IRON MOUNTAIN

Testimony of Mark Kidd
Senior Vice President & General Manager
Iron Mountain
Hearing of Senate Finance Committee
October 29, 2018
Iron Mountain Data Center, Boyers, PA

Good Morning, Chairman Hutchinson and other members of the Finance Committee. I am Mark Kidd and I serve as the Senior Vice President and General Manager of Iron Mountain's data center business. Thank you for holding this hearing and inviting me to join you.

About the "Underground"

The vast majority of our 1,400-plus facilities in more than 50 countries are above ground storage facilities. The former limestone mine behind us, which we refer to as "the Underground", is Iron Mountain's premier subterranean facility in the world. It has nearly 2 million square feet of vault storage but is also home to three of our fastest growing technology businesses: Digital Solutions, Entertainment Services and Data Centers. Additional information about these businesses and our presence in Pennsylvania is included in Appendix A.

Data & the Digital Economy

I testified before the Senate Finance Committee at the May 7, 2015 hearing in Pittsburgh regarding legislation that would provide a sales tax exemption for data center investments. That testimony, which briefly explains the data center business and the importance of a sales tax-exemption for attracting data center investments, is included in Appendix B.

Today, I will be discussing specifically how such a sales tax-exemption would be an investment to help Pennsylvania secure a piece of the ever expanding digital economy.

The graphic in Appendix C illustrates how much data is generated every minute of the day.[1] It also states that, by 2020, it is estimated for every person on earth, 1.7 MB data will be created every ***second***.[2]

The "Internet of Things" is a commonly used phrase that is difficult to define. Because they are the most visible and most tangible, most people likely think of actual ***things*** such as smart phones or smart appliances or wearable fitness trackers. However, the "things" are only a part –but a very significant part - of an interconnected ecosystem.

Consider that these "things" exist to enable more efficient services to individuals whether it be the ability to shop online, manage household appliances remotely or monitor health. Going beyond the

[1] https://www.domo.com/learn/data-never-sleeps-6
[2] https://web-assets.domo.com/blog/wp-content/uploads/2017/07/17_domo_data-never-sleeps-5-01.png

individual, government services such as public safety or traffic management or environmental monitoring are also part of the ecosystem.

Seamless delivery of these services depends on expansive fiber networks to provide internet connectivity. Reliable sources of power must also exist, not just to run the devices but also to ensure connectivity amongst the devices and related data storage. A smartphone app to turn on your heat or dishwasher on your way home from work is useless if the phone can't connect to your thermostat or dishwasher. Even if two devices are "talking" to each other, there is also some program running that needs to process the instructions and then execute them.

In the 1990's, we willingly waited for several minutes to connect to the internet using dial-up service. Now, if we can't complete a transaction from our phones or watches in a second, we quickly look for alternative devices or service providers. When you think of heart monitoring devices and apps, connectivity and time to connect can become a matter of life and death.

Why the Data Center Industry Is Growing

All of the programs to run our internet searches, apps and smart appliances must process and store data somewhere. That somewhere is the cloud. Despite its name, the "cloud" refers to actual computer hardware – just outsourced. Whereas individuals and businesses may have previously stored information on the hard drives of their personal or business computers, they are now storing on the servers of cloud providers like Amazon or Google or Microsoft. Businesses that used to store servers at a place of business, may now choose to store their computer equipment at a data center like Iron Mountain's.

For Iron Mountain, our data center business began here at the Underground about 20 years ago as an accommodation for one of our largest customers, Marriott. They asked us to leverage this location and our expertise in securing and protecting assets to store and protect their computer servers that provided redundancy for their reservation system.

About five years ago, Iron Mountain chose to strategically invest in expanding our data center business, starting with building out the data center here at the Underground. Since we started this expansion, we have invested over $70 million. This doesn't include the more than $5 million we invested to build this facility which we opened just last year. It also does not include the tens of millions of dollars our data center tenants are investing in equipment and people here. If more businesses choose to locate their data center equipment here, our investment here will only increase.

We are grateful to Butler County and the Governor's office for working to secure and award us a Redevelopment Assistance Capital Program (RACP) grant. The grant was used to convert our naturally occurring underground lake into a cooling system for our data center here. We completed our RACP audit in 2017. As part of that audit, we reported that our data center expansion created more than 30 permanent, direct (non-construction) jobs with an average salary exceeding $70,000.

In its most recent bi-annual data center report[3], CBRE, the world's largest commercial real estate development and investment firm, indicates that 2018 will be another record year for data center growth. Data center usage and growth is measured by megawatt hour of net power absorption, which is

[3] http://cbre.vo.llnwd.net/grgservices/secure/US%20Data%20Center%20Trends%20Report%20%20H1%202018.pdf?e=1540250332&h=492369180a263a9999db231780653c02

defined as the net change in existing/commissioned power capacity. In just the first half of this year, demand from hyperscale cloud companies resulted in more than 177 megawatts of net power absorption – which is already two-thirds of the total for all of 2017.

Note, however, that data center growth is concentrated in about a dozen cities.

Where Data Center Growth Is Occurring

Northern Virginia is the ***world's*** the largest data center market. In the U.S., the next largest is Phoenix followed by:

- Dallas/Forth Worth
- Silicon Valley
- Chicago
- Atlanta, and
- New York Tri-State Area which includes New Jersey and Connecticut.

The secondary data center markets in the U.S. are:

- Austin/San Antonio
- Seattle
- Southern California
- Denver
- Houston
- Charlotte/Raleigh

Interestingly, these cities are some of the country's most populous cities. Consider that Philadelphia stands out for being one of the least developed data center market in the country even though it is one of the ten most populous cities.

Factors Driving Where Data Centers Are Built

Aside from cost of the computer equipment itself, power both to run the computer equipment and to cool the equipment is the largest expense a data center operator and its tenant incurs. Thus, low power costs as well as reliable access to power are important. Other favorable factors include high network connectivity and low natural disaster risk. For Iron Mountain, the Underground provided a unique value proposition in terms of security. As a result, we chose to invest in connectivity and power – spending $5 million to run fiber from Pittsburgh and also add additional electrical capacity.

I currently am responsible for data centers in nine states and three countries. In the U.S., I know first-hand, when all of these factors are present, and there is not a unique feature like our Underground here, data center growth is spurred on by state and local economic development and tax incentives. I frequently see companies choose one of our other locations specifically because of the sales tax exemption available in those locations. Appendix D includes a current list of states that offer sales tax exemptions for data centers and their tenants.

Interestingly, even though Chicago is the number three data center market in the U.S., Illinois is on the verge of enacting a sales tax exemption because it is losing business to neighboring states Iowa and Ohio.

In contrast, the data center market in New Jersey is growing, even though it does not have a sales tax exemption program and New York does. This is, in part, because real estate and power are more expensive in New York but also, unfortunately, because of the risk of terrorism.

The Digital Economy & Data Center Growth in Pennsylvania

Pennsylvania has several favorable factors that make it ripe to experience the same growth that other states are seeing. In fact, it has one very unique asset – a university with the number one computer science program in the country: Carnegie Mellon. While not as high, the University of Pennsylvania and Penn State also have highly ranked programs while the University of Pittsburgh is making investments in its programs.

Pennsylvania's tech economy is being built on the backs of the students graduating from these schools. As in California and Massachusetts, tech companies will go where the talented workforce is. Unlike those other states, however, Pennsylvania's relatively low cost of living invites tech workers and incentivizes them to stay.

Pennsylvania's natural resources ensure low power generation costs. The relatively low risk of natural disasters also makes it attractive for data center investments.

However, Pennsylvania's outdated infrastructure, particularly the electricity grid, creates some increased risk for data center operators. Iron Mountain is committed to 100% green electricity for our data center business worldwide, partly because of lower costs, but also because our customers demand it. We were proud to be the first and largest investor in the Ringer Hill Wind Farm south of Pittsburgh to offset the demands from our data center here.

While this has reduced costs for us and our tenants, we were surprised to see our power costs increase over the last few years. This is because of the increase in capacity charges. The aging infrastructure is not agile enough to accommodate slowdowns in wind generation or increases in demand. Technology investments such as smart grids would provide more reliable and cost effective deployment of green energy.

In addition, Pennsylvania's lack of a sales tax exemption encourages companies to choose to place their data center equipment in states that offer such exemptions, including Ohio. Enacting such an exemption would also immediately make Pennsylvania, specifically the eastern part of the state from Scranton to Philadelphia, more attractive than New Jersey for New York City data center investments.

Overview of Investment Requirements of SB 760/HB1558.

Senator Hutchinson's and Representative Nesbit's data center sales tax exemption legislation is modeled after Arizona's legislation. Specifically, in order for a company to take advantage of the sales tax exemption, it must enter into a contract with a ***certified data center operator*** for a certain amount of power per month for at least 2 years. To be certified, the data center operator must meet certain investment and payroll thresholds.

SB760/HB1558 Threshold Capital and Payroll Investments Requirements:
Investment by the Owner or Operator of at least:
$60 Million in investment within 4 years of certification in a county with a population greater than 250,000; ***or***

$35 Million in investment within 4 years of certification in a county with a population less than 250,000; ***and***, an employee payroll of $1 million by the data center owner/operator within 4 years of Certification.

Disadvantages of the Current Refund Program

The sales tax exemption would replace the data center sales tax ***refund*** program enacted in 2016. The refund program contains similar investment and payroll thresholds but sets a limit of $5 million for all refunds. If refund claims exceed $5 million, then refunds are reduced pro-rata amongst all applicants. Aside from the administrative burden associated with filing for the refund, the program does not allow companies to strategically plan for their data center investments. This is because they won't know for months after they deployed the investments how much they will receive in refund.

Conclusion

The growth rate of data and the digital economy is setting new records every year. While Pennsylvania has some favorable factors that would attract technology and data center investments, investing in its power infrastructure and enacting a sales tax exemption for data center equipment would help Pennsylvania compete with California, Massachusetts, Virginia and other states for those investments.

Thank you and I will be happy to answer any questions you may have.

Appendix A

IRON MOUNTAIN

OUR VISION

To be the trusted guardian of the assets most important to our customers, securing their past, current and future value.

About us: Iron Mountain is a 67-year-old company specializing in enterprise **Information Management, Digital Transformation, Secure Storage,** and **Secure Destruction**. We manage over 85 million square feet of real estate and are trusted by 225,000 organizations, including 95% of Fortune 1000 companies, to store and protect assets in more than 1,400 facilities worldwide.

In Pennsylvania: Pennsylvania is home to more than **1,000 employees** and **28 facilities**, including our North American headquarters offices in **Collegeville** and **Royersford.** Those offices alone employ more than 400 people who perform key centralized functions such as finance and customer service. More than $2.8 billion of our $4 billion in annualized worldwide revenue is generated in North America and we are proud that Pennsylvania is the nerve center for this critical piece of our business.

The Underground: Iron Mountain is well known for its underground storage facility in **Boyers** (**Butler County)**, a portion of a former limestone mine. The secure facility has nearly 2 million square feet of vault storage. It is famous for housing priceless historical documents and media including hundreds of thousands of original movie reels, music recordings, and photographic prints and negatives. It is also home to a rapidly expanding state-of-the-art data center with diverse public and private sector clients. This data center, like all Iron Mountain data centers, runs on 100% renewable energy, much of it sourced from Pennsylvania wind farms.

Storage Facilities: We invested over $30 million in our newest Pennsylvania facility at **2300 Newlins Mill Road in Easton**. Built by Pennsylvania contractors, it maximizes cubic footage to store 2.4 million boxes, many consolidated from older and less efficient facilities in Pennsylvania, Delaware, and New Jersey. Our **Sharon Hill** campus contains three buildings totaling over 473,000 square feet. Below is a list of Iron Mountain facilities throughout the state:

County	City	Facilities	Total Square Feet
Allegheny	Pittsburgh	1	68,656
Beaver	Ambridge	1	20,800
Beaver	New Galilee	1	168,942
Berks	Mohnton	1	93,018
Bucks	Bristol Township	1	89,600
Bucks	Bensalem	2	209,700
Bucks	Levittown	1	60,000
Butler	Boyers	1	1,886,620
Butler	Cranberry Township	1	132,070
Cambria	Johnstown	1	44,800
Chester	Malvern	2	65,102
Dauphin	Middletown	1	109,237
Delaware	Folcroft	1	49,302
Delaware	Media	1	20,000
Delaware	Sharon Hill	3	473,496
Delaware	Lester	1	123,626
Erie	Erie	2	56,767
Lancaster	Lancaster	1	22,500
Mercer	Greenville	1	7,075
Montgomery	Norristown	1	29,294
Montgomery	Collegeville	1	81,400
Montgomery	Royersford	1	224,000
Northampton	Easton	1	182,000

Appendix B

IRON MOUNTAIN

Testimony of Mark Kidd
Pennsylvania Senate Finance Committee

May 7, 2015

Good Afternoon, Chairman Eichelberger and members of the Committee, I am Mark Kidd and I serve as the Senior Vice President and General Manager of Iron Mountain's data center business.

Who we are

Iron Mountain's global HQ is Boston based and its' North American HQ is based in Collegeville, PA. Iron Mountain employs approximately 1200 people in the Commonwealth and operates 22 facilities. In Boyers (part of Butler county), Iron Mountain operates one of its 22 facilities. At this location, Iron Mountain has its data center line of business. Iron Mountain has invested approximately$50 million dollars in the past 3 years in Boyers and developed a staff of over 20 people. Additionally for much of the last 2 years we have had a construction staff of close to 100 people on site daily.

What is a data center?

A data center is "where the cloud lives." It is a large highly secure building which is supplied with substantial amount of power, cooling and network connectivity. Building a data center is a substantial investment. A typical facility can range from 50,000 – 100,000 SF and will cost approximately $50-$100 million dollars to build out over a period of 5 or more years. The primary investment is in capital related to power delivery and cooling equipment.

Iron Mountain does not provide the computers and servers that reside in the data center. Rather it is Iron Mountain's customer, the end user who purchases the computer equipment used in the data center. Some providers such as Google or Yahoo might both own their facility and purchase the computers inside of it to run their own business. The data center equipment often costs 5 times the cost of the initial construction. For example if $50 million dollars is invested in the facility the end user may invest $250 million dollars in servers and other computers.

Where do companies locate data centers?

Companies that need to store, compute or process data look to site their data center where long term costs are lowest and the risk is the lowest. The biggest drivers of cost are electricity, network, construction and taxes. Risks are determined by potential exposure to weather events, seismic activity, terrorism risk and man-made risks such as highways, chemical plants or other potential hazards.

Pennsylvania is ideally situated from a risk perspective with low probability of weather and seismic events. Additionally and very importantly, Pennsylvania is very attractive as low-cost power provider. Both the abundant natural gas supply and developing wind power business provide an attractive portfolio of options to different customers.

A number of states in the country and specifically a number of neighboring states have enacted a sales and use tax exemption for both the construction and computers and servers which go in to the facility.

Bill Description

The legislation before you would create a sales tax exemption on the materials used to build the data center itself and the computer equipment housed within it. To qualify for the exemption a data center must first invest in building or expanding infrastructure in Pennsylvania, spending at least $50 million over four years in high population counties and $25 million over 4 years in less populous counties. In addition to the infrastructure investment, the data center must have a payroll of at least $1 million dollars within 4 years to qualify for the exemption.

For a data center tenant to qualify for the exemption on the computer equipment they purchase, they must sign a multiyear agreement with their data center host and be consuming at least 100 KW per month. The bill also includes a claw back provision in case a provider or tenant fails to meet the qualification requirements.

The goal of this legislation is to incentivize new investment in Pennsylvania at significant scale.

Why does it matter?

The sales and use exemption is critical to get companies to consider Pennsylvania as a location to deploy their data center. The tax savings offered by other states on the purchase of computer equipment, which must be repurchased every 5 years or so, is material to the determination of where to site a data center.

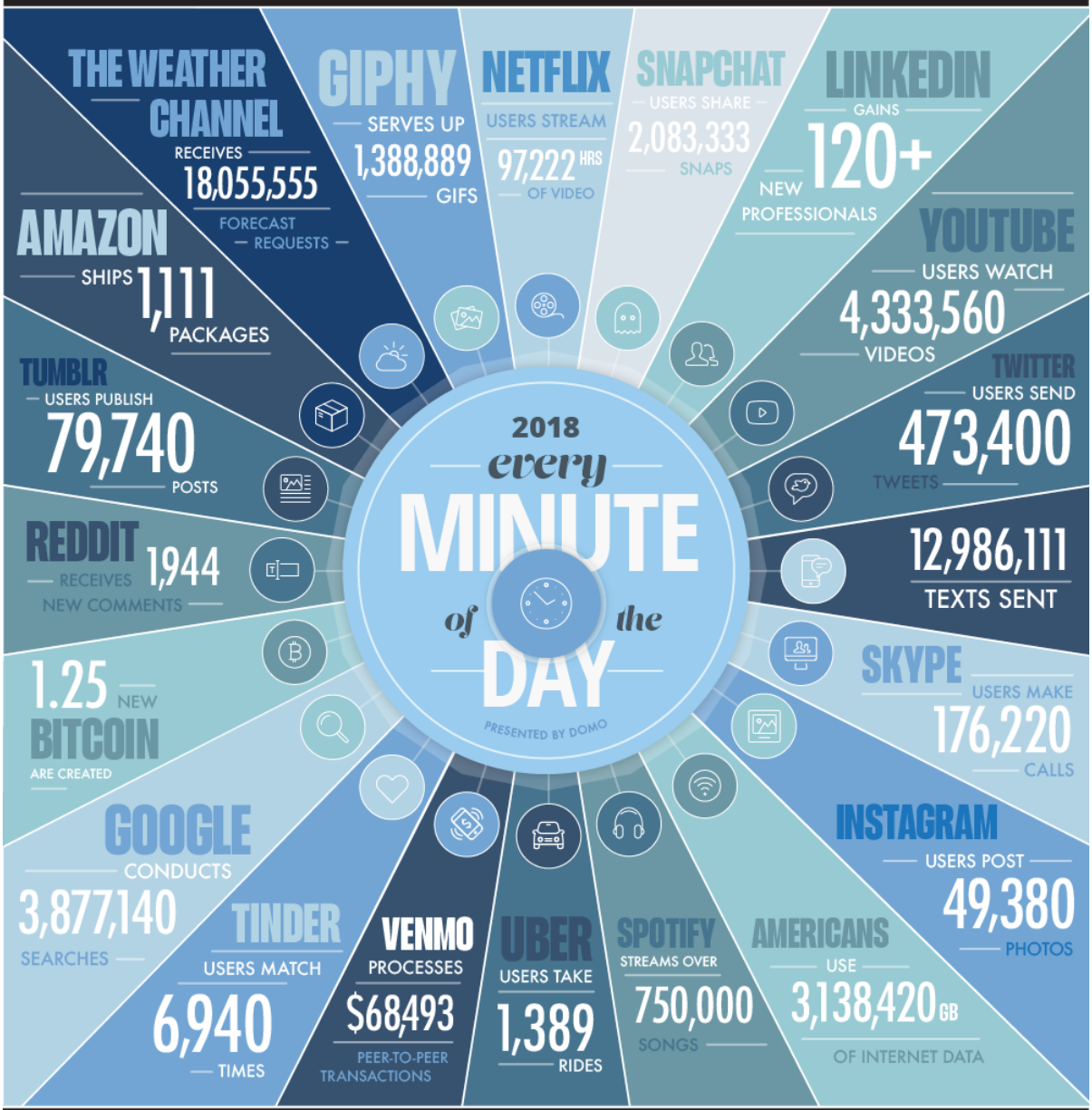
There is approximately$5 billion dollars being spent in the US each year on new data center building infrastructure. The opportunity for Pennsylvania is to pull net new investment into the state and create jobs and revenue. There is opportunity to attract as much as $100 - $200 million dollars of new investment per year into the state. This leads to job creation of approximately45 direct data center jobs, 600 second level infrastructure support jobs and hundreds of construction jobs.

Appendix C

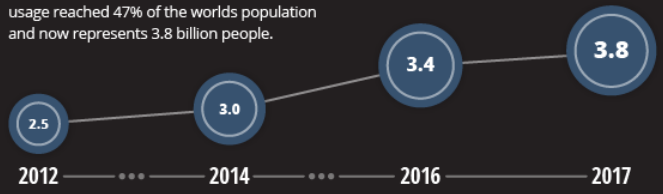
DATA NEVER SLEEPS 6.0

How much data is generated *every minute?*

There's no way around it: big data just keeps getting bigger. The numbers are staggering, but they're not slowing down. By 2020, it's estimated that for every person on earth, 1.7 MB of data will be created every second. In our 6th edition of Data Never Sleeps, we once again take a look at how much data is being created all around us every single minute of the day—and we have a feeling things are just getting started.



The world's internet population is growing significantly year-over-year. In 2017, internet usage reached 47% of the worlds population and now represents 3.8 billion people.



GLOBAL INTERNET POPULATION GROWTH 2012–2017
(IN BILLIONS)

The ability to make data-driven decisions is crucial to any business. With each click, swipe, share, and like, a world of valuable information is created. Domo puts the power to make those decisions right into the palm of your hand by connecting your data and your people at any moment, on any device, so they can make the kind of decisions that make an impact.

Learn more at domo.com

SOURCES: STATISTA, LINKEDIN, INTERNET LIVE STATS, EXPANDED RAMBLINGS, SLASH FILM, RIAA, BUSINESS OF APPS, INTERNATIONAL TELECOMMUNICATIONS UNION, INTERNATIONAL DATA CORPORATION

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Appendix D

FACT SHEET: DATA CENTERS & STATE SALES TAX EXEMPTION

DATA CENTER SALES TAX EXEMPTION PROGRAMS[1]	
State	**Year Enacted or Revised**
1. Georgia	2018
2. Florida	2017
3. Utah	2016
4. Virginia	2016
5. Michigan	2015
6. Missouri	2015
7. North Carolina	2015
8. North Dakota	2015
9. Oregon	2015
10. Washington	2015
11. Arizona	2013
12. Ohio	2013
13. Texas	2013
14. Alabama	2012
15. Indiana	2012
16. Minnesota	2012
17. South Carolina	2012
18. Wyoming	2011
19. Mississippi	2010
20. West Virginia	2009
21. New York	2000

CASE STUDY: VIRGINIA[2]

In response to the loss of a $1 billion Apple data center to North Carolina, Virginia enacted a sales and use tax exemption for data center purchases of computer equipment. The sales tax exemption, combined with other favorable factors such as high network connectivity, access to power, and low natural disaster risk, helped Virginia create one of the most favorable data center locations in the country.

Data Center Economic Impact in 2016:

Jobs Created	43,275
Wages	$3.2 billion
State & Local Tax Revenue Collected	$349.3 million
Total economic output	$10.2 billion

CASE STUDY: OHIO

Ohio witnessed significant data center investments after enacting a sales tax exemption in 2013:

Year	Company	Investment
2017	Facebook	$750 million[3]
2016	Cologix	$130 million[4]
2015	Amazon	$1.1 billion, 120 jobs[5]
2014	Compass Datacenters	$60 million[6]

Pennsylvania Projected Revenue Growth from Data Center Sales Tax Exemption[7]

Total Projected Revenue	**Year 1**	**Year 5**	**Year 10**	**Year 15**
New State & Local Tax Revenue	$22,932,954	$31,625,745	$66,763,931	$118,391,371
Sales Tax Exemptions Claimed	($10,861,609)	($22,676,452)	($41,198,484)	($70,705,843)
Net Positive Tax Revenue	**$12,071,345**	**$8,949,293**	**$25,565,447**	**$47,685,528**
Return on Investment	**$2.10:$1**	**$1.40:$1**	**$1.60:$1**	**$1.70:$1**

CASE STUDY: THE NEW JERSEY OPPORTUNITY

New Jersey is home to a strong and expanding data center market[8]. This growth is driven by financial services companies and securities trading firms requiring fast connectivity but lower energy and real estate costs than available in Manhattan. Since New Jersey does not offer a sales tax exemption for data centers, a sales tax exemption would help attract these companies to Pennsylvania.

[1] http://www.nvtc.org/documents/resources/NVTC_DataCenters_2018_highres.pdf
[2] http://www.nvtc.org/documents/resources/NVTC_DataCenters_2018_highres.pdf
[3] http://www.datacenterdynamics.com/content-tracks/design-build/facebook-behind-750-million-new-albany-ohio-data-center/98784.fullarticle
[4] http://www.innovationews.com/Cologix-building-new-130M-data-center-in-Ohio/
[5] http://www.reuters.com/article/us-amazon-aws-tax-idUSKBN0HB2ED20140916
[6] http://www.texastechpulse.com/compass_datacenters_buys_land_in_ohio_for_data_center/s-0052963.html
[7] Summary of projected revenue is part of an economic impact study completed by Delta Development Group, Inc. on behalf of Iron Mountain. Revenue projection includes: household expenditures (income tax, property tax, fines and fees, motor vehicle license expense, fishing and hunting taxes) and business expenditures (sales tax, property tax, corporate profits tax, dividends, motor vehicle license expense, severance tax).
[8] http://realtormag.realtor.org/commercial/feature/article/2016/08/get-in-data-center-boom