

10 September 2020

Eric Gertler
President, Chief Executive Officer & Acting Commissioner
Howard Zemsky, Chairman of the Board
Empire State Development Corporation
633 3rd Avenue, 37th Floor New York, New York 10017

Copies:

Elizabeth Fine – EVP, Legal & General Counsel, ESDC
Pravina Raghavan, EVP, Small Business Services/Comm. Economic Development, ESDC
Honorable Andrew Cuomo, Governor, New York State, State Capitol Building, Albany, NY

Re: Covid perspective on ESDC support for data centers and local communities/small businesses

Dear Messrs. Gertler and Zemsky:

In less than a year, the Covid-19 pandemic has brought turmoil to economies around the world, including that of New York State. According to one Washington Post economics correspondent, the pandemic has “erased five years of economic growth.”¹

As you know, our state and local governments face looming, massive budget shortfalls of uncertain scope and duration, with nearly 1.5 million people currently unemployed in New York. Critical social services are at risk of being eliminated due to financial hardship, further compounding the Covid-19 crisis and disproportionately impacting low-income and disadvantaged communities. The social and economic costs of the pandemic are unprecedented in our lifetimes, and yet, our current losses due to Covid will be dwarfed by the unfathomable, yet certain, ecosystem die-off from climate change.

ESDC must be prepared to confront these dual threats as it meets its economic development functions and duties.

As concerned residents and taxpayers in New York State, we urge that ESDC adjust its grant award strategies to accommodate new economic realities and societal imperatives by:

1) Prioritizing the budgetary needs of counties, town, villages, and school districts.

Covid has required the shuttering of many local businesses to maintain public health. Many of these restaurants and shops are the basic economic and social fabric of communities across the state, with local employees, and profits that are reinvested into Main Street. ESDC must prioritize economic development plans that will retain the integrity of our counties, towns,

¹ Heather Long, economics correspondent, Washington Post audio blog, Aug 4, 2020

villages and school districts, and not favor large-scale out-of-state developers seeking millions in state assistance.

2) Ensuring that grant applications do not violate emissions goals in the Climate Leadership and Community Protection Act, especially for high energy use projects such as data centers.

Awarding millions of dollars to projects through the ESDC must take climate impact into consideration. Owners of decommissioned power plants must surrender their air emissions permits and not pursue combustion-based power generation at these sites. If an ESDC award will lead to emissions beyond our state law, it must be denied.

3) Ensuring that ESDC grants do not enhance the economic inequality exposed by Covid through awards to wealthy applicants at the expense of community businesses.

It is our broad-brush understanding that so far this year, the data center industry—due in large part to the sudden need for social distancing and more cloud-based computing—has landed squarely in the camp of “Covid beneficiaries” (see Table 1 in Appendix One) along with vaccine and computer companies, whereas the counties, cities, towns, villages, and school districts and many small businesses have landed squarely in the camp of “Covid losers.” The economic viability of New York depends upon support for local enterprises. Any grant applications for establishment of data centers should be tabled indefinitely as explained below.

The URL, cloudscene.com/top10, lists the top four data center companies in North America (larger to smaller) as Equinix, Digital Realty Trust, CoreSite, and CenturyLink. As you can see in Table 1 in Appendix 1, the top three ranking data center companies have a combined capitalization of about \$116B and share price increases year-to-date of 29%, 26% and 5%, respectively. The fourth-ranking data center company, CenturyLink, has a capitalization of about \$12B, but has a share price decrease year-to-date of -16%. Investor funds are flowing freely to this sector, but nonetheless some large, well-established data center providers like CenturyLink and China Telecom have suffered share price declines. In this fluid well-capitalized business sector, we don’t see how grants from ESDC would be at all relevant to the success or failure of data center ventures in New York.

We are attaching as Appendix Two some particular concerns we have about applications for ESDC grants from owners of decommissioned coal-fired power plants or other contaminated sites adjacent to water bodies. Use of cooling water extracted from nearby water bodies is a harmful, last century technology that should no longer be permitted. And, while it’s true that Massachusetts has had notable success siting solar energy projects on brownfield sites, with the exception of a Google project in Minnesota (see appendix 2), we are unaware of other siting of new data centers on brownfields that may succeed. To date, urban centrality appears to be a *sin qua non* for current data center location. Such locations are mission critical to “low latency”, which means fast connection times.

Here is Equinix, the largest data center operator in North America describing their US locations:

“On this global platform for digital business, companies come together across more than 55+ markets on five continents to reach everywhere, interconnect everyone, and integrate everything they need to create their digital futures. In the United States, Equinix operates data centers in Atlanta, Boston, Chicago, Dallas, Denver, Los Angeles, Miami, New York Philadelphia, Seattle, Silicon Valley, and Washington D.C.” (equinix.com)

Equinix describes their need to be urban-centric here:

No investment in latency reduction tactics can deliver the impact that can be gained by removing the distance between data, applications, clouds, partners and users. As the world continues to digitize, interactions are happening at the edge—close to population centers, where the digital and physical worlds meet, and where businesses come together to exchange information and services. This is the digital edge. (Global Interconnection Index Vol. 3, p.1, can be downloaded here: <https://www.equinix.com/interconnection-services/>)

Proposals to site data centers at former coal-fired power plants that are distant from major metropolitan areas are at odds with current industry practice. Beowulf Energy/Bicent/Heorot Power (prior to the transfer of its assets to Freyr Dataenergy Inc., and Mjolnir Energy Inc.— hereafter “Freyr-Mjolnir”) is understood to have applied to ESDC for \$65M to build an Empire State Data Hub at the Cayuga and Somerset/Kintigh decommissioned power plants.

In sum, we request that if data center projects are still under consideration, the ESDC adjust its award criteria to accommodate Covid Era economic realities, and in particular, prioritize the budgetary needs of counties, town, villages, school districts and small businesses.

Thank you for taking our concerns under advisement. We look forward to hearing from you.

Respectfully,

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Appendix One.

Table 1. Share price winners and losers in the Covid era year-to-date					
Company (orange shading means some data center business)	Share Price Jan 2, 2020	Share Price Sept 9, 2020	Share Price Change Year to Date	Market Cap Sept 9, 2020	Ranking in the North America Data Center Market ¹
Apple (AAPL) ²	296.24	117.5 (470)	+58%	2.0T	
Google (GOOGL)	1368.68	1532.7	+12.0%	1.0T	?
Zoom (ZM)	68.72	388.5	+465%	108.4B	
Moderna (MRNA)	19.23	56.96	+196%	22.5B	
Equinix (EQIX)	585.12	794.04	+29.4%	67.3B	1 st
Digital Realty Trust (DLR)	118	148.2	+25.6%	40.0B	2 nd
CoreSite Realty (COR)	110.86	116.7	+5.3%	5.0B	3 rd
CenturyLink (CTL)	12.92	10.9	-15.9%	11.9B	4 th
China Telecom (CHA)	41.53	33.3	-20.0%	26.9B	
Source: finance.yahoo.com for share prices & market cap					
1) https://cloudscene.com/top10 2) Apple shares split 4 for 1 on August 31, 2020					

Appendix Two. Issues with proposals to convert decommissioned coal-fired power plants and other brownfields into water-cooled data centers:

- 1) Locating data center far from clients *and* far from cheap power is a losing strategy. That said, Google is reportedly building a data center in Becker, MN, which is 47 miles from Minneapolis-St Paul, cities with a combined population of about 737K. But Google also has a capitalization of >\$1T. Freyr-Mjøltnir, companies with no track record in the data center industry, are unlikely to be able to compete with large publicly-traded companies. Google, Equinix, Digital Realty Trust, & CoreSite have no need for subsidies. Any funding of Freyr-Mjøltnir, whether private or tax payer subsidies appears to be a fool's errand.
- 2) Water-cooled technology, whereby water is drawn from nearby water sources for once-through cooling, is an out-moded approach that warms the exploited water body. When water cooling is used, closed cycle systems linked to cooling towers are preferable. Dr. Greg Boyer—a world expert on Harmful Algal Blooms—has warned that use of once-through water pumped from a nearby water body--the technology Greenidge Power used at their plant in Dresden NY--may increase the frequency of Harmful Algal Blooms on Seneca Lake (see his 2017 affidavit [here](#)).
- 3) To our knowledge, Freyr-Mjøltnir has no plans to tear down or remediate the buildings or remediate the associated coal ash landfills or the underground pollution plumes. On this

topic, Cayuga Operating VP Jerry Goodenough stated in 2015 regarding the 42-acre unlined landfill at Cayuga Lake (paraphrasing) "We capped it; we're done." The NYSDEC currently allows Cayuga Operating Company to discharge up to 35M gallons of virtually untreated coal ash leachate into Cayuga Lake, posing multiple cancer risks to the more than 50,000 people who drink Cayuga Lake water. Coal ash leachate needs to be sent to a water treatment plant as required at the Lockwood coal ash landfill in Region 8.

- 4) Data centers tend to be located where at least two grid delivery systems intersect to create power supply redundancy. We believe both Freyr-Mjolnir's Cayuga and Somerset sites each connect to a single grid, rendering them more vulnerable than existing data centers.
- 5) Remote data centers located beside water bodies and equipped with diesel-fired backup generation will be noisier than the former coal-fired power generation.
- 6) According to the Mayor of Hardin, MT, Heorot Power failed to convert a former coal-fired power plant to a data center and currently owes the town \$23M in back taxes. Was the transfer of the Cayuga and Somerset/Kintigh sites to Freyr-Mjolnir a means of hiding existing corporate debt from potential funding sources?
- 7) Lack of transparency. To our knowledge ownership of "Freyr-Mjolnir" has not yet been disclosed in any public filings. However, when GSO Capital Partners sold their 88.57% in Cayuga and Somerset in December 2019², the new majority owner then owned almost 100% of these wasting assets.³ This suggests to us the former minority owner of Heorot Power/Beowulf became the majority owner of "Freyr-Mjolnir."

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² <https://www.spglobal.com/marketintelligence/en/news-insights/trending/8ha4rxsUEtA29FQrQvXDGg2>

³ Tompkins County Assessments revalued a 54-acre parcel belonging to Cayuga Operating Co LLC from \$18.5M in 2019 to \$500,000 in 2020. That is a 97.3% mark-down.