler pump containers, (1 no. 240m³ and 2 no. 268.8m³ containers) and a screened fuel compound (331m² in area) comprising 1 no. 38m³ fuel pump container and 6 no. 64m³ tanks; and Solar panels with a total area of 3,600m² will be provided on the roof of each data centre building and rainwater harvesting is included in the development. The proposed development of the Data Centre also comprises: A screened Gas Networks Ireland (GNI) compound (61m² in area) with 1 no. kiosk (3m in height and 19.5m² in area) with a biomethane gas injection point; A screened above Ground Installation (AGI) compound (1,753m² in area) with 4 no. kiosks each of 3m in height and 51.5 m² in area; A district heating building (5m in height and 341m² in area) district heating plant and in ground piping for district heating system; Security hub building (4.1m in height and 42m² in area) at main entrance to the proposed development; A single storey admin workshop/office (504m² in area) and water treatment plant (315m² in area) building (4.8m in height) and associated hydrant pump

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room (5m in height and 80m² in area) and 2 no. hydrant pump room storage tanks (5m in height and c.251m³ in area); A new access/egress from the R409 and a new emergency access/egress from the L2030 via the M7 Business Park and including a bridge over Bluebell stream: A cycle path and footpath along the south side of the R409 along the length of the campus site's road frontage and extending east to existing cycle and pedestrian facilities; A bus stop on the R409; Construction of a temporary construction access off R409 and temporary construction compound within the boundary of the site; and Ancillary site development works that will include swales, detention & attenuation ponds and the installation of pipes and connections to the public water supply, foul and storm water drainage networks, and the installation of utilities; Other ancillary site development works will include hard and soft landscaping, including removal of existing hedgerows, planted mounding, lighting, fencing (max 2.4m)/integrated boundary treatments, bat houses, smoking shelters, signage, central services road and internal access roads, loading bays, gates, 210 no. car parking spaces and 104 no. bicycle parking spaces; The development will be integrated into the surrounding landscape and native woodland planting to all frontages, including a 30-40m landscaped buffer along the M7. Planning permission is sought for a period of 10 years. This application to Kildare County Council relates to a development for the purposes of an activity requiring an industrial omissions licence. The proposed development the subject of this application to Kildare County Council, is part of a wider Project (for Environmental Impact Assessment and Appropriate Assessment Screening purposes). The Project comprises two main elements, namely: (a) The Data Centre as described above which forms the planning application being submitted to Kildare County Council; and (b) A Substation which will comprise of a new 110 kV Gas Insulated Switchgear (GIS) grid substation, the undergrounding of an existing 110kV transmission line; 2 no. dropdown towers, internal road layout, fencing, and utilities, along with associated and ancillary works. The Substation will be the subject of a separate application for approval to An Bord Pleanála under section 182A of the Planning and Development Act 2000 (as amended). An Environmental Impact Assessment Report has been prepared in respect of the overall Project, comprising both the Substation and the Data Centre, and will be submitted to Kildare County Council with this application

Site: Townlands of Halverstown,, Jigginstown and Newhall,, Naas, County Kildare.

A Chara,

We consider that this application warranted referral to An Taisce under Article 28 of the Planning and Development Regulations as it contains an EIAR, and we wish to make the following submission.

1. Current Context

The annual growth in the storage of electronic data is a major climate and resource consumption issue both globally and in Ireland. As of June 2023, there were 82 operational data centres in the country, with 77 of these located in the Greater Dublin Area alone.¹ This proliferation of data centres has largely gone unchecked in Ireland, as has their power consumption, which increased 400% between 2015 and 2022, by 31% between 2021 and 2022 alone and 20% between 2022 and 2023. As of 2023 data centres consumed 21% of Ireland's total metered electricity.² This is up from 5% in 2015 and 18% in 2022, and it represents more electricity use than all urban households in Ireland

¹ <https://www.bitpower.ie/index.php/dashboard>

² <https://www.cso.ie/en/releasesandpublications/ep/p-dcmec/datacentresmeteredelectricityconsumption2023/keyfindings/>

combined. The second largest digital infrastructure user in Europe behind Ireland, the Netherlands, has a only 6% share of electricity being utilised for data centres in 2022.³ This contrasts sharply with Ireland's 18% of electricity use in 2022.

Such enormous power demand has a very significant carbon emissions impact and will utilise a disproportionate amount of Ireland's growing renewables capacity.

While the use of data is undoubtedly a crucial part of modern life, like everything, it must be done within our planetary boundaries and our legally binding carbon budgets. Progress in decarbonising Ireland's electricity supply is being undermined by this energy-intensive trajectory and the increase in emissions associated with further data centre expansion. This is entirely incompatible with the achievement of our national climate and environmental policy objectives. It is also incompatible with the achievement of Ireland's legally binding carbon budgets and the sectoral emissions ceiling for electricity under the Climate Action and Low Carbon Development Act 2015 (as amended) (the Climate Act) and our EU emissions and renewable energy obligations and targets.

We submit that the subject proposal has failed to demonstrate compatibility with Ireland's legally binding emissions reduction obligations.

2. Climate Legal Obligations

On time compliance with the national carbon budgets and the corresponding sectoral emissions ceilings is **legally binding** per the Climate Act. These are not simply targets, as they are described by the applicant, including in EIAR section 16.2.1.

The Climate Act also places obligations on relevant bodies, of which Kildare County Council is one, in section 15:

"15(1) A relevant body shall, in so far as practicable, perform its functions in a manner consistent with—

- (a) the most recent approved climate action plan,*
- (b) the most recent approved national long term climate action strategy,*
- (c) the most recent approved national adaptation framework and approved sectoral adaptation plans,*
- (d) the furtherance of the national climate objective, and*
- (e) the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State."*

Given that Climate Action Plans are bound by the carbon budgets and sectoral emissions ceilings, per s.15(1) of the Climate Act, the Council is also bound to the objectives of the carbon budgets and sectoral ceilings in its decision making, including in planning matters. To achieve carbon budget compliance, the sum of all emissions from all of the activities within a sector has to remain within the sectoral emissions ceiling.

Section 16.6.2.2.3 of the EIAR provides a brief assessment of the proposal's operation phase emissions against Ireland's carbon budgets. The applicant states that there is some uncertainty about which sectoral ceiling the proposal should fall under but decided to put it in the commercial built

³ Kamiya & Bertoldi. 2024. *Energy Consumption in Data Centres and Broadband Communication Networks in the EU*. European Commission Joint Research Centre. https://interactdc.com/static/images/documents/JRC135926_01.pdf

environment sector. The accuracy of this categorisation should be clarified by the Council as a preliminary matter as it significantly impacts the assessment of the proposal against the Climate Action Plan 2024, the carbon budgets, etc.

We note here that the applicant divides the proposal's energy use into regulated energy consumption:

"Regulated energy consumption results from the specification of controlled fixed building services and fittings, such as space heating and cooling, hot water, ventilation, and lighting. It is these regulated loads that are most able to be reduced through embedded design measures by the Applicant"

and unregulated energy consumption:

"Unregulated energy consumption is associated with systems or processes that are not controlled and do not have regulations imposed on them. Unregulated energy consumption within the Project is largely resultant from the data hall demand, where any server energy efficiency measures will be within the control of the tenant".

We submit that the calculations provided by the applicant in Table 16.6, GHG Impacts in the Context of Ireland's Carbon Budgets, are flawed. Crucially, they state that the Carbon Budget 2 for 2026-2030 will be 200MtCO₂e. Per section 6(D)(5) of the Climate Act, any exceedance of a carbon budget must be carried over into the next carbon budget, thereby decreasing that subsequent budget by the amount of the overshoot. The EPA's latest emissions reports project that we will fail to stay within Carbon Budget 1.⁴ Therefore, Carbon Budget 2 for the 2026-2030 period will have to be reduced by any overshoot that occurs in Carbon Budget 1 for 2021-2025. Currently, EPA projections⁵ estimate that this overshoot is will be within a range of 26 MtCO₂e for the With Existing Measures (WEM) scenario to 19 MtCO₂e for the With Additional Measures (WAM) scenario.⁶ Therefore, once the exceedance is applied, the 2026-2030 budget will be smaller and actually lie in the range of 174-181 MtCO₂e. Therefore, the percentage of national emissions, per the carbon budget, contributed by the proposal should be increased accordingly.

This failure to account for the projected means that the development will have a more significant impact on the carbon budgets and sectoral ceilings than is stated by the applicant.

We would also highlight that not only will Carbon Budget 2 be reduced from 200Mt as a result of the Carbon Budget 1 exceedance, but the EPA projections also already indicate there will be a very significant exceedance of Carbon Budget 2. They state in section 4.1 of the 2024 emissions projections report: *"With this carryover, Budget 2 is projected to be exceeded by 135 Mt CO₂ eq in the WEM scenario and by 85 Mt CO₂ eq in the WAM scenario. Consequently, far higher emissions reductions will be needed in order to comply with Budget periods 2 and 3."* Therefore, the applicant's calculations for the proposal's impact on Budget 3 are likely too low.

Even if taking the figures in Table 16.6 at face value without correcting for the reality of carbon budget exceedances, the proposal's projected share of the total carbon budget to be .36% of Budget

⁴ <https://www.epa.ie/publications/monitoring--assessment/climate-change/air-emissions/EPA-GHG-Projections-Report-2022-2050-May24--v2.pdf>

⁵ Ibid.

⁶ It is worth noting that this apparent improvement on the 2023 EPA budget exceedance projections is primarily a result of timeseries changes in the Agriculture, Forestry and Other Land Use sector as opposed to improved effectiveness in emissions mitigation policy.

2 and .94% for Budget 3 (in reality the percentages will in all likelihood be higher). The applicant goes on to state that this will equate to 14.24% of the sectoral ceiling for the commercial built environment in Budget 2. We submit that one singular facility taking up that significant a proportion of the overall budget and sectoral ceiling (over 1/8 of the entire sector's budget) is highly significant. The impacts of this on overall budget and ceiling achievement needs to be fully assessed.

However, the applicant has deemed in section 16.6.2.2.3 that the effects are not significant.

As detailed within section 16.6.2.1.1 above, and considering contextualisation within national carbon budgets, the emissions resulting from the operational phase of the Project are substantial. However, accounting for the extent of embedded design measures that act to reduce operational emissions (66% reduction in emissions associated with the regulated energy demand), in addition to considering the decarbonisation of the gas network leading to further operational emissions reductions and future net zero emissions in operation, the impact of GHG emissions associated with the regulated energy consumption on the high sensitivity receptor is consistent with Ireland's national legislation and policy, and net zero targets and would result in not significant minor adverse effects.

Similarly, the impact of GHG emissions associated with unregulated energy consumption, accounting for the extent of embedded design measures that act to reduce operational emissions (57% reduction in emissions associated with the unregulated energy demand due to the use of gas turbines in place of grid electricity, and renewable energy demand through CPPAs and on-site solar PV), in addition to considering the decarbonisation of the gas network leading to further operational emissions reductions and future net zero emissions in operation, on the high sensitivity receptor is consistent with Ireland's national legislation and policy, and net zero targets and would result in not significant minor adverse effects.

These significant assessments appear to rely on the decarbonisation of the grid in making the determination that operational phase emissions are not significant and minor. As stated above, we submit that the decarbonisation of the gas grid is uncertain and entirely outside the control of the applicant, as they have acknowledged, and should not be considered here.

To comply with the constraints of the legally binding carbon budgets, sectoral activities must add up to a figure within the relevant sectoral ceiling. Given the currently projected exceedances for Carbon Budget 2, budget and sectoral ceiling compliance must mean cutting back on current projected WEM/WAM activities as well as not adding further new demand. This should be considered by the Board in assessing whether the proposed development constitutes proper planning and sustainable development within the context of carbon budget constraints.

Overall, we consider that the subject proposal has not demonstrated alignment with the carbon budgets, the Climate Action Plan 2024, the national climate objective, etc.

3. EIAR Assessment of Emissions Impact

We submit that a sufficiently rigorous assessment of the direct, indirect and cumulative effects of the proposed development on energy demand and on the climate, in line with the obligations of the EIA Directive 2014/52/EU, has not been completed in the EIAR.

EIAR section 16.3 describes the power sources for the subject proposal:

30% of the total energy demand will be met by renewable sources, in line with local policy requirements. This will comprise:

- Solar photovoltaic (PV) arrays located on the roof of each of the six Data Centre buildings comprising 120 kW per data centre building to supply the admin areas, and a further 500 kW per data centre building to supply electricity to the data halls); and
- Corporate Power Purchase Agreements (CPPA) will be used to procure renewable energy from wind / solar farms. In addition to providing energy for the Project, CPPAs will fund the construction of wind and solar farms. The Applicant has had discussions with various solar and wind renewable energy suppliers with a view to supplying energy through CPPAs, identifying sufficient capacity available from suppliers to meet the 30% operational renewable energy target. CPPAs will be finalised following a grant of permission, along with a connection agreement with Eirgrid, and will be entered into prior to operational requirements.

It goes on to state that the primary energy source will be on-site gas-fired generation. This will clearly exacerbate lock-in to fossil gas which is wholly incompatible with our national and European climate targets. No further permissions should be granted for data centres to establish fossil fuel powered generating systems or connections to the gas grid in support of their activities.

Section 3.2.2 of the Planning Report states:

"GNI's gas supply is based on using imported and Irish natural gas from various sources, however GNI have also published their Vision 2050 where they set out how they could achieve a zero dependency on gas from fossil fuels. The replacement is based on the use of biomethane, abated natural gas and the use of hydrogen. The supply by GNI of non-fossil fuel gas will further reduce the greenhouse gas (GHG) production impacts of the Data Centre Application and as detailed in the Energy Policy Compliance Report prepared by HDR it is projected by 2039 the proposed data centre would operate at Net Zero Carbon."

Similarly, EIAR section 4.4.1.1 states: *"The delivery of the GNI objectives will ensure the proposed data centre is powered completely by sustainable fuel sources"*, and EIAR section 16.2.6 states: *"Given Ireland's target for net zero by 2050 and Gas Networks Ireland's (GNI) planned decarbonisation, it is anticipated that the gas network will decarbonise over the Project's lifetime."*

The decarbonisation of the gas grid is highly uncertain and entirely outside of the control of the applicant. The applicant does acknowledge this in section 16.2.6 and states that potential gas grid decarbonisation is not factored into the operations phase emissions calculations. An Taisce submits that is the correct approach and that potential grid carbonisation should not be considered at all in assessment of the application given its uncertainty.

This increase in emissions has not been assessed against our legally binding commitments under the Climate Action and Low Carbon Development Act 2015 (as amended) (see section 2 of this submission). An increase of .44% in national emissions is entirely incompatible with our obligations to reduce emissions. Also, we consider an increase in national emissions of almost half a percentage point as a result of one singular development to be very significant.

It is also submitted that long-term effects should not be considered insignificant as grid decarbonisation is, as the applicant states, ongoing and still therefore uncertain. Moreover, the more large energy users, like the subject proposal, that come on stream, the more renewable energy

capacity will be needed, making achievement of the 80% target and significant grid decarbonisation more uncertain.

3.1 Corporate Power Purchase Agreement

We note that it is proposed to offset data centre's energy use with Corporate Power Purchase Agreements with wind and solar farms but the details and finalisation of these agreements is to be left until post-consent. Therefore a high degree of uncertainty remains and clarification should be sought.

Regardless, the use of CPPAs exacerbates the issue of data centres diluting renewables penetration into the electricity grid. Data centres with CPPAs for renewables are still increasing the overall demand for electricity - the higher the total electricity demand, the more renewable capacity is needed to decarbonise the electricity sector and reach the national target of 80% renewable-generated electricity by 2030.

Furthermore, if new data centres use CPPAs to buy renewable power, that renewable energy will simply cover new data centre energy demand rather than dealing with our existing emissions mitigation needs. Unless CPPAs are used for *existing* large energy users or industrial developments, which is not the case here, they are not actually contributing to decarbonisation. Therefore, CPPAs such as the ones proposed in this case, actually undermine our efforts to decarbonise. The applicant has not addressed these issues, particularly in the context of our legally binding carbon budgets (see section 2 of this submission), and as such we do not consider this to be an adequate justification for the proposal or an adequate means to mitigate the emissions impact.

3.2 Inadequacy of Mitigation Measures

It is submitted that the mitigation measures set out in EIAR section 16.6.2.3 to address operational phase emissions are insufficient for the purposes of the EIA Directive.

The following is proposed as mitigation:

"While design measures to reduce unregulated energy consumption from the data halls lie within the scope of the tenant during the fit out of the building, the below measures are included for tenant consideration as methods by which such unregulated energy may be reduced:

- *Reduce energy losses from power distribution units by using more efficient units, and look to install those which can also monitor power usage where relevant.*
- *Implement efficient air flow management measures to improve cooling efficiency. Examples may include using a hot aisle / cold aisle layout, reducing the number of aisles requiring cooling; and using curtains or panels to avoid cold air from mixing with hot exhaust air.*
- *Optimise airflow management within server units to ensure air leakage and recirculation are minimised, and cool air is guided exclusively through the IT equipment."*

The applicant states that the above measures can be implemented by future tenants of the data halls. Since they are only for "tenant consideration", not required, they are insufficient as mitigation measures.

District heating is also included as a mitigation measure:

"Waste heat produced by the data centres has the potential to be used as part of a local district heating network providing low carbon heat, avoiding the use of fuels with higher carbon intensities. The development of district heating networks is supported within both national and local policy, which expect data centre developments to aid in such development of heating infrastructure. Given no heat network yet exists in the locality of the site, the Project will ensure it is ready to export heat should demand for such infrastructure grow in the future. A number of the proposed gas turbines will be linked to waste heat boilers, with waste heat pumped via heat exchangers to the perimeter of the site, enabling future nearby developments to connect on and receive heat for a range of uses. The effects of this have not been quantitatively assessed, although it could be concluded that the provision of low / zero carbon heating where delivered, would likely have a beneficial impact by using residual waste heat to heat housing and other local buildings."

While the potential to connect to a district heating system is included in the design, there is no network in the area to take the heat and the potential effects have not been quantitatively assessed. Therefore, we submit that this cannot be used as a mitigation measure for the purposes of the EIA Directive.

These are the only two mitigation measures proposed and neither are adequate as neither are required or guaranteed to be implemented. Therefore, we consider that there is no reasonable basis for the applicant's conclusion on residual operational phase emissions impacts:

"Accounting for the above further mitigation measures, the magnitude of impact from operational phase emissions on the high sensitivity receptor would result in minor adverse construction-stage effect which is not significant in EIA terms."

Furthermore, no detailed quantitative analysis appears to have been carried out on the impact of the proposed mitigation measures, so it is unclear how the applicant was able to reach the conclusion that the residual impacts would be minor and short term.

4. Government Statement on Data Centres

The applicant relies on the Government Statement on the Role of Data Centres in Ireland's Enterprise Strategy⁷ as a key justification for and a policy under which they are making the proposal. Despite being repeatedly utilised as a basis, framework and justification for further data centre development, including in the subject case, the Statement was never subject to Strategic Environmental Assessment (SEA) per EU Directive 2001/42/EC. To An Taisce's knowledge no SEA screening was conducted.

We consider that the content of the Statement likely constitutes the setting a framework for future development consents. Indeed, the Statement's Principles for Sustainable Data Centre Development are described as "A set of national principles that should inform and guide decisions on future data centre development." Therefore, because it has not undergone SEA or SEA screening, we submit that the Statement and the content therein cannot be used as a framework or criteria to justify or permit development. Furthermore, given the significant and wide-ranging climate and environmental implications of data centre development, it is submitted the Statement falls within the ambit of the Aarhus Convention and should have been subject to public consultation, which, as far as An Taisce is aware, it was not.

⁷ <https://enterprise.gov.ie/en/publications/publication-files/government-statement-on-the-role-of-data-centres-in-irelands-enterprise-strategy.pdf>

It should be noted that the CJEU has generally taken a broad approach to the interpretation and application of the various aspects of the SEA Directive.

Additionally, we would highlight a quote from the Statement which in fact acknowledges the need limit to further data centre expansion:

"The capacity constraints experienced by our electricity system today, and the binding carbon budgets that require rapid decarbonisation of energy use across all sectors, necessarily mean that not all existing demand for data centre development can be accommodated."

5. Water

Due to the impacts of climate change, Ireland is becoming a country increasingly at risk of water scarcity. It is of note that during periods of low rainfall or drought, the surrounding air temperature is generally warm/hot meaning that data centres will require a higher level of cooling functionality despite water resources being at lower levels. It is therefore imperative that the proposed water consumption levels are assessed against up-to-date climate modelling and forecasting with regard to the increasing likelihood of significant future water shortages. The EIAR must evaluate potential impacts when water supplies are low. Water use must also be assessed cumulatively with other large-scale users in the whole water supply catchment.

We also submit that the proposal should be assessed against Article 4 of the WFD to determine whether the project may cause a deterioration of the status of a surface or ground water body or if it may jeopardise the attainment of good surface or ground water status or of good ecological potential and good surface or ground water chemical status.

Please acknowledge our submission and advise us of any decision made.

Is mise le meas,

Phoebe Duvall

*Senior Planning and Environmental Policy Officer
An Taisce – The National Trust for Ireland*