

Advantages and disadvantages of the data center operation in Europe vs the Americas

Gustav Bergquist

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Status of the Wholesale and Hyperscale market in the Nordics

- By objective standards there is virtually no true Wholesale market in the Nordics
 - Not in terms of technical solutions and scale
 - Not in terms of price as compared to the Wholesale market in FLAP and the US
- Activity of top-10 cloud players in the Nordic region indicate a gap in the market
 - A lot of interest, but only a few have the scale and resources required to do a self-build
- Recent cut of the specific tax applied to electricity in Sweden lowered the total electricity cost by about 50%
 - This we believe creates an opportunity to enter the market with a true Wholesale offering
- Hyperscale is gaining momentum in the Nordics
 - Google in Hamina, Finland
 - Facebook in Lulea, Sweden and soon in Odense, Denmark
 - Rumors of another facility in Sweden

UK market pre Brexit

- Significant uncertainty will affect the UK market and investments until the conditions of Brexit are fully known
- Regardless of mirroring the EU-privacy laws, there will remain uncertainty in terms of legislation over time, EU member states will not be able to change legislation but the UK will
- In some sense the UK will most likely experience the same situation as Norway, even though it may not be a legal issue, the question will almost always be asked and create some concerns
- A not UK specific comment is also that the troublesome power situation in many European countries create uncertainties in long term power pricing

The power situation in the European Union

- Key Data Center hubs already face short to medium term challenges
 - London – the UK market has issues transforming power production to renewables and leaving the EU is hardly increasing it's attractiveness
 - Frankfurt – the German Energie Wende has set energy markets in turmoil, showing negative prices on sunny windy days and extremely high prices on cloudy and windless. The large volume of renewables has also de-stabilized the German grid
 - Amsterdam – The Netherlands is keeping as quiet as possible on news that it's Groeningen natural gas deposit is showing signs of having far less natural gas left than previously anticipated. Transition to Russian natural gas is a high-stakes game of geo-politics
- The Nordic region looks promising
 1. Extremely low CO₂-emissions per kWh (Sweden 10.5g CO₂/kWh as opposed to the EU average of 275.9g CO₂/kWh)
 2. Very reliable and non-volatile pricing, about \$3ct/kWh
 3. Revenues from selling 100% of Data Center heat to District Heating systems
 4. Both Swedish and Finnish governments has lowered the specific tax on energy to Data Centers

Data Sovereignty

- On the 14th of July 2016 a US judge ordered that Microsoft could not be forced to hand over e-mails stored in it's Dublin facilities to US law enforcement
- Early February 2017 another US judge diverged from precedent (the Microsoft case) and ordered Google to hand over emails sought by the FBI
- Conclusion is that there is still uncertainty weather or not data stored in the EU is subject to US authorities actions – this will most certainly impair cloud adoption, with leading cloud companies being US
- The EU Single Market initiative will create a foundation to cancel these issues between EU countries, making site selection from this perspective easier