# GPP for Data Centres

# techUK observations on final (third) draft criteria

***11 January 2019***

**Introduction**

Green Public Procurement Criteria for data centres are now being finalised. The objective is to ensure that public bodies can make informed, sustainable choices when procuring data centre services and that the public sector exploits its purchasing power to drive the market towards greater long term sustainability. techUK supports this aim: our objective is to ensure the sector has a viable long-term future and we believe this is contingent on the ability of our operators to demonstrate best practice in energy stewardship and use resources conscientiously.

The policy dialogue on Green Public Procurement has been a productive one in which it is probably fair to say that everyone has learned something. The stakeholder meetings were well run, appropriate stakeholders were engaged and their views were acknowledged and, where possible, accommodated. This is not always the case and so is worthy of comment. We broadly welcome the criteria as developed and are especially pleased to see the following:

- The frequent referencing of existing, international, peer reviewed, industry standards, tools and best practices. Since these tend to be under regular review, this will help ensure that the criteria stay up to date.

- The inclusion of server rooms in the scope; while we question the applicability of the reference data to the wider industry, we nevertheless believe that small server rooms comprise a significant proportion of activity and also provide the greatest scope for efficiency improvements.

- Recognition that there are too many different business models to apply a one-size fits-all approach, and the restriction of the scope of certain criteria from applications where they would be ineffective or counterproductive.

In terms of reservations, we have minor concerns about certain details, including definitions and references. These are iterated in the table below.

We have a small number of more major reservations. These relate primarily to qualitative aspects of the exercise, including the policy process itself. These include:

<u>Data</u>

We remain very uncomfortable with the market data used in the technical report. Poor quality data is too frequently presented as a basis for regulatory intervention and we believe that this can undermine confidence in the policy process. Total sector energy use is unclear and projections derived from assumption-based modelling are unlikely to be helpful. We take particular issue with the projected energy growth of the sector to 2030. We do not think the sources cited are reliable. The UK is probably the only country that reports measured, audited data for the commercial data centre sector, by far the largest in Europe, which in 2016 used 2.57 TWh of power[1] (0.76% of UK electricity use and 0.28% of the UK's primary energy supply, taking into account the generating efficiency factor). While a more complete picture is slowly emerging, for the moment data reliability is a real problem and this should be acknowledged more candidly.

[1] CCA Report on Progress against Second Target, techUK 2017

Emphasis on Life Cycle Assessment (LCA)

We think that there is too much emphasis on LCA outcomes. LCA is a very useful tool for identifying hotspots in the life cycle but we believe that it is almost completely ineffective in identifying some of the most significant opportunities for energy saving – such as right sizing, outsourcing, consolidating[2]. The fact that LCA identifies energy source as the most important contributing factor should immediately raise a warning flag regarding the appropriateness of such a tool for this purpose. While we encourage operators to opt for renewable power where possible, such a move should not be confused with energy efficiency and power purchasing choices should never be used as a substitute for good energy stewardship. We welcome the fact that the associated criterion recognises this and references an appropriate standard.

Proof of Pudding test

As mentioned in previous submissions, we are not confident that adherence to the criteria will inevitably deliver improved sustainability. We remain concerned that there is insufficient emphasis on right sizing, on suitability, and on operating model. We understand that these qualitative aspects are difficult to encapsulate in criteria and perhaps could more easily, and meaningfully, be accommodated in guidance. We recommend that local authorities are asked to ensure that:

1. The proposed provision is suitable for the requirement, e.g. not over specified in terms of resilience, redundancy, power provisioning or security (all of which impose energy and other resource burdens).
2. The proposed provision has been right-sized to the requirement (future hardware requirements are not necessarily well-informed by existing hardware use).
3. The IT hardware itself is appropriate for the task being done.
4. There is an adequate decision making process in place to evaluate the different options for delivering this function – e.g. outsourced to colocation, cloud, MSP or in-house.
5. That sufficient information is available on existing, successful business models.

Managing Expectations

Data centres are complex environments that bring together multiple vertical sectors and technologies and vary markedly in operation and business model. This makes it very tricky to develop robust, one-size-fits-all sustainability criteria. The industry itself has to rely on a range of metrics and standards to reflect these differences[3] and has demonstrated long term commitment to making these widely applicable and robust. We accept that this is likely to be an iterative process and will continue to contribute to the ongoing dialogue.

**Further Information and Contacts**

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**About tech UK**

techUK represents the companies and technologies that are defining today the world that we will live in tomorrow. The tech industry is creating jobs and growth across the UK. In 2015 the internet economy contributed 10% of the UK's GDP. 950 companies are members of techUK. Collectively they employ more than 800,000 people, about half of all tech sector jobs in the UK. These companies range from leading FTSE 100 companies to new innovative start-ups. The majority of our members are small and medium sized businesses. www.techuk.org

[2] Evaluating the Carbon Impact of ICT: the Answer to Life, the Universe and Everything)

[3] Data Centre Performance Metrics for Tiny Tots)

**EU GPP comments form**

| No. | Reference: document Tech Report 3rd Draft | Subject of the comment | Comment |
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| 1 | | General | We welcome references to EN 50600-2-3 and EU CoC and other bespoke standards and tools. However, regarding the Code we think that it might make sense to refer to "the current version" rather than a specific year, since the code and the associated TR are updated annually.<br><br>Purely on a cosmetic level we'd like to see data centre spelt consistently – occasionally an Americanised spelling (Data Center) creeps in (eg in Figure 2) |
| 2 | Page 12 | Definitions | Should you include a definition of server rooms here? |
| 3 | Page 17 | Scope and definition | We strongly welcome the expanded scope to cover server rooms. While nobody is perfect, we think this is where the application of approaches like GPP can deliver the most significant policy outcomes. |
| 4 | Page 17 | Scope and definition | 80% of data centres…within this sample this is correct but you have to be very, very careful with numbers here because this figure does not translate into energy use or server numbers. We agree that a significant proportion of the data centre market is distributed in on-site premises, enough to justify the scope you have adopted. We agree that this figure could be 80% by number but these are very small facilities, identified in a project focusing on, er, small facilities. Moreover you have to bear in mind that larger public sector authorities will already have outsourced their data centre services either to colo, cloud or IT service providers (we understand from Cabinet Office that by 2016 70% of UK central government data centre activity was already concentrated in 20 outsourced facilities). |
| 5 | Page 19 | Table 1 – Server rooms | We don't think that server rooms should be described as data centres, ever. Even though some can be large. A server room is an on premises location for the computer servers that provides corporate IT functions. Server rooms tend to handle non-critical workloads and are likely to have lower resilience than data centres (e.g. enough battery backup to enable the systems to shut down safely in the event of power failure but no emergency generators). We appreciate that definitions are always cans of worms so you could say "<u>like</u> a small data centre" we could live with that. |
| 6 | | Table 2 | A server room should not be described as "a small scale data centre" See above. |
| 7 | Page 47-50 | Market data | We are sceptical about the quality of data being presented and remain very uncomfortable about future predictions: they are used to justify policy intervention but everyone knows that they are meaningless in |

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| | | | the context of disruptive technologies. The fact that the sector is energy intensive and is operating in a market where there are major growth drivers should be enough justification for scrutiny. We see an increasing tendency in government to exaggerate future impacts as a basis for policy intervention, and then claim improvements are evidence of successful policy when in fact they are largely attributable to business as usual. |
| 8 | Page 52 | LCA data | We remain sceptical about the usefulness of LCA data when setting priorities. LCA outcomes suggest that the best way to make a data centre sustainable is to change the energy mix to renewables. In fact, the best way to make a small badly run server room efficient is to shut it down and outsource or consolidate the IT functions it supports. We note that the LCA priority list now includes "right sizing", which is very welcome. However we would be interested to know whether this emerged from the LCA itself or was added subsequently. |
| 9 | Page 59 | Right Sizing | We are pleased to see right sizing included here. |
| 10 | Page 119 | TS 1.4.1 | We are not convinced that the inclusion of A3 class will necessarily improve efficiency as much depends on what the server fans are doing. A3 is not intended for continuous use but this seems to be reflected in the criterion wording. |