

Data Centres Programme Achievements 2017

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 2017?

2017 was business as usual: a mixture of strategic long term issues and detailed technical wrangling. We alerted members to new regulatory threats, we resisted policy developments that could be damaging and we negotiated with government to reduce the impact of existing measures that are particularly problematic. We advised operators on compliance issues and responded to a range of consultations. We briefed members on data flows, on Brexit, on resilience and on energy costs. We promoted best practice tools and supported standards development. We kept tabs on Brexit and stepped up activity to address our technical skills gap while working our way around the disruption caused by the General Election.

Activities included briefing sessions, a risk radar on energy costs, technical workshops with government and agencies and the odd closed session to thrash out particularly problematic legislation. We had some fun at our Show and Tell and Awards where we rewarded outstanding contributors to the programme and recognised diversity in the sector (no mean feat). We held speaking platforms at a number of industry events. We published lots of material including thought leadership, policy responses, industry positions, briefings and guidance notes, plus our regular policy updates and a few opinions that we shot from the hip. At the same time we continued the usual business of negotiating with government and regulators, answering questions from members and stakeholders and supplying data and information about the sector. The 2017 consultation overload hit a crescendo in December with multiple responses required one after another throughout December and into January.

We are still trying to make sense of the fiendish complexity of air quality compliance requirements for generators and arguing the case, not always successfully, for pragmatism. As ever we continue to wade through the vegetable spaghetti of legislative acronyms; MCPD, EPR, BAT, MEES, GPP, LOT9, ETS, GDPR, NIS (to name a few) which we try and accommodate in an increasingly unfeasible juggling act. Every so often we come across something new to keep us awake at night. Most of our outputs are captured below.

Looking ahead to 2018 - priorities include:

- Lobbying government to mitigate non commodity energy costs and other barriers to growth
- Tackling the technical skills gap and addressing gender imbalance in the sector
- Producing bespoke apprenticeship standards and promoting the sector as a career destination
- Informing the Brexit negotiations and ensuring that the sector's interests are adequately represented
- Tracking and reporting sector energy use
- Identifying business risks and helping the sector prepare for them
- Promoting standards and best practice
- Reducing compliance burdens for operators
- Teasing out a way to establish the economic value of the sector
- Providing a trusted sounding board for government and external stakeholders on technical issues
- Promoting the UK as a location of choice for data centre operators and investors
- Improving sector resilience to climate change
- Representing the sector on public platforms

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Data Centres Programme Activity 2017 by topic

Policy developments

- [Brexit](#)
- [Data flows / GDPR](#)
- [Climate Change Agreement](#)
- [Green Public Procurement for Data Centres](#)

Energy

- [Energy costs](#)
- [Parliamentary questions on power provisioning](#)
- [Streamlined Reporting framework for Carbon](#)
- [Energy use](#)
- [DSR: Demand Side Response](#)
- [Attributing carbon to cloud and data centre services](#)
- [APPCCG: Energy use of the Internet](#)

Compliance

- [Compliance heathcheck](#)
- [Generator Woes: IED/EPR](#)
- [More Generator Woes: MCPD and domestic generator controls](#)
- [Even More Generator Woes: EU ETS](#)
- [EcoDesign: Lot9 for servers and storage](#)
- [Heat Networks \(Metering and Billing\) Regulations](#)
- [Heat Reuse: Industrial Heat Recovery Support Programme](#)
- [The Joy Of MEES](#)
- [National Information Systems Directive](#)
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Other Business Risks

- [Resilience to severe weather](#)
- [Risk Radar](#)

Skills

- [Professionalism group](#)
- [Addressing the technical skills gap](#)

Standards, best practice and guidance

Platforms, Press and Programme Awards

Governance, Specialist Group, Community of Interest

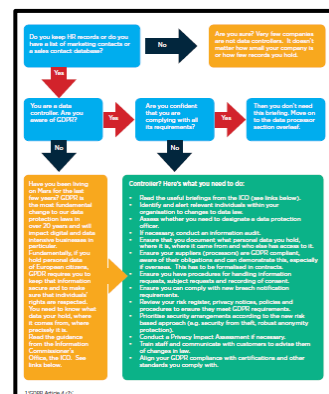
Further information / contacts

Policy Developments

BREXIT: Brexit is still a dominant issue and techUK further strengthened its policy team to ensure that the sector continues to play an effective role in the policy agenda. The Data Centres Council was represented at senior level at a round table with the DEXEU Select Committee on 26th January. We fulfilled speaking engagements on Brexit and data centres at DCIG, DCN, DCW, TIF, NDBS, Uptime and DC Ireland among others (see below), and advised DCMS. We also produced an [insight](#) in February comparing the requirements we stated in our 2016 [Silver Linings report on the implications of Brexit on the UK Data Centre Sector](#) with the commitments made by government in the [Brexit White Paper](#). Article 50 was triggered on 29th March, starting the clock for our departure and we commented on this in a video interview on 31st March with Data Economy magazine, to complement the [broader digital technology](#)

[perspective](#) published by techUK on 29th March. On 13th September, we published our [Brexit update](#) to our Show and Tell. This sequel to our 2016 report catalogued UK Government decisions and actions and techUK’s activity since October 2016 and, with these developments in mind, re-evaluated the balance of risk and opportunity in six key policy areas: data flows, trade, skills, energy costs, inward investment and environmental regulation. The result was rather a Groundhog Day affair: much activity but little real change. In the meantime techUK produced a flotilla of useful Brexit related publications on broader technology issues such as skills, trade, finance and data flows, which can be found [here](#).

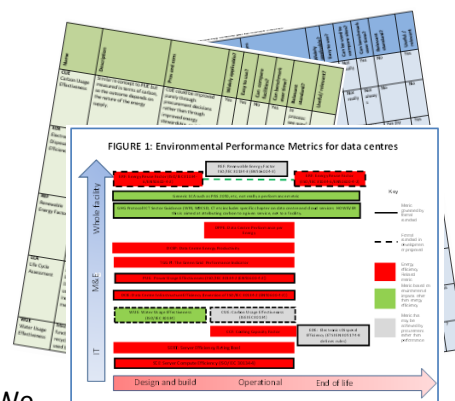
Data Flows /GDPR: General Data Protection Regulation: GDPR was on everyone's mind this year as the Regulation is implemented and there was relief that the Government intends to apply it in full and wants to ensure that the UK continues to be deemed adequate as a place for data to be stored and processed. We published [an informal perspective](#) in June and contributed to techUK's [major report](#) released in November. However, there is still confusion among operators who struggle to understand whether and how it applies to them. While pretty much all companies are data controllers of some kind, not all are data processors for third parties, so it was important to clarify the types of operations deemed to be data processing and where they occur in the data centre service stack. We produced a [Decision Tree on GDPR for Data Centres](#) in December for formal publication in January 2018.



Climate Change Agreement: We published our [third CCA report](#), on 13th September, which reviewed sector performance against our rather ambitious second milestone. While the sector as a whole passed its target the picture was mixed for individual operators. The report commented on the wider policy agenda relating to the future of carbon taxation and energy efficiency. We considered the future of the CCA scheme. Our biggest concern is that it will close to new entrants after 2018. New sites must register before the end of June 2018 to be certain of obtaining tax relief to 2023. This has very serious implications for operators with new sites coming on line and is particularly problematic for the data centre sector because, unlike many other energy intensive industries, it is growing fast. We will pursue this with BEIS in 2018 but to date we have had rather dusty responses to our requests.

Green Public Procurement for Data Centres: The European Commission is developing Green Public Procurement criteria for data centres. The objective is firstly to help public bodies buy sustainable services and secondly to use public sector buying power to drive the market towards better environmental performance. The initiative was met with anxiety: partly due to poor “GPP previous” and inadequate understanding of the data centre environment. We complete the initial survey, registered as stakeholders and developed an explanatory note assessing the [pros and cons of different data centre performance metrics](#). The Commission’s technical consultants met the Data Centres Council on 27th April to set out the direction of travel for the project. We also had a very constructive meeting with the lead consultants and representatives from the EURECA project to exchange information on 16th May. We attended the first stakeholder workshop on 16th November in Seville to review and discuss [the proposals](#) and provided [formal input to the consultation](#) by the deadline of 8th December.

On another procurement note we provided information to the US Government's Data Center Optimization Initiative on different models for consolidating and modernising public sector data centre estate.



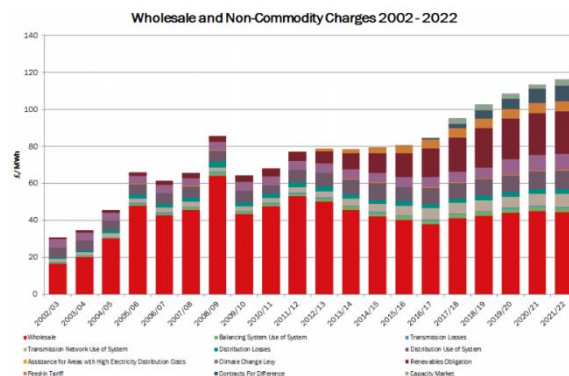
ENERGY

Energy Costs: we continue to fret about the impact of energy costs on the competitiveness of the UK sector and how the projected rise in non-commodity costs will affect operators from the end of 2017. We attended (and reported back on) meetings hosted by the Emissions Trading Group and by the Major Energy Users Council. We also contributed towards work being done by CBI with Treasury on the Levy Control Framework, which is no longer fulfilling its role.

We produced a [communication on the impact of energy costs](#) on competitiveness and ran a [Risk Radar session](#) on cost escalation in April. [Agenda, briefing notes and slides](#) are available. We made a plea to Treasury within techUK's wider Budget submission asking Government to be more consistent in the way that departments recognise energy intensive industries, so that data centres can be eligible for the same compensation that other energy intensive sectors enjoy and that more should be done to support growth.

We contributed to techUK's [response](#) to the BEIS and OFGEM [Call for Evidence](#) on a Smart Flexible Energy system in which we highlighted DSR policy contradictions. We contributed to techUK's input on the government's [Industrial Strategy](#) and to [techUK's Manifesto](#) with points on the impact of energy costs on competitiveness. On the broader energy front techUK has provided input on the role of technology in delivering the UK's emissions reduction plan ([Technology: Enabling CO2 reductions](#)), which revisited and updated arguments we made back in 2008 with [High Tech Low Carbon](#) and our [directory of case studies](#).

On the positive side, Government committed to making UK energy costs the lowest in Europe in its [Industrial Strategy](#) and Professor Dieter Helm produced an [Energy Cost Review](#) in October. This roundly criticised costly energy market interventions and proposed dramatic reforms. There was much to like in the report, which also recommended that industrial users should not fund renewables. BEIS [consulted on the review](#) and [we responded](#).



Power provisioning- Parliamentary Questions: In March the sector was mentioned in three Parliamentary Written Questions. We assisted DCMS in preparing their Ministerial answers. The questions related to power provisioning and whether supply was sufficient for growth. We prepared energy use data and a short [explanatory briefing note](#) that differentiated power provisioning from energy use.

Streamlining carbon and energy reporting: The [Government consultation](#) on simplified energy and carbon reporting was [presented at a stakeholder meeting](#) on 9th November. We were disappointed that the "simplification" was limited to the removal of CRC, which was already a given, and accompanied by significant scope creep in terms of what would be reported and by whom, and a clear desire to build on ESOS which many regard as an expensive waste of time. We provided input to the [techUK response](#).

Assessing sector energy use: Members expressed concern about erroneous and misleading claims about sector energy use being made by the press and by people who should know better. Building on our work last year where we explained why it is difficult to aggregate data centre energy consumption robustly we are working on a document that sets out the facts and dispels some of the myths. We have also had to make further use of our [Communication](#) on Power Provisioning and our [Donald Rumsfeld](#) piece and we also provided an [opinion piece on estimating data centre energy use](#) for DCW in March.

DSR (Demand Side Response): The move to a smart, decarbonised energy supply with a higher proportion of renewable generation will require flexible generation and demand side response is likely to form an increasingly important part of load balancing. Data centres could play a useful role here but regulatory constraints are likely to prevent this. We wrote a [Council Communication](#) explaining the issues and are now working with the Environment Agency, DEFRA and National Grid to resolve this paradox. MCPD (see below) will clamp down further on this, so 2018 may signal the end of DSR for data centres.

Attributing carbon to cloud and data centre services: We are working with the Government's Green Delivery Unit 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. We held our first meeting on 20th September and facilitated a discussion between members and external stakeholders to explore some of the issues that have to be addressed and whether there are any rules of thumb that can be applied. A follow up meeting took place on 11th December. This work will continue into 2018.

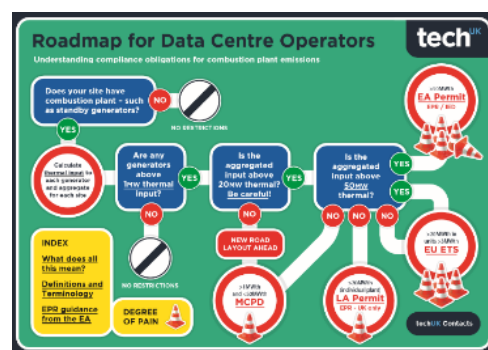
Policy Connect / APPCCG Inquiry on the carbon and energy impact of the internet: The All Party Parliamentary Climate Change Group is producing a report on the carbon impact of the internet. We contributed evidence to techUK's initial response to the Inquiry, on 27th November. A draft of the proposed report has since been circulated for further comment by the steering group. It is well written, sensible and balanced in approach. The activity will continue into 2018. In the meantime the original brief is [here](#).

Compliance

Compliance Heathcheck: Data centre operators struggle to keep abreast of the alphabet soup of regulatory obligations placed upon them. This complexity is worrying, especially where the reputational risk or penalties are severe. We put together a list of compliance issues that operators should be aware of in the form of a [Data Centre Compliance Health-check](#). This is not comprehensive but it picks up the usual suspects and a few other less familiar issues. We will be updating this periodically.

Generator Woes: IED/EPR (Industrial Emissions Directive/Environmental Permitting Regs): Generator permitting under IED/EPR is still causing lots of problems for larger operators (with standby capacity >15MW): the process is costly and cumbersome. We invited the Environment Agency for a closed workshop with affected operators on Friday 5th May which clarified the evidence needed by the Regulator and (even better!) what actions were not necessary. We followed up with data gathering on outages, clustering and briefing materials. Our notes on [Emergency Generation in Data Centres](#) came in handy here (again!). We are developing guidance for operators.

More Generator Woes: MCPD: The Medium Combustion Plant Directive was transposed in 2017 and will be implemented through EPR. Generators must meet minimum emission level values (ELVs) and be registered. Government [consulted on the proposals](#) and we ran an [informal workshop](#) on 11th January, [responded to government on the implementation of MCPD](#) on 8th February, represented the industry at a stakeholder meeting on 12th July to review draft guidance, provided feedback to the Environment Agency guidance on 8th September and maintained pressure on DEFRA to implement concessions for emergency standby plant, with some success.



DEFRA has also developed additional domestic proposals for diesel generators to address the issue of NOX from generator farms established to increase UK capacity. Data centres are exempt from these requirements if certain criteria are met. DEFRA and the EA differ on what these should be. Due to the complexity of the proposals we are developing bespoke guidance for the sector and held a useful call with the EA on 18th December where they explained the policy intention and provided helpful feedback on our own draft guidance. MCPD will come into force at the end of 2018.

Even more generator woes - EU ETS (EU Emissions Trading Scheme): We continued to iron out ETS related issues for members who found themselves obliged under the current phase (III). We also fought hard for exemption from the next phase (IV) on the basis that applying the scheme to very low emitters is clearly barmy. We sought a *de minimus* emissions threshold. We were not optimistic because BEIS reported little traction with other member states (primarily because other countries apply ETS less rigorously!). Nevertheless we provided BEIS with data on emergency generation, on generator run hours and how they are recorded. Our [Technical Committee](#)'s briefing note on [Emergency Generation in Data Centres](#). Proved useful in the discussion. In November we heard that Phase IV (from 2020) should include a *de minimus* of 2,500 tonnes which should exempt all UK operators if all goes well.

Heat Network (Metering and Billing) Regulations: The purpose of this legislation is to address perverse incentives that discourage tenants from taking energy efficiency measures because they will not benefit from the savings. So companies providing heat or, more relevantly, cooling, to multiple customers or end users must be able to meter that provision and bill it accurately. Data centres providing chilled water cooling, district or shared heating could be captured under certain circumstances. We started work with BEIS and operators to establish whether any sites are in scope and how the legislation might affect future design and operation. We issued a [provisional briefing note](#) and held a useful workshop and Q&A with BEIS for 19th July. Officials from BEIS visited a data centre in November to see at first hand how these facilities work and a follow up meeting is scheduled for January.



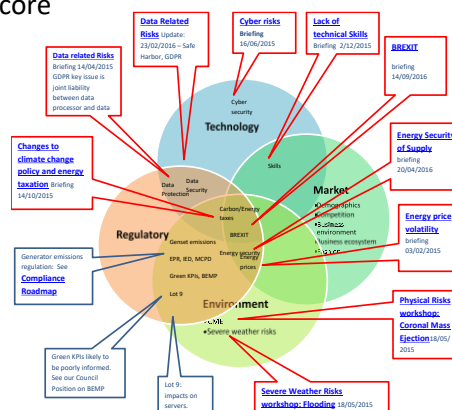
NIS: National Information Systems Directive: Primarily concerned with improving the security of essential services like power and digital networks this legislation included proposals on cyber, physical security and system outages. The requirements were in line with existing best practice and we contributed to a techUK response led by our cyber team

MORE BUSINESS RISKS

Resilience to severe weather risks (Adaptation Reporting) Back in January we submitted our [report on the sector's readiness for climate change risks](#) to DEFRA, were grilled by the Climate Change Committee in February and met DEFRA's team on 3rd July to consider approaches for reporting in future where we shared our [sector level actions](#) to improve resilience. On 27th September we met DEFRA and DCMS for a discussion with the ECRRG (Electronic Communications Resilience and Response Group) on a suitable template for the ICT sector to use as a basis for future reporting. DEFRA is updating its National Adaptation Plan to ensure that the UK's core infrastructure is resilient to flooding, higher temperature and humidity and greater volatility in weather conditions. This dialogue will

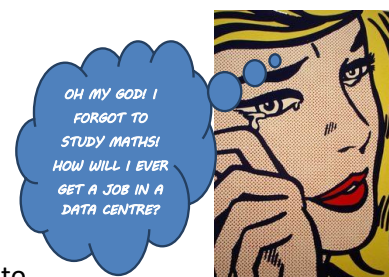
continue.

Risk Radar: We continued our series of [Risk Radar Briefings](#) with a session on [escalating energy costs](#), how to predict and manage them. The series will continue into 2018 with sessions scheduled on compliance in February and on technical skills in April.



SKILLS

The [Professionalism steering group](#)'s remit is to seek ways to address our technical skills shortage, raise the level of professional registration and improve recognition of existing skills within the sector. We held a very productive meeting with IET on 29th March to set out plans to upgrade professional representation for the sector. We are now engaging with the IET and other representative bodies to work together on skills issues in data centres, learn from each other, share content and benefit from wider outreach to educational institutions and potential future employees. A [template](#) for industry role models is available to develop a series of case studies featuring individuals working successfully within the sector.



Addressing the technical skills gap: The group is supporting the development of a bespoke Apprenticeship Standard for Data Centre Technician and produced an [explanatory briefing on Trailblazer Apprenticeships](#). We explained why the sector is a career destination of choice in our summary [Why work in a data centre?](#) and we provided a short note setting out the best routes to a career in the sector with [Oh my God, I forgot to Study Maths](#). Our joint project with IECT continues to help streamline the route to professional registration for technical staff already working in the industry. Our final output in 2017 was an opinion piece on [how the industry can attract and retain more women](#) in technical roles, since published. This will continue into 2018 as will our work with other representative bodies to address our collective technical skills shortage.



Standards and Metrics

Environmental Standards and performance metrics: As many will know, the best practices from the EU Code of Conduct for Data Centres were adopted by CEN/CENELEC as a technical report and are in their second iteration. Following our [Communication explaining the implications of this development](#) we drafted a note on [environmental performance metrics](#) for data centres that sets out what a good metric should do and explains the limitations of those currently in use. We have also strengthened our engagement with standards bodies BSI, CENELEC and ISO.

Platforms, Press, Events and Jollies

Platforms: We spoke at [Data Centres North](#) in Manchester on 14th and 15th February, presented our regular policy updates at the Data Centre Interest Group in February, May, August and November and spoke on energy and on the implications of Brexit for the sector at [DataCentreWorld](#) on the 15th March at ExCel. We chaired a session on GDPR in Monaco for [DataCloud Europe](#) in June where we also judged the [DataCloud Awards](#). We spoke at the NoordGroup Tech Infrastructure Forum in May and October on Brexit, policy and skills, at the joint DCA / University of Leeds [Data Centre Transformation Conference](#) in Manchester on 11th July, at the [Schneider-Electric Innovation Summit](#) on skills on 7th September and at the [Nordic Digital Business Summit](#) in Helsinki on 5th October. These were followed by a talk for the Westminster Forum on Climate Change Adaptation on 10th October, one at Uptime on 16th November on Brexit, at [Data Centres Ireland](#) on 23rd November on GDPR and at BCS on 5th December on the way that the sector is perceived.

Press coverage included an opinion on the [implications of Brexit for data centres](#) in DataCentreDynamics, another [piece on Brexit](#) for DataCentreWorld, a [blog on data centre energy use](#) in BusinessGreen a [video interview](#) in Data Economy on the implications of Brexit for data centres, a blog in [BusinessGreen on sector energy use](#), a longer article in the Journal of the Institute of Telecommunications Professionals (ITP) on climate change risks and an interview for Computer Weekly on energy costs. We also enjoyed the honour of being included in the [top 50 of EMEA influencers](#) by Data Economy magazine.

Special events included our [Show and Tell and Programme Awards](#) on 13th September, kindly hosted by CBRE, sponsored by Future-Tech and Schneider-Electric. After launching our [CCA Target 2 Report](#) and our [Brexit update](#), we presented 20 programme awards to recognise outstanding contribution to the programme and diversity in the sector.



Governance, specialist groups and community of interest

The [UK Council of Data Centre Operators](#) provides strategic direction for the programme and held five meetings in 2017 to review priorities and confirm the direction of travel. We were very sorry to lose Mark Yearwood who has been a core contributor, but delighted to welcome new members including Andrew Fray from Interxion, Ross Woodham from Cogeco Peer1, Ian Dixon from Colt, Jim Kirkby from Gyron and Mike Bennett from Cyxtera. Council ToR, member bios, application criteria and Communications are on the [Council pages of our website](#). All papers available on request.



Technical Committee: This group advises Council and provides an informal source of technical and market information to government and other stakeholders at the pre-consultation stage, to help inform policy.

Professionalism Steering Committee: This group works to address the technical skills gap, both long and short term, improve professionals representation and present the sector as a career destination of choice.

Data Centres Group: This group is our core community of interest. More information can be found on our website: <http://www.techuk.org/focus/programmes/data-centres>

Further Information

Previous activity digests can be found here, including [2016](#), [2017 Q1](#), [2017 Q2](#) and [2017 Q3](#) (All programme overviews can be found [here](#)) Alternatively please contact:



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Emma Fryer, January 2018