Scotland's climate coalition

Stop Climate Chaos Scotland response
Detailed Call for Evidence - Hyperscale Data Centres
Economy, Tourism & Energy Committee
11/11/26

About us: Stop Climate Chaos Scotland (SCCS) is Scotland's climate coalition, bringing together over 70 civil society organisations campaigning together on climate change. Together, we represent hundreds of thousands of people across Scotland and stand in solidarity with communities most affected by climate impacts around the world. We encourage decisionmakers to deliver fair, fast, funded policies to reduce emissions.

1. **What are the potential impacts of data centre development on Scotland's economy, including:**
    - jobs
    - investment
    - supply chains
    - tax revenues
    - attracting business to locate in Scotland
    - the extent to which any economic benefits can be retained in Scotland?

The number of jobs that hyperscale data centres will provide has been called into question by many organisations. A report from Verdant Thinking on data centres across the UK states that "existing UK data centres support roughly 4,400 direct jobs, not the 24,300 claimed by industry. Applying the same evidence to planned developments suggests around 10,400 total direct jobs nationally - about a quarter of the industry's projected 40,200." An APRS report found that "predicted job figures are hugely inflated when compared to real case scenarios." Their research "showed that **most data centres have between 20 and 50 direct employees once operational**", with the main roles being security and technicians.

They explain that “There is more employment during construction - with 1000-2000 construction jobs on average supported during the build out of data centres, although it is not made clear whether these jobs are for the whole of the build and fit out or just for specific periods.”

APRS also make the point that hyperscale data centres can also have negative knock-on effects on employment in the local area. These include crowding out businesses that would employ more people: a noted concern for communities near the largest proposed data centre in Scotland, Chapelcross.

There is also an opportunity cost for the wider economy. Ofgem has stated that the rapid growth of data centre demand for grid connections "risks delaying connections for other demand projects **that are critical for** decarbonisation and **economic growth**".

On tax revenue, there will be very little to tax. Robin McAlpine from Common Weal explains that “Data centres do not make a profit. They are a property speculation. The owner takes a ‘rent’ but the actual data processing does not generate wealth in Scotland.”

We must also consider how much any tax revenue will be cancelled out by public subsidies to data centres. For example, up to £23m in public funds (from the UK Government, Scottish Government and local authority) has been earmarked for the proposed Chapelcross project. In the US, organisations like Good Jobs First have criticised the large flows of public funds to data centre shareholders, calling data centres “wealth-transfer vacuums”. They found that “10 states are already losing more than $100 million per year by exempting these extremely expensive facilities from sales and use tax on building materials and equipment (and sometimes also electricity)…Texas and Virginia are already losing $1 billion+ per year! States that have computed their ROIs admit they lose between 52 and 70 cents for every dollar they subsidize data centers… That’s not counting *local* property tax abatements many data centers also receive.”

It is doubtful that hyperscale data centres in Scotland would attract many other businesses to locate in Scotland. Robin McAlpine explains that siting hyperscale data centres in Scotland does not equate to building an AI industry in Scotland.

The data centres will be used by big tech companies primarily based in the US. As McAlpine puts it, "hosting data centres has as much to do with Scotland's development of an AI economy has a diamond mine in Angola does with the New York Met Gala. **It is just a supplier. It is not invited**." Scotland will supply the energy, water and land, while US companies and their shareholders get the benefit - if the data centres are built and if there is still sufficient demand for their services after the AI bubble bursts. The IMF has identified the risk of the AI bubble bursting as one of the top 5 threats to global financial stability.

Hyperscale data centre developers should be required to buy remediation bonds as insurance against going out of business, so the cost of remediating the land doesn't fall to the public purse.

Very little of the economic benefits will be retained in Scotland. McAlpine explains: "There are four groups who benefit from data centres: the person who owns the land [often not based in Scotland] and gets planning permission, the lawyers and consultants who broker the deal, the US technology oligarchs and equity investors whose fortunes are based on outsourcing their infrastructure, and the foreign-owned multinationals that own Scotland's energy and will sell it to the data centres."

2. **What impacts could increased data centre development have on Scotland's energy system, including:**
    - electricity demand
    - electricity generation
    - network infrastructure
    - utilisation of waste heat
    - utitlisation of curtailed renewable electricity
    - overall network balancing?

Hyperscale data centres would have substantial impacts on Scotland's energy system.

Regarding electricity demand and generation: the UK Climate Change Committee (CCC) states that Scotland's electricity use is projected to rise from 22 TWh in

2022 to 37 TWh by 2035, as we decarbonise and electrify our economy and our daily lives. We need to generate (or import) enough renewable electricity to heat our homes, to charge our EVs and electric buses, and to power our clean industry (e.g. steelmaking with electric arc furnaces). Stop Climate Chaos Scotland believes that these important aspects of our lives and our economy should get priority for renewable electricity, before any of this valuable resource goes to hyperscale data centres, which are much less essential for ordinary people's lives or the economy.

In the CCC's 'Balanced Pathway', which was modelled before the spike in hyperscale data centre proposals, "in 2035, Scotland generates around 95 TWh more than its [electricity] demand, with this surplus exported to the rest of the UK, stored, and used to generate electrolytic hydrogen." This pathway does not include using any of that 95 TWhs of available electricity to power hyperscale data centres. If all or much of this is diverted to data centres, then it could mean that Scotland provides less electricity to the rest of the UK, or that Scotland has less electricity storage and a less resilient energy system, or that we produce less green hydrogen, hampering our ability to decarbonise industry and shipping.

Beyond this, we fear that the enormous energy demand from hyperscale data centres calls into question our country's ability to sufficiently electrify home heating, transport and industry as required by the CCC's Balanced Pathway and Scotland's Climate Change Plan. This would be the case if more than 95 TWh is required for hyperscale data centres, or if Scotland isn't actually generating 95 TWh by 2035.

Hyperscale data centres that connect to the grid will also increase competition for grid connections, adding to the already-unwieldy grid queue and likely increasing the length of time it takes for other, more beneficial projects to get connected.

Some AI data centre developers talk about 'Corporate Power Purchase Agreements' (CPPAs): contracts to purchase electricity from a specific renewable generator, as a way of reducing their impact on the grid. However, lessons from Ireland show that electricity demand from data centres is far outstripping the additional renewable energy being procured through CPPAs over the past three

years, meaning that hyperscale data centres are reducing the amount of electricity available for everything else.

Hyperscale data centres are likely to also cause negative impacts on electricity prices and consumer bills. Households in Ireland paid an estimated €715 million more in electricity bills between 2015 and 2023 due to the rapid expansion of data centres there. The average household may have paid an estimated €360 in additional electricity costs between 2015-2023 due to the intensity of data centre presence on the Irish Single Electricity Market (ISEM) grid putting upward pressure on prices. Dr Sean Fearon's report on the Cost of Data Centres states that "Whilst more ambitious expansion of renewables capacity in the future can reduce the wholesale price effect of data centres, in the vast majority of scenarios modelled it is not sufficient to meaningfully displace the data centre-gas dependence cost effect associated with projected rises in data centre energy demand from 2025-2034, due to the projected scale of data centre demand."

On waste heat: Any approval of hyperscale data centres should be conditional on the building providing waste heat to a heat network for heating homes and other buildings. This would offset the energy that would otherwise be required to heat those homes and buildings. However, promises to dispose of waste heat in this way should not be seen as justification for approving hyperscale data centres, as it does not address the other concerns around environmental impact and extreme levels of energy use.

On using curtailed renewable electricity: This would not be enough on its own to power hyperscale data centres. A study by Finland's LUT University modelled the energy requirements for 1GW's worth of data centres, if powered solely by renewables. It found that, since data centers have limited ability to adapt to fluctuations in solar generation, **they must have access to at least seven times their baseload operating requirements**. Even with overcapacity and battery storage, **wind and solar alone cannot guarantee uninterrupted electricity supply for data centers**. It follows that curtailed wind alone cannot power hyperscale data centres without additional energy sources.

The LUT study also found that, far from solving the problem of curtailed renewables, hyperscale data centres can actually lead to *more* renewable

electricity being curtailed. Since hyperscale data centres require at least seven times their baseload operating requirements to be available for them, this oversized supply of solar or wind would also lead to curtailment of excess solar generation during peak production hours. This study is summarised in this PV Magazine article.

There are also logistical barriers to using Scotland's curtailed renewables to help power hyperscale data centres. Many of the wind farms that are being curtailed are north of the 'B4 boundary' between the SSEN-operated part of the grid and the SPEN-operated part. 87.5% of curtailment for the UK occurs north of the B4 boundary, but currently ALL of the hyperscale data centre proposals are south of the boundary. Dr Calum McIver expressed to the Economy, Energy and Tourism Committee that "Locating data centres north of that point will likely be more impactful when it comes to managing constraints, certainly in the near term."

3. **What actions should be taken to ensure that the economic and energy implications of data centre development in Scotland are appropriately assessed, planned for and managed at a pace that reflects the rapid growth of AI and demand for digital infrastructure?**

Before lifting the 'pause' on hyperscale data centres being determined, the Scottish Government should take the following actions to ensure that the energy implications of data centre development in Scotland are appropriately assessed, planned for and managed:

The Scottish Government should commission an independent analysis of the impact of hyperscale data centres on Scotland's grid and route to net zero. The Chair of this process must be independent, objective and hold expertise on the environmental and social concerns around data centres. The analysis should:

- List all data centre developments being considered in Scotland, including their location, expected capacity, and developers. This includes all applications at the planning, pre-planning, scoping or screening stage, plus any that have a grid connection offer (but are not in planning yet) or have been notified to Councils.

- Assess the impact of hyperscale data centres (individually and cumulatively) on Scotland's ability to meet its legally set net zero target and Scotland's 5-yearly carbon budgets.
- Assess the demand on the National Grid created by hyperscale data centres (individually and cumulatively) and how this will be managed alongside plans for electrifying and decarbonising heating, transport and industry.
- Assess the additional energy infrastructure that would be required to power all hyperscale data centres under consideration, and the cumulative environmental, social and economic impacts this would bring. This should include understanding the demand of material impacts in supply chains, to align with the requirements of the Scottish Government's Circular Economy Strategy.

The Scottish Government should require all data centres over 50MW to report regularly and transparently on energy usage (as well as water usage, waste heat, and discharge of other pollutants e.g. refrigerants, exhaust gases and PFAS 'forever chemicals'). If the reported levels are higher than deemed acceptable, the data centre should have to reduce its impact or stop running. The 'acceptable' levels of these environmental impacts should be set out by the Scottish Government before approving any data centres; this should include 'acceptable' levels for individual data centres and for the cumulative impact across all hyperscale data centres.

Any approval of hyperscale data centres should be conditional on the building providing waste heat to a heat network for heating homes and other buildings. This would offset the energy that would otherwise be required to heat those homes and buildings. However, promises to dispose of waste heat in this way should not be seen as justification for approving hyperscale data centres, as it does not address the other concerns around environmental impact and extreme levels of energy use.

The Scottish Government should produce a clear definition of a 'green data centre'. This should align with use of the term 'green data centre' in NPF4, which only appears in relation to the Digital Fibre (broadband) Network (National Development 12). The data centres that support fibre broadband are not hyperscale; they are much smaller, so they can actually be 'green' as they require

much less energy to run. The existing, much smaller data centres can be powered by 100% renewable energy, and some are.

To be classed as 'green', data centres should be powered by 100% renewable energy, and should meet strict criteria set by the Scottish Government on water use, heat island impacts, plans for waste heat disposal, and material use (in line with circular economy targets). This definition must be communicated to local authorities via statutory planning guidance.

Finally, we would expect that the national planning guidance which the Scottish Government produces will encourage data centre developers to submit *full* planning applications. Currently, many applications for in-principle permission provide insufficient detail. Local planning authorities should be encouraged to use their power to request further information from applicants in order to determine applications, especially if Planning Permission in Principle applications continue to be submitted. The planning guidance should speak to the effective use of planning conditions to control environmental harms and negative impacts on community health and wellbeing, and how these will be monitored and enforced, as well as the delivery of local and national community benefits (e.g. contributions to the ScotWind Wealth Fund).

For more information, please contact:

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