techUK Data Centres Programme

Programme Overview 2018

techUK is proud to represent UK data centre operators. Our award-winning programme is comprehensive and influential. Our aim is to ensure that the UK is a place where the sector can flourish. We intervene on policy, we mitigate regulatory impacts and we raise awareness. To date, we have changed UK law and negotiated a tax concession worth over £200M for operators, we have reduced regulatory burdens, identified and mitigated business risks, established a community of interest and shared technical knowledge. We have educated the sector about policy and we have educated policy makers about the sector.

What have we been up to in 2018?

2018 was a game of two halves, split between big important things - Brexit, GDPR, skills, energy - and protracted wrangling over infinitesimal technical detail - Lot9, green public procurement, generator emissions, and so on. On the big picture side, we lobbied hard for an extension to the CCA scheme, we fought against the constant upward hike in energy costs, we tried to present the sector as a career destination of choice and struggled to keep pace with Brexit developments and their implications for operators. All these issues remain unresolved, so work will continue into 2019 and doubtless beyond. On the "Boring But Important" side we have had more success: rather wayward Green Public Procurement proposals for data centres are now relatively sensible, we have (at least partially) demystified MCPD and SGC, we fended off Heat Networks regulations and pressed for full exemption for data centres from the next phase of EU ETS. Lot9, however, remains controversial and problematic.

The programme was delivered through the usual mixture of lobbying, position statements, consultation responses, briefings, guidance notes, discussions papers, by-lined articles, presentations and the odd bit of speechifying. We responded to consultations on business energy efficiency, on sector resilience to heatwaves, on EU ETS, on MCPD and SGC, on UK Telecoms security, on heat reuse, on the carbon impact of data centres, on green public procurement and on energy taxation. We produced guidance on GDPR, on MCPD and SCG, on Heat Networks, on gasoil storage terminology and on gender diversity. We gave evidence to the Environment Select Committee on heatwaves, we defended the sector's reputation in the press and provided comment on a wide range of issues from underwater data centres to nitrous oxides. We contributed to the EDGE Foundation Bulletin on skills shortages and we appeared in Computer Weekly, DCD, Inside Networks, ENDS, Data Economy, Mission Critical Power, the Stack and even on the BBC. We spoke at DataCentre World, Finance and Investment Forum, DataCloud Europe, Data Centres North, Data Centres Ireland, Infrastructure Masons, Technical Infrastructure Dialogue and Gartner. In the background we kept plugging away on standards, helped members navigate the compliance minefield, attempted to quantify both our economic contribution and our energy impacts and answered thousands of questions– with varying levels of success.

Looking ahead to 2019 - priorities include:

- **Public Positioning:** Improving external perceptions of the sector
- **Energy Costs:** Lobbying Government to:
    - Reduce, mitigate or simplify non-commodity costs
    - Extend the CCA and reopen it to new entrants
    - Categorise the data centre sector as an energy intensive industry
- **UK competitiveness:** Ensuring the UK continues to be a business environment in which the sector can flourish
- **Skills:** Tackling the technical skills gap and addressing gender imbalance in the sector
- **Brexit:** Representing the sector's interests in the Brexit process
- **Business Risks:** Helping the sector identify and prepare for them
- **Energy use**: Monitoring and reporting sector energy use, promoting and supporting best practice
- **Standards:** Promoting standards and best practice and demonstrating that the sector is adequately self-policing
- **Compliance:** Clarifying obligations and reducing compliance burdens for operators
- **Data Governance:** Clarifying risks relevant to data centre operators

Topics covered in 2018 include:

Policy developments

- BREXIT
- Budget
- Climate Change Agreement
- Streamlining Energy and Carbon Reporting
- Helping Businesses Improve the Way they use Energy
- Security of UK Telecommunications
- Resilience to severe weather risks (Adaptation Reporting) and….
- Heatwaves
- Heat Reuse: IHRS (Industrial Heat Reuse Support) Programme

Regulatory Compliance

- Compliance Healthcheck
- Generator Woes: MCPD and Specified Generator Controls
- More Generator Woes: IED/ EPR
- Gasoil Tank Terminology
- Heat Network Metering and Billing Regulations
- MEES

Other Tissues and Issues

- Energy Costs
- Attributing Carbon to Cloud and Data Centre Services
- Skills and professional development
- Standards and best practice
- The energy impact of data centres- follow up to APPCCG report

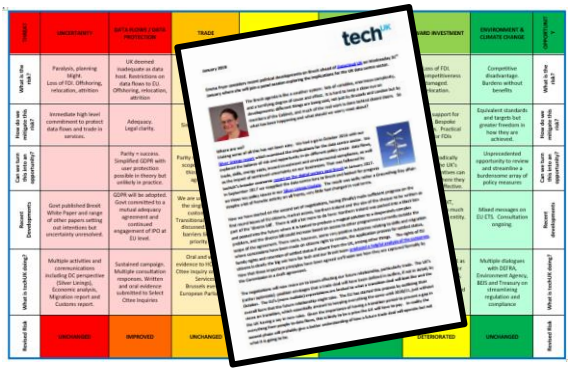
Tussles with Brussels

- EUETS - Exemption
- EUETS - Domestic alternatives
- GDPR
- Death by Lot 9
- Green Public Procurement for Data Centres (GPP)
- EU Consultation on Energy Taxation

Events, Platforms, Press
Governance
Further information/Contacts

Policy Developments

BREXIT



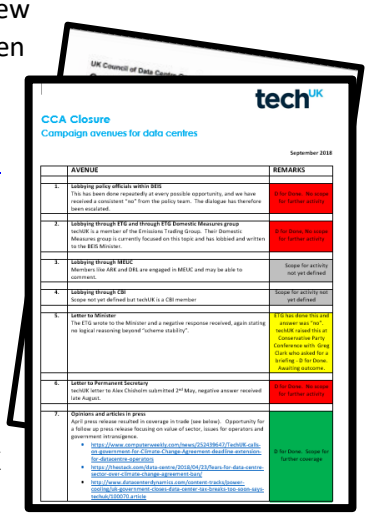
We continue to monitor progress on this frustratingly volatile agenda. After summarising the outcomes of the first round of negotiations back in January (Brexit: Where are we now?) my techUK colleagues provided some useful analysis on the Draft Legal Agreement published towards the end of March. Since then techUK has commented on the Brexit White Paper and also on technology and trade and we have issued regular updates on political developments. We did not produce a 2018 follow on our 2016 Silver Linings report and 2017 update because the speed of change made any formal publication pointless.

BUDGET

The 2018 Budget had some significant implications for operators. Despite our submission to Treasury, they did not announce any reductions in non-commodity energy costs, but that was admittedly a long shot. Nevertheless, there was plenty to take note of: Changes to Climate Change Levy rates were announced, accompanied by changes to Climate Change Agreement discounts. The Energy Technologies List is to discontinue in all but name. The Annual Investment Allowance will increase temporarily and an Industrial Energy Transfer Fund is being introduced. The only thing that didn't change was the Carbon Price Support, still at £18/t. We produced a briefing note for members.

Climate Change Agreement

This year we have lobbied hard for BEIS to reconsider the decision to close the CCA to new entrants. We are increasingly concerned by Government intransigence at a time when businesses need strong signals of support and as much certainty as possible. We followed up a letter to the Permanent Secretary with one to the Secretary of State, and operators have written to their constituency MPs. We published a Council Communication, wrote to potential participants to apply without delay if not already on board. We briefed journalists and pieces appeared in Computer Weekly, The Stack and DataCenterDynamics. We are now developing case studies to illustrate the kind of perverse outcomes that the closure will lead to. This only affects new sites; existing participants can continue to benefit until 2023. It is clear that Government is already considering its options for a potential successor to the CCA which may combine several existing policy instruments, and we are engaged in relevant discussions. It is possible that, in future, CCAs may be absorbed into a more streamlined and comprehensive carbon policy framework. Unfortunately, UK Government has rather poor "previous" on carbon trading and tax schemes.


techUK

CCA Closure

Campaign avenues for data centres

September 2018

	AVENUE	REMARKS
1.	**Lobbying policy officials within BEIS** This has been done repeatedly at every possible opportunity, and we have received a consistent "no" from the policy team. The dialogue has therefore been escalated.	R for Done. No scope for further activity
2.	**Lobbying through ETE and through ETE Domestic Measures group** techUK is a member of the Emissions Trading Group. Their Domestic Measures group is currently focused on this topic and has lobbied and written to the BEIS Minister.	R for Done. No scope for further activity
3.	**Lobbying through MEUC** Members like ARK and DHL are engaged in MEUC and may be able to comment.	Scope for activity not yet defined.
4.	**Lobbying through CBI** Scope not yet defined but techUK is a CBI member	Scope for activity not yet defined
5.	**Letter to Minister** The ETG wrote to the Minister and a negative response received, again stating no logical reasoning beyond "scheme stability".	ETG has done this and answer was "no" techUK raised this at Conservative Party Conference with Greg Clark who asked for a briefing - R for Done. Awaiting outcome.
6.	**Letter to Permanent Secretary** techUK letter to Alex Chisholm submitted 2nd May, negative answer received late August.	R for Done. No scope for further activity
7.	**Opinions and articles in press** April press release resulted in coverage in trade (see below). Opportunity for a follow up press release focusing on value of sector, issues for operators and government intransigence. • https://www.computerweekly.com/news/252439647/techUK-calls-on-government-for-Climate-Change-Agreement-deadline-extension-for-datacentre-operators • https://thestack.com/data-centre/2018/04/23/fears-for-data-centre-sector-over-climate-change-agreement-ban/ • http://www.datacenterdynamics.com/content-tracks/power-cooling/uk-government-closes-data-center-tax-breaks-too-soon-says-techuk/100070.article	R for Done. Scope for further coverage

Streamlined Energy and Carbon Reporting

We contributed to a wider techUK input to BEIS on their proposals to streamline carbon reporting, which did not really involve much streamlining and instead seemed to add plenty of unnecessary bells and whistles to existing reporting. These were shamefully inadequate proposals for a landscape that is in desperate need of root and branch reform. Fortunately, my more tactful colleague handled the submission! Our input is here. BEIS have since finalised the regulation which comes into effect on 1st April and produced draft guidance which we also commented on.

BEIS Call for Evidence: Helping Businesses Improve the Way they use Energy

This consultation from BEIS was a depressing affair, inadequate, misdirected and misinformed. It failed to accommodate energy intensive users, who were barely mentioned, did not recognise the need to balance carrot and stick to encourage the right behaviours and did not acknowledge the achievements of the CCA, leaving no scope to resolve the uncertainty regarding the future of the scheme, a major disappointment at a time when government should be reinforcing signals of support. The failure to implement the findings of the Helm Review are also causing concern. BEIS has yet to take action to meet its commitment to reduce energy costs for business. Moreover, the proposals include some important systemic misconceptions. Demand reduction is confused with energy efficiency and there were complacent (and incorrect) assumptions that all efficiency improvements can be attributed to policy interventions. Government should have been candid about flagship policy failures like the CRC, so that lessons can be learned instead of mistakes repeated. We made comments to this effect.

Security of UK Telecommunications

We assisted the Parliamentary Office of Science and Technology (POST) with a report on telecommunications sector resilience. Inevitably this touched on data centres and we provided advice and reviewed the document. POST produce highly respected briefings for parliamentarians on topical technical and scientific subjects. They are written in layman's language and are objective and very helpful in informing the policy process. See: https://researchbriefings.parliament.uk/ResearchBriefing/Summary/POST-PN-0584


POSTNOTE

Security of UK Telecommunications

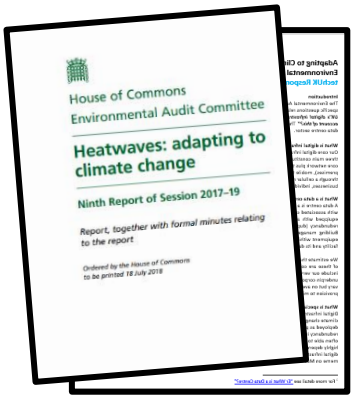
Climate Change Adaptation (Resilience to severe weather risk)



We continue to work with DEFRA and the Environment Agency on sector readiness for climate change risks such as flooding and high temperatures. We hosted one of the regular meetings of the Infrastructure Operators Adaptation Forum in February. In our earlier report on the sector's readiness for climate change risks we noted that operators were not systematically reviewing flood risks. We asked for this to be included in CEN/CENELEC's TR 50600 suite and this has been adopted. We responded to the Government's consultation on adaptation and DEFRA launched the new National Adaptation Programme, which requires infrastructure sectors to report regularly on readiness and on interdependencies with other sectors. The data centre sector is explicitly required to report on its readiness for climate change risks in the next round: https://www.gov.uk/government/publications/climate-change-second-national-adaptation-programme-2018-to-2023

Heatwaves





Resilience to heatwaves is also an important aspect of climate change readiness. We gave oral evidence to the Environmental Audit Committee's Inquiry into Heatwaves back in May, after submitting our written evidence . The EAC report was published in July and fortunately made no mention of data centres. This suggests that they do not have specific concerns that data centres are vulnerable to heatwaves or that such vulnerabilities will have widespread social impacts. This is good news but no reason for complacency. See https://publications.parliament.uk/pa/cm201719/cmselect/cmenvaud/826/826.pdf

Heat Reuse: IHRS – Industrial Heat Recovery Support



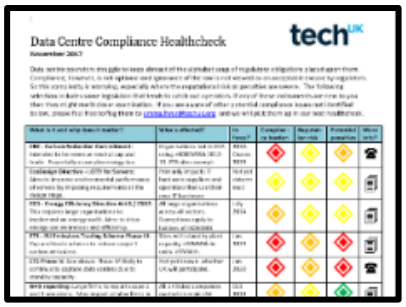
The by-product of computing is heat, so data centres should, in theory, be ideal candidates for reusing waste heat but sadly there are few, if any, examples of successful heat recovery in the UK. Primary reasons are lack of infrastructure, scarcity of customers, the low grade of heat available and the cost of collecting and concentrating it.

Government has been making pointed remarks about heat reuse in the sector so when they issued a call for evidence back in 2017 on proposals to address barriers to heat reuse we responded in brief in January, setting out some of the issues and confirming our willingness to engage in any relevant policy dialogue. The result was that data centres were included in the sectors eligible for funding under the new IHRS programme. We produced an informal position in September and held a meeting with the consultants tasked with delivering the support programme in December where we learned how to access the funding. Our counterpart in the Netherlands joined us to give an update on their data centre heat reuse programme. In the UK there are rather a lot of hoops to jump through and the primary eligibility criterion is that there is an existing customer – so it's Catch 22! We'll see if any operators manage to stay the course. https://www.gov.uk/government/consultations/industrial-heat-recovery-support-programme

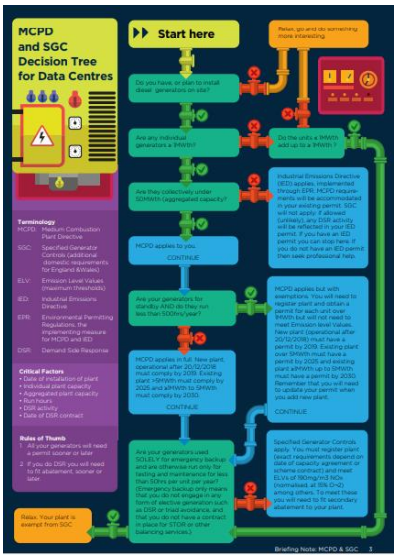
Compliance

Compliance Healthcheck

Our Compliance Healthcheck provides a quick heads-up on a selection of compliance requirements for data centres, grading them in terms of their burden, potential penalties and reputational risk. We updated it mid-year to include new briefing materials and links to the new EA guidance on MCPD and SGC. We will also be adding a couple of new things to the list: Gasoil tank regulations (see below) and some notes on an issue raised by the European Banking Association on infrastructure requirements, which could affect data centres.



MCPD and Specified Generator Controls



Following transposition which was complete by the end of 2017, the fiendishly complicated legislation for MCPD and Specified Generator Controls came into force in the UK on 30th January and can be found here: http://www.legislation.gov.uk/uksi/2018/110/contents/made The legislation is largely incomprehensible so operators and consultants must rely on guidance. The Environment Agency consulted on the draft guidance and our comments can be found here. The EA subsequently published formal guidance, but it remains as a draft, presumably to allow for further adjustments as the legislation settles in. Most of the provisions are as expected: It will become much costlier and time consuming for anyone planning to engage in DSR. We are unhappy with the approach to aggregating run hours for MCPD which is in conflict with Best Available Techniques. Following earlier comments we made to the EA on their Consultation on future charging structures they have clarified that fees should apply by array rather than to each individual unit (which is welcome), but units will be mentioned individually on the permits (which is sensible). The draft guidance documents are here, and here. While the EA Guidance should remain the first port of call, we also produced our own decision tree and briefing notes for data centre operators.

More Generator Woes: IED/EPR

The Industrial Emissions Directive, implemented in the UK through Environmental Permitting Regulations, applies to sites with over 50MWth of generating capacity (around 17MW electrical) and we have been working hard to ensure that all sites in scope are obtaining permits. This is easier said than done and the process is proving slow, complex and costly in almost all cases. Unfortunately, operators do have the potential to affect local air quality, so it is important that large sites identify vulnerable receptors in their area, model potential impacts and ensure that plans are in place to mitigate where possible and inform stakeholders. We produced a position statement on compliance activity as this can become a reputational issue for operators. We also held a workshop for operators to discuss compliance issues with the Environment Agency on Friday 20th April. We continue to work with the EA on Best Available Techniques for IED. Towards the end of the year we started a briefing on NOX to explain why our generators are in the firing line for so much legislation. Look out for that in 2019.



On the plus side we supported the Environment Agency's regular Environmental Outlook for the Combustion Sector, which now features data centres. We hosted it on our website and provided an introductory commentary. See: https://www.techuk.org/insights/news/item/13513-environmental-outlook-for-the-combustion-sector

Gasoil Tank Terminology Matters

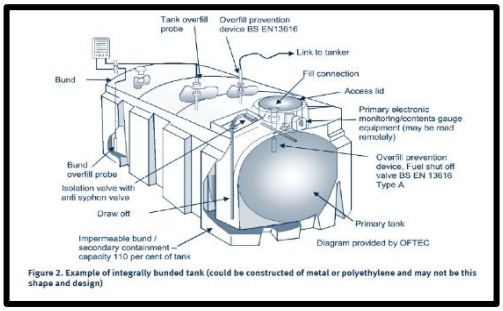


Figure 2. Example of integrally bunded tank (could be constructed of metal or polyethylene and may not be this shape and design)

We developed guidance on fuel tanks to clarify the difference between a double skinned tank (non-compliant) and an internally bunded tank able to contain 110% of the inner tank in the bund (compliant) as terms have been wrongly applied and this can lead to deeply unhappy discussions with the Environment Agency. The moral of the story is never to use the term double skinned when you mean internally bunded. **http://www.techuk.org/insights/news/item/14003-gasoil-storage-tanks-terminology-matters**

Heat Network (Metering and Billing) Regulations

Back in 2017 we were alerted to the possibility that data centres could be obliged under Heat Networks Regulations, which could have required operators to charge for cooling on a metered basis. We initiated dialogue with BEIS and bottomed out the issue. After several briefings and a visit to a data centre, government recognised that this legislation was unlikely to be relevant to data centres and even if it were, the policy would deliver no real outcome in this context. While new sites should keep an eye on cooling and heat distribution, there was little point in retrofitting meters to existing facilities. We promised to issue guidance and here is our nuts and bolts briefing note and decision tree. Many thanks indeed to Gary Kilmister from Pulsant for leading this dialogue.



The Joy Of MEES



MEES, or Minimum Energy Efficiency Standards, requires buildings to have an EPC rating of E or above if they are to be leased in future. We planned to produce guidance before the April implementation date approaches, but it emerged that legislation was not presenting particular challenges to operators: all those asked had existing EPCs and all were higher than E. Data centres are obliged under the regulations but energy to the white space is excluded because this is classed as an industrial space.

Tissues and Issues

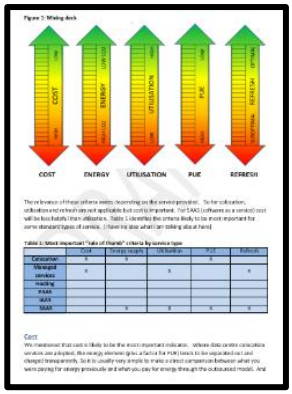
Energy Costs

Following a flurry of activity in Q1, responding informally to the BEIS consultation on Dieter Helm's Cost of Energy Review , things went disappointingly quiet on the energy cost front. We will keep you posted. Meanwhile we have aired energy costs again with the help of our earlier Council Communication.



We are not optimistic that the Helm Review recommendations will be implemented. We are considering how best to target our ongoing concerns about energy costs within government.

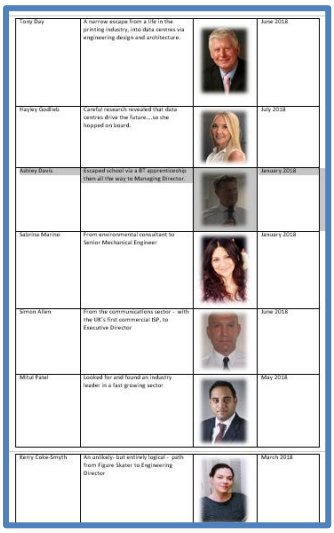
Attributing carbon to cloud and data centre services



We are working with the Government's Green Delivery Unit (now renamed as STAR) and other stakeholders to provide more transparency to customers on the carbon impacts of their outsourced data centre and cloud services. This should help them determine whether such moves deliver carbon savings and prepare for Scope 3 reporting. While the ICT Sector Guidance provides a suggested methodology for footprinting, it is an extremely complex challenge and as a result, most initiatives tend to be bespoke.

In July we produced an initial draft identifying some rules of thumb that can help give customers a feel for whether their outsourcing activity is improving efficiency. The next stage is to include some scenarios and case studies. Work will continue into 2019.

Skills



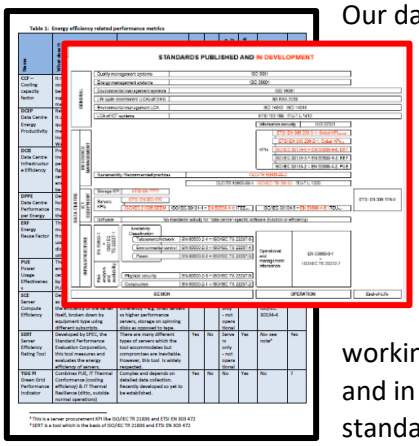
Quarter three saw the publication, at long last, of our Sector Superhero case studies. These are individuals who work in the sector and demonstrate that data centres are not just for geeks but provide rewarding careers for people with very different academic and professional backgrounds. We welcome more case studies so that we can continue to celebrate those who thrive in the sector.

Otherwise, our professionalism steering group continues to seek ways to address our technical skills shortage, raise the level of professional registration, improve recognition of existing skills within the sector and support a bespoke apprenticeship standard. We had a nice piece in the EDGE Foundation's second bulletin on technical skills. We also had an opinion piece on diversity in Inside Networks.



We continue to make use of our outreach materials: So You Want To Employ More Women?, Oh my God, I forgot to Study Maths and Why work in a data centre? and we have updated our explanation of the Trailblazer scheme.

Standards and Best Practices



Our data centre standards map, developed with the kind help of Mike Gilmore from eReady Building, has been put to very good use this year. Its primary function is to demonstrate that the sector is adequately self-policing, with a wide array of both bespoke and generic environmental standards. Standards are mapped according to their specificity (to data centres) and the stage in the life cycle to which they best apply. The majority of standards sit within the design and build phase, followed by operation. Decommissioning standards do exist but are thinner on the ground. We have also been in contact with BRE who are assessing appetite for an update of BREEAM for data centres, so we will be working with them into 2019. We continue to represent the sector at BSI on TCT7/7 and in the Green Data Centre Coordination Group which monitors developments in standardisation and best practice across the industry. At the last meeting we raised two technical queries about ISO50001, on issues relating to continuous improvement.

APPCCG Inquiry and Report on the Carbon Impacts of the Internet

In Q1 we contributed to a report by Policy Connect in conjunction with the All-Party Parliamentary Climate Change Group, both at the evidence gathering stage and during the review process. The initial brief was pejorative and ill-informed and we worried that the exercise might take cheap shots at the industry as others before have done. However, the approach was well-considered and made good use of sources and proffered expertise and the

eventual report was balanced and well written. See: http://www.policyconnect.org.uk/appccg/research/staying-online-costing-earth We were since invited to engage in follow up work on the energy impact of data centres and big data. We spoke at a Policy Connect Round Table in Portcullis House on 12th September. It was co-chaired by Antoinette Sandbach MP and Daniel Zeichner MP, who respectively chair All Party Parliamentary Groups on Climate Change and on Data Analytics. It was a productive discussion and we subsequently submitted our preparatory notes which included some useful stats on the industry. Ahead of the meeting an article appeared in the House Magazine and we expect follow up activity particularly on the need for education on the hidden carbon impacts of digital technology (essentially the fact that there is often no signal to the user of the energy consumption associated with their online activity). Watch this space.



Tussles with Brussels

EU ETS: EU Emissions Trading Scheme



After years of lobbying, but contrary to expectations, the Commission confirmed in February that Phase IV includes a provision (27a) for member states to exempt ultra-low emitters (below 2,500 tonnes). This would exempt ALL UK data centre installations. Now it is up to UK government to apply it, in a robust but pragmatic way (be very afraid). We've worked with BEIS to explain emergency generation in the sector, how the thresholds would apply and the evidence that operators could provide. Previous work is proving useful, including our briefing on Emergency Generation in Data Centres, a Council Communication and our guide to calculating carbon emissions from generators Our main concerns relate to staff changes within BEIS and the inevitable institutional amnesia. The "sector meeting" scheduled for July was downgraded and it rapidly became evident that there was a new team in place who had not been briefed. We have now briefed the new team and scheduled a data centre visit.

EU ETS – Domestic Alternatives

We have also been engaged in related discussions with BEIS and Treasury on developing alternatives to EU ETS post Brexit. The choices are: remaining in ETS, a linked domestic scheme, an independent domestic scheme and a broader energy tax regime. The dialogue has been focused on allowances and we believe that it would make more sense to define the scope first before designing the scheme. If we end up with a broad-based carbon tax then our concern is that the sector's ETS exempt status will not be captured and, worse, it could also drop outside the list of sectors eligible for concessions because we are not on the formal (and somewhat random) list of energy intensive sectors as defined by the European Commission. We are working hard to ensure that data centres remain on the agenda and that the energy intensive nature of the industry, and its vulnerability to overseas competition, are understood both in Treasury and BEIS.

GDPR: General Data Protection Regulation

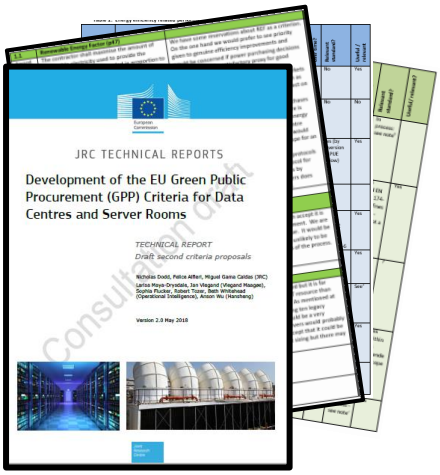
In January we published our GDPR Decision Tree for data centres, which helps operators establish whether they are data processors or not, explains associated levels of liability and responsibility, and provides useful links. This was published as the first of a "Compliance Nuts and Bolts Series" where we plan to look at different issues in turn and demystify them for data centres. techUK also produced guidance on the broader issues relating to GDPR, digital technology and Brexit in No interruptions: Options for the Future EU-UK Data Sharing Relationship . These more generic issues are handled by specialist colleagues within techUK because they impact the wider digital technology sector, not just data centres.



Lot9: Legislating Where Angels Fear to Tread

Proposals under Lot9 (EcoDesign requirements for servers) to use idle running as an efficiency metric are very problematic for manufacturers and data centre operators especially where the trend is towards larger machines. However, views are mixed: some academics consider that idle limits are necessary because utilisation is low, particularly in the distributed IT environment at which this legislation is targeted. Others see an equal trend towards smaller devices a where low idle running should be encouraged. We produced position papers and there was considerable coverage in the press. The Regulatory Committee met on 17th September and approved an amended text that set both idle and active thresholds. We are currently assessing the impact on the industry. Our real concern is that policy is being developed for technology that is evolving rapidly and by people who do not have the requisite technical understanding. These conditions do not augur well for successful policymaking.

Green Public Procurement for Data Centres (GPP)



The Commission is keen to ensure that public authorities make sustainable choices when buying data centre services, but this is easier said than done. We responded to an initial survey, produced a pre-emptive note assessing the pros and cons of different data centre performance metrics, and attended a series of stakeholder workshops. We submitted a formal response to the initial proposals where we expressed concern that the tick box approach meant that a data centre procurement could meet all the criteria and still deliver a hopelessly inefficient service. We also submitted input to the second draft of the proposals in July. A final draft was issued in November and again we submitted comments. Although we still have reservations about some elements (such as reference data and some definitions) in general the dialogue has been positive: Industry has been involved from the start, the discussions have been sensible and productive, and the wilder proposals have been reined in following peer review and the provision of evidence. We have volunteered to help develop guidance in 2019.

EU Consultation on Energy Taxation: techUK Response

The European Commission reviewed the Energy Taxation Directive to assess its effectiveness. This Directive sets a minimum level of energy taxation that must be applied across the EU. The objectives are to create a common energy market, improve efficiency and safeguard competitiveness. A survey was published **https://ec.europa.eu/eusurvey/runner/Energytaxationdirective** and we submitted input because the Directive relates to non-commodity electricity costs and touches on issues relating to exemptions for energy intensive businesses. We also submitted a supplementary position paper that provided context for the responses we made to the survey questions, which were rather prescriptive. Our response and the paper are here . Basically, we said that a uniform tax could not harmonise an energy market that is not harmonised to start with and that businesses in countries with high energy costs will be most at risk from a blanket rate.

Platforms and Press



Platforms (Events)

We spoke at over 20 events this year. They included DataCloud UK/FIF where we discussed data centre energy consumption and reassured operators that yes, the grid can cope, at a EURECA project workshop where we gave an update on the implications of Brexit, at Data Centre World where we debunked some myths about sector energy use and outlined the main issues relating to GDPR, at Infrastructure Masons' London gathering on 6th April, where we talked about our policy work, at the Noord Group Technical Infrastructure Dialogue, where we talked on diversity in skills, at Data Centres North where we led on compliance, at CNET where we guest lectured on the impacts of Brexit on compliance, and at Datacloud Europe where we joined a panel on skills.

At Datacloud Awards in June we won the award for Sector Ambassador, which was nice. During summer we spoke at Interxion's glamorous Lon3 launch, at a Policy Connect Parliamentary Round Table where the topic was data centre energy demand and at a Gartner event on 27th September on data centre decommissioning. In Autumn we spoke at a Technical Infrastructure Dialogue in Manchester, at Data Centres Ireland and finished the year at a very jolly CBRE breakfast briefing on standards.

Press Coverage



In terms of press coverage, we appeared in The Stack with an opinion piece on the energy conundrum, in DataCenterDynamics, with an informal guide on how to attract and retain women, in Computer Weekly on gas powered data centres, in Inside Networks on the CCA and Data Economy in association with BroadGroup on Brexit: where are we now? and Energy: how much is hot air?, among others.

We were in ENDS on sector regulation, our GDPR guidance was featured in Inside Networks Quick Clicks, and we also appeared in Computer Weekly and The Stack on CCA closure, which was also covered by DataCenterDynamics. We were also featured in Electrical Review, Optical Connections, at Mission Critical Power, and at Data Centres North. We made observations on the Brexit Deal in Data Economy and we also commented on a BBC feature on Microsoft's second underwater data centre: https://www.bbc.co.uk/news/technology-44368813


A force for good

Emma Fryer represents the interests of data centre operators in matters of policy, compliance and regulation. Rio Shepherd recently caught up with her to find out more about her life and career, and her views on the direction the sector is heading in

RS: Tell us a bit about yourself – who are you and what do you do?

EF: I'm an intruder in the data centre landscape – I have degrees in English and environmental science and am a committed technophobe. I work for techUK – the digital technology trade association – and represent data centre operators.

In reality I do three things. Firstly, I

'My heart always sinks when I see poorly researched claims in the press that data centres are gobbling so much power that we will have to live in caves and eat bugs. It makes a good story but these pieces are generally shot from the hip and aimed at the wrong target.'

try to change things that are harmful to the sector, like inappropriate legislation. Secondly, I'm quite thigs we can't change, like simplifying compliance procedures for operators caught in legislation that is not targeted at them. Thirdly, I explain the sector to policy makers and also explain policy to the sector. I am surprised by just how much of my time is spent demystifying the Byzantine complexity of generator emissions regulation!

RS: How and why did you decide to embark on a career in the data centre sector?

EF: I didn't – I am here by accident. Back in 2011 I was asked to review the arguments being made by operators negotiating a climate change agreement (CCA), where participants get discounts on energy taxes in exchange for meeting efficiency targets.

I thought they were barking up the wrong trees – they barely mentioned carbon emissions but kept talking about reputation. At that time the UK government viewed data centres as power hungry sheds that didn't employ anybody – why on earth would we want them here in the UK, let alone give them an energy tax break?

There was a complete disconnect – we may as well have been speaking Klingon. A much bigger piece of work was needed to explain what data centres do, why they matter, why they need support, and how the UK will benefit. I thought to myself, this sector looks utterly boring – I will give

them some pointers and escape as fast as I can.

As I knew nothing about data centres I had to start from scratch. I soon discovered that they were both interesting and important. For the next three years I led the CCA campaign, which progressed at typical speed, punctuated by monumental pauses while officials 'awaited internal approval' before each microscopic step forward. By the time the CCA eventually came into force in 2014, I discovered that I enjoyed life in data centre land so I stuck around.

RS: What particular challenges are we facing at present and how can they be addressed?

LA: The issue supports I'm struc – like death and taxes our core problems seem to be permanent. So access to technical skills and energy costs – particularly non-commodity charges – are always at the top of the agenda. However, keeping abreast of compliance is really challenging for operators, with issues ranging from the General Data Protection Regulation (GDPR) to generator emissions. And on the resilience front we have cybersecurity and climate change risks jostling for attention.

But I think our real challenge is that the sector is poorly understood – we have to set the record straight and we haven't done nearly enough. A senior government economist recently said to me 'Gosh, I had no idea there were any data centres in London, I thought they were all in Iceland.' Sadly, this is not unusual.

RS: Is the battle to achieve the energy efficient data centre being won?

EF: Yes and no. My heart always sinks when I see poorly researched claims in the press that data centres are gobbling so much power that we will have to live in caves and eat bugs. It makes a good story but these pieces are generally shot from the hip and aimed at the wrong target.

Commercial operators are strongly incentivised to be efficient in order to be competitive. While there is obvious variation, most notably between new and legacy sites, the sector has a very good story to tell in terms of energy stewardship. The CCA reporting process provides evidence of that. I think we underestimate just how advanced we are in terms of energy efficiency, management, monitoring and reporting. During the CCA negotiations the technical advisors (using) moved the sector on the outstanding quality of its energy stewardship tools, standards and key performance indicators (KPIs).

I think the real problem lies under the radar, in smaller server rooms and in-house data centres where energy costs are not attributed, where Power Usage Effectiveness (PUE) is not monitored, where there are no service level agreements (SLAs) and where financial and operational accountability are soft.

I've seen evidence of widespread poor practice – low utilisation, old servers delivering little but dominating power

We did a piece on diversity for Inside Networks and contributed content to the EDGE Foundation Skills Bulletin on data centre and ICT skills shortages for publication in July. We were back in ENDS, Computer Weekly, DataCentreDynamics and Data Economy on Lot9. We finished the year with a nice profile piece in Inside Networks in November. A full list of coverage is available on request.

Governance

We held five Data Centres Council meetings in 2018 to review programme activity and set priorities. Council ToR, member bios, application criteria and formal Communications are available from the Council pages of our website. Notes and papers are available for all Council meetings on request.

Further Information

Previous activity digests can be found here, including 2018 Q3, 2018 Q2, 2018 Q1, the 2017 programme overview and those for 2016, and before. We don't do a Q4 for any year – we always roll that into the annual overview.

To find out more please contact:



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