Move the bits, not the electrons – Duncan Chapel

On the first Thursday in September, several hundred people gathered outside Holyrood carrying banners against AI data centres. They had come from around fifteen local campaigns, Larbert to the Borders, Fife to Inverclyde, and their message to John Swinney was blunt: stop approving these things until there is a strategy, and until then, listen to the communities already saying no. Larbert alone has drawn 7,000 objections. Auchtertool's proposed Cato development, at 600 megawatts reportedly the second-largest data centre on earth, would sit inside a Fife village smaller than the campus itself. In the Borders, the Duke of Roxburghe has been offered a private briefing with every Scottish Borders councillor to make the case for his own £2 billion scheme on the Roxburghe Estate, a meeting leaked emails describe the council's own chief executive arranging and encouraging planning committee members to attend, against a petition that has by now passed 22,000 signatures. Edinburgh's council has already thrown one scheme out, at the former RBS headquarters, for failing to show its green credentials. The Scottish Greens tried to force a moratorium at First Minister's Questions before summer recess. The SNP's own National Council backed one too. The government has said no to all of it so far.

Every one of those campaigns is right to fight the site in front of it. Police Scotland has already warned it may need what it calls "robust security" if the Larbert scheme goes ahead over local objection, which is itself a measure of how far this has travelled from an ordinary planning dispute. The Larbert site would put 200 diesel backup generators within 50 metres of a 56-bed hospice for the terminally ill and within 400 metres of Forth Valley Royal, an 860-bed hospital. Action to Protect Rural Scotland, the charity that has done most to

knit these fifteen-odd local groups into something resembling a national campaign, now publishes an interactive map of every hyperscale proposal in the country, precisely so that a resident in Cockenzie or Dunbar or Bishopbriggs can see they are not fighting alone. What none of them can do alone is answer the question underneath all twenty-four proposals now in the planning system, which together would draw over 150 per cent of Scotland’s peak demand: why is this landing in the Central Belt and the Borders at all, when Scotland spends hundreds of millions of pounds a year paying wind farms further north to switch off?

The Duke’s own developers, to their credit, say the quiet part out loud. Their pitch for the Roxburghe scheme argues the site can help prevent some fifty million pounds a year of wasted wind energy, because it sits near turbines the grid regularly switches off. That is the correct diagnosis wearing the wrong politics. The waste is real. The fifty million pounds it could capture should not become one aristocrat’s private return on a family estate that already runs to fifty thousand acres, a castle, a golf course and a hotel.

Start with the waste, because the waste is the argument. Generators in Scotland’s congested transmission zones, principally the B4 and B6 boundaries in NESO’s own terminology, are routinely told to reduce output, and the system pays for both sides of that decision: for the generation turned down, and for the gas fired up elsewhere to replace it. NESO recorded £1.7 billion in thermal constraint costs for 2024/25, up 64 per cent on the year before. Widen it to every category of constraint and the total climbs to £1.9 billion, 71 per cent of Great Britain’s whole balancing bill. Gas dominates the replacement side: £959 million in gas offer costs in winter 2024/25 alone, much of it covering exactly the shortfall Scottish constraints create. This is not a technical footnote. It is public money spent unmaking electricity that has already been produced, on a scale NESO expects to keep

climbing toward £8 billion a year by 2030.

The obvious answer is more pylons, and National Grid is building them, slowly, at a pace that would make a Bolshevik weep. But that's not quite right either. Electricity is expensive and contested to move over long distances. Data is not. So don't move the electrons south to the compute. Move the compute north to the electrons.

Britain has done something like this before, once, in Manchester. The National Computing Centre opened on Oxford Road in 1966, one of the visible products of Wilson's 'white heat' of scientific revolution, built to put scarce computing time within reach of industry when computers themselves were the bottleneck. By the 1980s that scarcity had gone, so the state let the Centre wither into a membership body and then sold its commercial arm into what is now NCC Group, a cybersecurity firm on the FTSE 250. The lesson is not the technology. It is that the state built serious public computing infrastructure once, and handed it to the market the moment the scarcity that justified it moved somewhere else.

Scarcity has moved on again, from silicon to electricity, and the shape of the answer is a national compute utility: not a single site but a grid of publicly owned compute campuses, sited where curtailed renewable power already sits. That is not official policy. It is an idea some policy people are starting to float, quietly, in the places where the mismatch between generation and demand is worst, and it is worth noticing that the people floating it are not, on the whole, socialists.

Which is where the moratorium campaign meets its harder question. Every one of the twenty-four sites now working through Scottish planning, Cato in Fife, Rufus in East Ayrshire, Aurelius in North Lanarkshire's new AI Growth Zone, the schemes at Larbert, Hermiston and the Gyle, sits in or near the Central Belt because that is where the fibre, the

grid connections and the skills base already are. None of it is sited to relieve a single constraint. A properly sited national grid of compute campuses would look nothing like this map. It would sit north of the Central Belt, on the curtailed capacity these very same communities' wind farms are already producing and being paid to switch off, and it would be owned publicly, not by ILI Group or whoever comes after them.

That is a harder demand than a moratorium, because a moratorium only has to say no. A compute utility has to say what compute is for, who owns it, and where the profit that a hyperscaler or a duke currently extracts from a stranded grid connection would go instead. Public ownership of the racks means nothing if the models running on them are still licensed from the same handful of firms that own the training data and the chips. Nationalising the plug socket while leaving the extraction in place is exactly what happened to Oxford Road once its own scarcity ran out, and it is not obvious that a government which would not take Thames Water into public ownership when the case was overwhelming will treat compute any differently, or that a council chief executive arranging private briefings for a duke will treat the next landowner's scheme with any more scrutiny than the last.

There is a version of this that ends with a call for the moratorium campaign to become a nationalisation campaign, computing sited for the grid and not the shareholder, and that ending would not be wrong. The harder truth is that fifteen local groups fighting fifteen separate planning applications are not yet the same thing as a movement with a positive answer to what should replace the map they are rightly rejecting, and turning one into the other is the work still to be done.

Duncan Chapel is a member of Anti-Capitalist Resistance and the editor of RedMole.org

Map of Proposed Data Centres reproduced from the Action for

the Protection of Rural Scotland website is available here

Data centres are toxic capitalism – Cymru'n Codi

The following is a briefing note prepared by the Cymreig/Welsh ecosocialist organisation Cymru'n Codi (Cymru Rising) on the environmental and social impact of hyperscale data centres. It was originally published on their Substack and is reproduced here with their kind permission. For more information about the situation in Scotland, Action For the Protection of Rural Scotland (APRS) have a comprehensive guide and list of useful resources on this dedicated webpage

Background

Data centres are physical buildings that house computational equipment for storing, processing and sharing data, a server is a typical example. Services they provide fall into two main categories: AI computation and cloud computing, data storage and processing.

The resources used for these services are measured in terms of the maximum electrical power load required by the equipment using megawatts expressed as say as 1MW which would typically power 600 – 800 homes simultaneously.

In 2024 Cymru had the highest British data centre capacity outside London at 154MW and London at 1048MW. This is set to

change rapidly. The UK Government has designated North and South Cymru as Artificial Intelligence Growth Zones (AIGZs) to accelerate the development of AI infrastructure, with the support of the Secretary of State for Wales and Adam Price AM the current Minister for Enterprise, Connectivity, and Energy. Planned growth is huge with two developments in Cardiff proposing **148 MW** and **150 MW**, one in Newport **200 MW**, one in Bridgend **around 600 MW** and another on Anglesey **349 MW**. Maps and other basic information on current and future data centres is included in this Senedd Research paper and a longer version here.

Control over this expansion is being driven very hard by Westminster. Planning is a devolved responsibility to the Welsh Government so support for the AIGZs was required from the Welsh Government. Approvals would have to fall within environmental and other Senedd laws. However, national security is a reserved UK level power, and as many data centres will be involved with civil and defence issues, who would have the last say could become a challenge. The UK Cyber Security and Resilience Bill currently in the Lords is likely to strengthen this UK position.

Claimed economic opportunities and security interests are making the most of the investment, jobs, skills, and research opportunities projecting £10bn on investment in the South Wales AIGZ alone. Although the US experience indicates outcomes much less than originally claimed.

The toxic 'land and expand' process

These high powered signals of support for data centres is creating a legitimacy juggernaut for developers and opportunists to override any planning objections. The company applying for planning for the data centre in Pontylcun for example has never built one. They appear just interested in gaining approval and selling it on. Democracy for Sale has put their finger on the issue in relation to their work on

Palintir with identifying a process they describe as ‘land and expand’, first you get your initial plans through then once started it is very difficult to stop future growth. Political legitimacy for data centres has lit this blue touch paper: we are faced with challenging this toxic ‘land and expand’ process, and for the following five reasons.

1. Soaring energy demand.

The AIGZs policy is on target for Cymru to hit 1000MW or 1GB by 2030 the equivalent of 13% of Cymru’s electricity capacity in 2024. The Cardiff East data centre alone will consume 150GW equivalent of all Cymru’s solar capacity in the same year. Currently 315 UK data centres are waiting connection to the grid and in Ireland in 2021-25 a moratorium had to be imposed on building new data centres around Dublin as power demands soared.

Expansion of this size will put the Welsh Government ‘ambition’ to achieve net zero by 2040 and legal requirement by 2050 under great pressure. It will be almost a question of running faster to stand still with nearly all new renewable capacity being used to enable data centre power. To counter the grid issues and fluctuating provision of renewable energy, data centre developers are installing their own generation or a private provider, usually gas fired, but also diesel, which if allowed would make hitting net zero increasingly difficult.

One issue that is largely ignored in UK discussions is who pays? Expansion of the grid costs and like nuclear power, is covered in current electricity bills. So not only are we as consumers potentially faced with paying for the generating investment but high levels of demand whilst power generation is in private hands will potentially mean higher consumer prices.

2. Local water supplies

Water is required as coolant in data centres. It appears most

in Cymru will argue that they use water and air to cool equipment, but with rising are temperatures, water will be in demand. A mid-sized data centre could use up to 5m gallons (US) daily, as much as a small town. Development plans in Cymru have indicated that local supplies will need 'reinforcing' but that at this time it appears agencies and the Welsh Government have yet to address the issues. There are possible alternatives to public supplies and reusable systems but it is not at all clear if any the current or proposed developments in Cymru are considering these, and without a political lead and regulation, unlikely to happen.

Again who pays is rarely considered. And we know in Cymru our water bills are already some of the highest in the UK so if new investment is needed Dwr Cymru as a private provider only source of investment is again us as consumers.

3. Air pollution and climate

If electricity is not sourced renewably and onsite gas or diesel generation is used, net zero targets would be rendered harder to achieve. Such forms of generation in the US has led to intensifying local pollution with court cases being brought under clean air acts. Foxglove reported that just two new data centres will pump out more planet heating carbon emissions than Exxon Mobile. Alternatives exist, such as battery storage, combined with renewable public provision, but will require stronger proactive political regulation. After around six years it is expected that all the data centre equipment will have to be replaced. This has to raise important issues of recycling materials to avoid disposal.

4. Noise

Noise pollution has been cited as a main concern in the opposition to the data centre in Pontyclun. Local experience in the US has cited cooling fans and back up generation systems as a source of high decibel local

pollution. The same in Australia. Alternatives exist but require strong regulation and effective local enforcement – the sort of provision that has almost been lost due to local government austerity cuts.

5. Land competition

So far in Cymru data centres have been sited around places that have access to good internet connectivity such near Cardiff and Newport, a process that reduces 'latency' in electronic communication, something which is apparently less important to AI focused data centres. Data centres occupy large areas of land, with the average data centre covering 100,000 square feet. AIGZ application sites must demonstrate access to at least 500MW of power capacity by 2030 and have a minimum of 100 acres of land available for construction of AI infrastructure by 2028.

Building such large buildings near local communities with constant strong lighting, security and noise is causing concern around the world and increasingly in Cymru such as the opposition in Cardiff and Pontyclun that has already been mentioned. There is also concern about the impact on local biodiversity as in the Senedd Environment Act. Data processing infrastructure and the inevitable involvement of security and defence possibly centered on a particular data centre but also involved in all, with modern warfare, increases the possibility of a community being a target.

What can be done?

Due to political support for accelerating planning through the AIGZs, coupled with security concerns, it is giving virtual legitimate free rein to the 'land and expand' profit driven processes that lay behind the expansion of data centres. As this excellent article from Friends of Earth suggests it is difficult if not impossible to row back from the use of the internet that has now become embedded in our society and

culture but some very specific policies can be put into place to control the adverse consequences outlined in this newsletter and indeed in the linked article. Clearly there is a case for the construction, maintenance, and additional employment and development that will be derived from the data centre infrastructure. However, there is also the possibility that developments in software could start to render such large structures unnecessary and if we recognise the push to monetise and make a profit out of the internet as opposed to serving the needs of people, planet and peace, questions need to be raised about the direction and purpose of this investment.

What we clearly face is a state sponsored profit driven bonanza. With controls only on the initial planning approval stage, investors can tick all the boxes and once up and running the ‘land and expand’ process will increasingly put the power of decision making over the expansion of data centres in the hands of those who develop now and over all the five social and environmental issues listed above.

There is a weakness in the Friends of the Earth proposals in that they have an expectation that private companies will give serious consideration to their proposals. We don’t think they will and will drive forward a ‘land and expand’ profit driven strategy unless checked by collective opposition and government action. Consultation with energy generators and water suppliers not enough they need to pay for extra energy,water and recycling investment needed. state and consumers must not be forced to face increased prices to subsidise data centres. Real control only if data centres are seen as a basic utility and are developed under public ownership and control

Cymru’n Codi proposed demands and action

Stop the political open door.

- Support all opposition to data centres locally and propose supporting the following demands both for local council planning meetings and the Welsh Government.
- Demand a Welsh Government moratorium until all proposals accepted as follows:
    - Energy is renewable, infrastructure paid for by investors, electricity cost neutral, positive effect on Cymru net zero targets.
    - Additional water use is restricted as far as technically possible, where required infrastructure and charges paid by investors.
    - No additional air or noise pollution.
    - Brownfield land use only, special attention to avoiding any adverse bio diversity impacts.
    - Recycling of materials used as part of planning and investment requirements.
    - Annual reporting and Welsh Government statutory inspection established to ensure planning approval adhered to.
    - Local community views and assemblies to have enhanced standing in all planning considerations and have open access to inspectors and have the right to accompany them.