

Data Center Capacity

Data centers and other large load customers interconnecting across the country have led to an unprecedented increase in actual and projected electricity load. This increased load is leading to an increase in electricity rates and concerns about the reliability of the grid. One of many challenges is the unpredictable nature of the expected load growth. There is reason to believe that some of the projections are significantly greater than actual expected load, due to the speculative nature of interconnection requests and the possibility that some load may be double or triple counted. Because the grid needs to prepare for projected load, there is a danger of overbuilding, leaving other rate-payers with the cost if the large load customers locate elsewhere. At the same time, it is critical that any load that does come on line have sufficient power capacity to operate.

There are a number of proposed solutions to these issues, however, the potential for flexible load and demand response has emerged as a technical solution with significant potential. A study from Duke University¹ finds that even modest load flexibility in all new data centers across the United States could result in avoiding the need for 100GW of new generation. Unfortunately, the PJM capacity market and other energy markets are not designed to take advantage of or encourage this potential flexibility. Until the PJM markets evolve, it will be up to states to establish policies to harness the potential of demand response.

Even with opportunities to take advantage of load flexibility, the grid needs more capacity in order to integrate significantly more energy demand. The grid itself has a lot of potential, with many power plants not running 24/7. However, the addition of large load customers will contribute to peak period usage, when these power plants are already fully operational. Battery storage can be quickly added to the grid to unlock more potential from the existing power plants and to fully harness the potential of current and future renewables.

While battery storage itself can be built relatively quickly, the extended wait to get through the PJM queue remains a barrier for storage or any other generation to be built to match the energy needs of new data centers. Maryland can use the concept of the surplus interconnection service, which allows battery storage or other new generation use the “extra interconnection space” not currently being used by generators that are already connected to the grid. This is a new option within PJM and unlocks potential that would not otherwise be available.

Finally, while many of the construction jobs associated with data centers are good-paying union jobs, it’s critical to ensure that all data center construction jobs pay prevailing wages so that Maryland workers benefit from any data center growth.

This bill will:

- 1) Establish a voluntary demand response program for large load customers to support peak energy use reductions. This demand response program will be managed by the Public Service Commission with the Maryland utilities. The program will be open to all customers greater than 25 MW. Demand response must use battery storage (not to be charged at peak), flexible load, or other non-emitting sources.
- 2) Require MEA to gather information from all Maryland generators to determine which

¹ <https://nicholasinstitute.duke.edu/publications/rethinking-load-growth>

have surplus interconnection potential and the amount of that potential to deploy additional resources at that site without impacting the existing infrastructure. This information will be shared with large load customers who can then use this surplus interconnection to build new battery storage or other zero emission resources to avoid having to go through the PJM queue. This will allow storage to be built quickly to respond to growing load. Projects that participate in surplus interconnection service shall be exempt from new county and PSC CPCN requirements, although they would need to be filed for notice only with PSC.

- 3) Requires all large load customers seeking to interconnect in Maryland to provide capacity for 25% of load with either behind the meter storage, capacity purchase of new grid connection battery storage or new carbon-free asset in the Load Zone/LDA, or demand response.
- 4) Establishes a priority path in utility study, interconnection, and permitting for any large load customer that provides capacity for 100% of load with either behind the meter storage, capacity purchase of new grid connection battery storage or new carbon-free asset in the Load Zone/LDA, or demand response; and pays prevailing wages.
- 5) Establishes a community benefit fee of \$100,000 per MW served in order to be studied and considered for interconnection. This fee ensures that all load studied is credible and likely to come on line. Funds in the community benefit account will be used for energy assistance and energy efficiency upgrades through the low income Empower program.

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For more information please contact:

Delegate Lorig Charkoudian, lorig.charkoudian@house.maryland.gov , Phone: 410-841-3423