



# Economic DR Energy Settlement Process for Crypto Mining Locations

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DISRS

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- Very flexible load that can easily fluctuate based on economics.
- Retail electricity cost is the primary cost and if cost is higher than revenue the location may reduce load as part of normal operations
- A reasonably accurate estimate of revenue can be calculated based on publically available information (such as crypto currency price, hash rate, network difficulty, etc.)

Very large load that is very flexible that will also reduce load to manage electricity cost

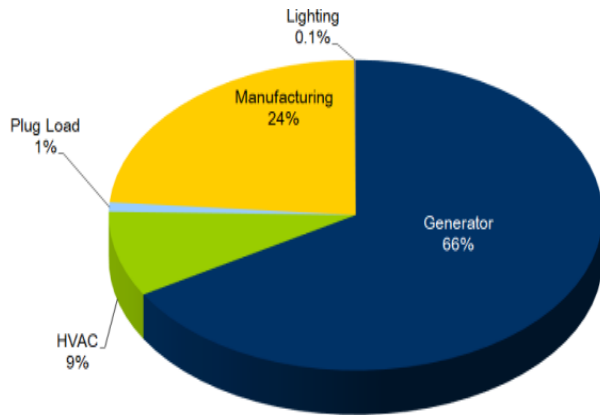
## Load reductions for normal operations do not qualify for Economic DR energy settlements

- PJM considers **normal operations** the activity that would have occurred absent PJM energy market compensation
  - Load reductions for holidays, outages or for economic reasons (peak shaving or retail cost minimization) are not eligible
    - PJM has already published guidelines for load reductions that occur from behind the meter generation to avoid any confusion on what qualifies for energy settlements.

PJM will publish guidelines to try and avoid any issues that could result in retroactive remedies

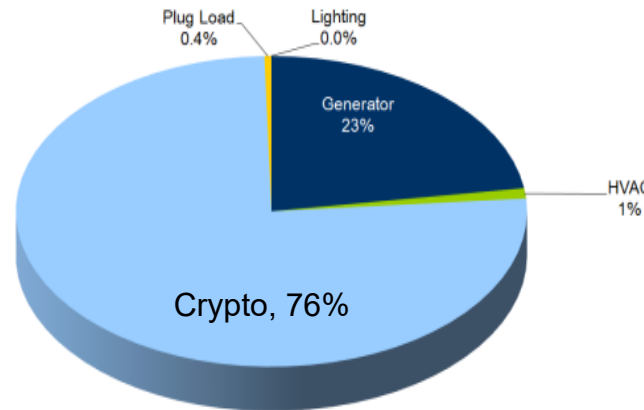
- Economic DR settlements volume from crypto locations accounts for close to 90% of activity
  - Overall Economic DR volume is sensitive to energy prices

**2021, 18,545 MWh**

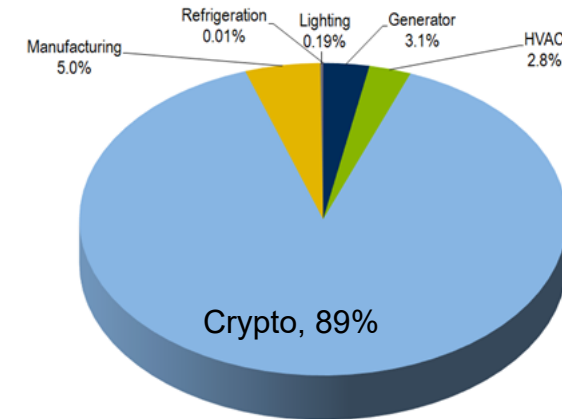


Crypto, 0%

**2022, 103,566 MWh**



**2023, 55,509 MWh**



- If mining revenue is less than retail electricity cost there is a natural incentive to reduce load (do not mine since it would result in a loss).
- If mining revenue (per MWh) is greater than retail electricity cost (per MWh) then it is expected the location will mine.
  - The location is eligible to participate as Economic DR when expected to mine
  - Other normal operations procedures are in place (can't submit settlements for normal shutdowns/maintenance, etc.)
- Detailed Guideline for CSPs is posted
  - Revenue estimates
  - Retail rates
  - Multi-tenant situations
- PJM plans to automate the current manual process in DR Hub in the future

Guidelines are a work in progress and is based on input from CSPs

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Locations**



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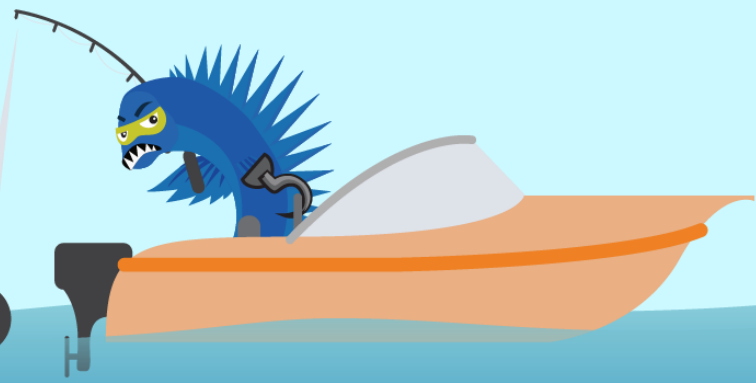
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