SCOTTISH FUTURES TRUST

Scottish Futures Trust

SCOTTISH DATACENTRE LOCATION REVIEW

17 January 2018

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Executive Summary

The Scottish Futures Trust (“SFT” or “we”) has commissioned CBRE to undertake a Datacentre Site Selection research project in Scotland. SFT recognises the importance of a developed, strong datacentre sector in driving and supporting a wide range of economic activity in the country. We are keen to support the wider development of this sector, engaging with current owner/operators and encouraging new entrants to the Scottish market at all levels of scale – i.e. from micro datacentres to hyperscale opportunities.

We have set out to identify the optimal locations in Scotland for a data centre ecosystem to thrive, and CBRE have been specifically directed to focus their research on the identification of potential data centres campus sites within Scotland. We are keen for Scotland to follow best in class development and support of the sector, and in particular to consider the Irish model where datacentre ‘corridors’ have been recognised as delivering exponential growth and economic development opportunities in an area.

In addition to this research, SFT has commissioned a study by Gartner to consider the demand for data and datacentres in Scotland. It is strongly recommended that these two documents are considered together to provide an overall picture of the demand and supply side to the sector in Scotland and the opportunities that derive therefrom.

CBRE were also specifically instructed not to include three existing datacentre developments, being Pentland Studios (Edinburgh), Pyramids (Bathgate) and Queensway (Glenrothes, Fife). This allowed the study to focus on sites where no datacentre suitability due diligence had been undertaken. However, for completeness we have included information on the above sites in this document as these represent strong sector opportunities for investment in Scotland.

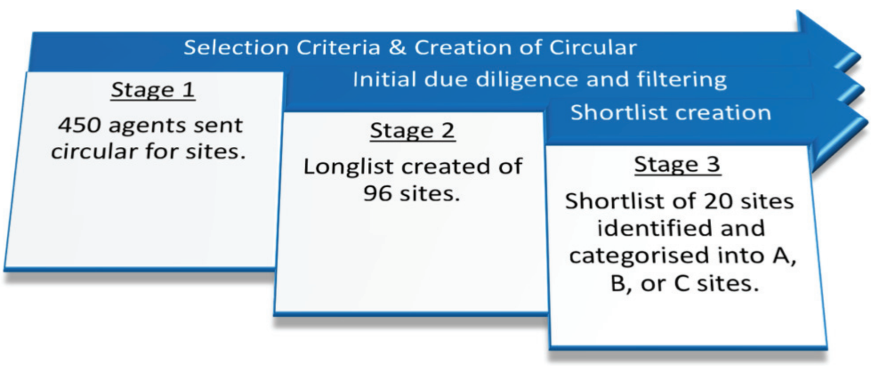
The Top 20 sites identified by the CBRE work are as follows (in alphabetical order)

- Aberdeen Gateway Business Park, Aberdeen;
- Badentoy North, Aberdeenshire;
- Eurocentral land, Mossend;
- The Faulds Building, Gourock;
- Fife Interchange North, Rosyth;
- Fife Interchange South, Rosyth;
- Gartcosh Business Interchange, Glasgow;
- Glenbervie Business Park, Bellsdyke Road, Larbert;
- 8 Grayshill Road, Cumbernauld;

- i3, Irvine Enterprise Area, Riverside Avenue, Irvine;
- Former Jabil Circuits Facility, Oakbank Park Drive, Livingston;
- John Smith Business Park, Kirkcaldy;
- Lomondgate, Dumbarton;
- North Canal Bank Street, Glasgow;
- Nova Business Park, Glasgow;
- Oracle Facility, Blackness Road, Linlithgow;
- Swinhill Avenue, Larkhall;
- Upperton Industrial Estate, Aberdeenshire;
- 5 Wardpark Road; and
- Westfield One, Grayshill Road, Cumbernauld.

CBRE Methodology

The following methodology was used by CBRE.



Stage 1

The requirement circular was managed through CBRE's local market brokers and submitted across Scotland via the Estate Agents Clearing House. Individual phone calls to industrial brokers and developers were conducted resulting in a high response rate. Further cross checks were carried out against CBRE's Industrial in-house database.

Stage 2

Initial desktop research was carried out to reduce the responses down to a longlist of potential sites through a filtering process looking at the following risk areas:

- Flood;

- Flight;
- Transport; and
- COMAH.

A separate attachment/file provides all the sites considered on the longlist.

Stage 3

A further two main filters (Fibre and Power) were applied to the longlist of sites resulting in the deselection of over 50 sites. The "Top 20" sites were then sorted into A, B and C quality sites based on their respective grading against each of the filters applied.

A separate attachment/file shows the filtered Top 20 shortlist.

The filters used to create the shortlist can be seen on the RAG reports and include:

- Network connectivity (CityFibre/Zayo/Virgin);
- Neighbouring risks (e.g. flight paths and high speed rail);
- Neighbouring uses (e.g. residential, COMAH listed establishments);
- Power availability (+10MW available); and
- Plot size (ideally greater than 10 acres)

Appendix 1 provides a map showing the location of each of these sites. Not unexpectedly, there is a proliferation of sites in the Central Belt.

In CBRE's opinion all 20 sites have good potential to be data centre sites although, as would be expected, some are better than others. There is a mix of sites with

- existing buildings;
- warehouses;
- Enterprise Zone locations; and
- enormous regeneration potential.

Current Datacentre Developments

In addition to the fully operational datacentres in Scotland, including the recently opened Fortis facility, the following three datacentre projects are all in varying degrees of development. We specifically requested that CBRE not investigate these projects as we wanted them to focus on potential, rather than actual, development sites. However, the following three projects represent a very positive outlook on the Scottish datacentre sector and we are keen to support their development and operational success.

LOCATION	COMMENT	COLO/HYPERSCALE
Pentland Studios, Edinburgh	Greenfield site forming part of a comprehensive mixed use development including film studio complex (250,000 sq ft) and teaching facility. Site size is flexible. Development includes independent power generation facility.	Colo
Pyramids Data Centre, Bathgate, West Lothian	Existing development providing data centre space in multiple phases ranging from 60,000sq.ft to 500,000sq.ft with additional land for further expansion. 2 x 24MVA mains power supply. 5MW proposed on site solar farm plus a proposed c20MW solar and battery farm on nearby site with private wire. Multiple fibre providers including access to tier 1 carriers Zayo, SSE and Sky. Variety of fit out options ranging from powered shell to fully fitted and operational white space. Experienced delivery team with multiple data centres in UK regional locations.	Colocation /Possibly Hyperscale
Queensway Datacentre, Glenrothes, Fife	Land with consent for a data centre campus currently under construction and with a 100% renewable energy connection	Colocation /Possibly Hyperscale

Top 5 Identified Sites

CBRE have rated the Top 5 sites mainly Green with some Amber against each of the filters. Notwithstanding the Oracle Facility, all of the sites have over 25 acres of available space, are currently on the market for Freehold sale and have both power and fibre in close proximity.

The following table provides comment on each of the sites.

LOCATION	COMMENT	COLO/HYPERSCALE
Eurocentral	Vacant land situated in a prime distribution park on the M8 between Glasgow and Edinburgh. Near to existing data centre. 100 acres. Near to power and fibre. Good access and space for a campus.	Hyperscale
North Canal Bank Street	Former Johnny Walker (Diageo) Bottling Plant to the North of Glasgow City Centre. All filters are Green. 27 acres. Near to power and fibre. Good potential to redevelop a site. Limited expansion but in Glasgow	Colocation /Possibly Hyperscale
Gartcosh Business Interchange	Cleared Site. Owned by Scottish Enterprise. No high-risk factors. 210 acres. Main power very near, secondary power 8.5km dig. Good access near to Glasgow, good campus size.	Hyperscale
i3, Irvine Enterprise Area	Enterprise Zone. Local authority indicates a change to data centre use would be favoured. 330 acres. Future potential of a nearby submarine landing cable to the west of the site. No high-risk factors. Good campus size	Hyperscale

LOCATION	COMMENT	COLO/HYPERSCALE
	and potential for low latency connection to Dublin DC market.	
Oracle Facility, Blackness Road	Existing power connection and fibre. Large 186,523 Sq Ft existing building with potential to refurb/refit and grow thereby reducing procurement costs. Good location and potential rapid to market opportunity.	Colocation / Possibly Hyperscale

Just outside of the "Top 5" are the Fife Interchange North and South sites, between which is a major Amazon distribution hub (i.e. a potential major customer/end user). Whilst it is acknowledged that, currently, fibre is lacking in near proximity to those sites, a relatively modest investment would be required to dig in an appropriate level of fibre (for example the Facebook site in Lulea, Sweden).

Conclusion and Summary

CBRE recommends further onsite due diligence by interested parties against the Top 5 sites highlighted in their shortlist and that there is considerable merit in further examination of the remaining 15 sites within their Top 20. Furthermore, they recommend discussions with the Landlords, DNO, fibre providers and local authorities to ascertain support for the creation of data centre sites (ideally on the basis of a campus structure), fibre and power dig quotes and timelines, and latency ratings to and from major connectivity hubs including:

- Edinburgh/Glasgow/Manchester;
- FLAP locations (Frankfurt/London/Amsterdam/Paris);
- Dublin;
- Moscow; and
- Oslo/Stockholm/Copenhagen.

CBRE have concluded that there are several good locations for a data centre campus to be created in Scotland. They acknowledge that the data centre market is highly competitive and, as a developing sector in Scotland, it would benefit from a strong development strategy. The Nordic region has worked together to market their unique offerings and, in particular, the Irish Government has made it easier for the data centre industry to grow (for example the recent intervention to assist in Planning Approvals for the new EUR850m Apple datacentre in Athenry[1]). Scotland has a plentiful supply of cost effective land, power and a cool ambient climate. CBRE conclude that what is currently lacking is a major international connectivity strategy and a clear data centre strategy from the Scottish Government.

[1] https://www.siliconrepublic.com/enterprise/apple-data-centre-athenry-galway

CBRE believe that Scotland could create a possible unique proposition that centres around its proximity to Ireland to provide a secondary compute and storage location for the datacentre hyperscalers (i.e. Google, Amazon Web Services, Facebook etc.).

Finally, CBRE recommends that prior to taking any proposition to the international market that all incentive, government support, fibre latencies, confirmed power availability, green credentials, planning and a host of other elements important to prospects are prepared. CBRE believe that there are a number of significant opportunities for Scotland as major companies scan the European landscape for suitable locations of size and economic viability. However, they do not consider that the current Scottish marketing proposition is strategically thought through, well prepared or as "polished" as its main competitors, specifically Ireland[2] and the Nordic[3]/Scandic[4]/Icelandic[5] regions.

[2] http://hostinireland.com/

[3] http://www.innovasjonnorge.no/en/start-page/invest-in-norway/industries/datacenters/

[4] https://www.business-sweden.se/en/Invest/industries/Data-Centers-By-Sweden/

[5] http://www.invest.is/key-sectors/data-centers

Appendix 1 – Map of the Top 20 sites