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DER Cost Allocation Framework Overview: Maryland Cost Allocation Method and Export Tariffs

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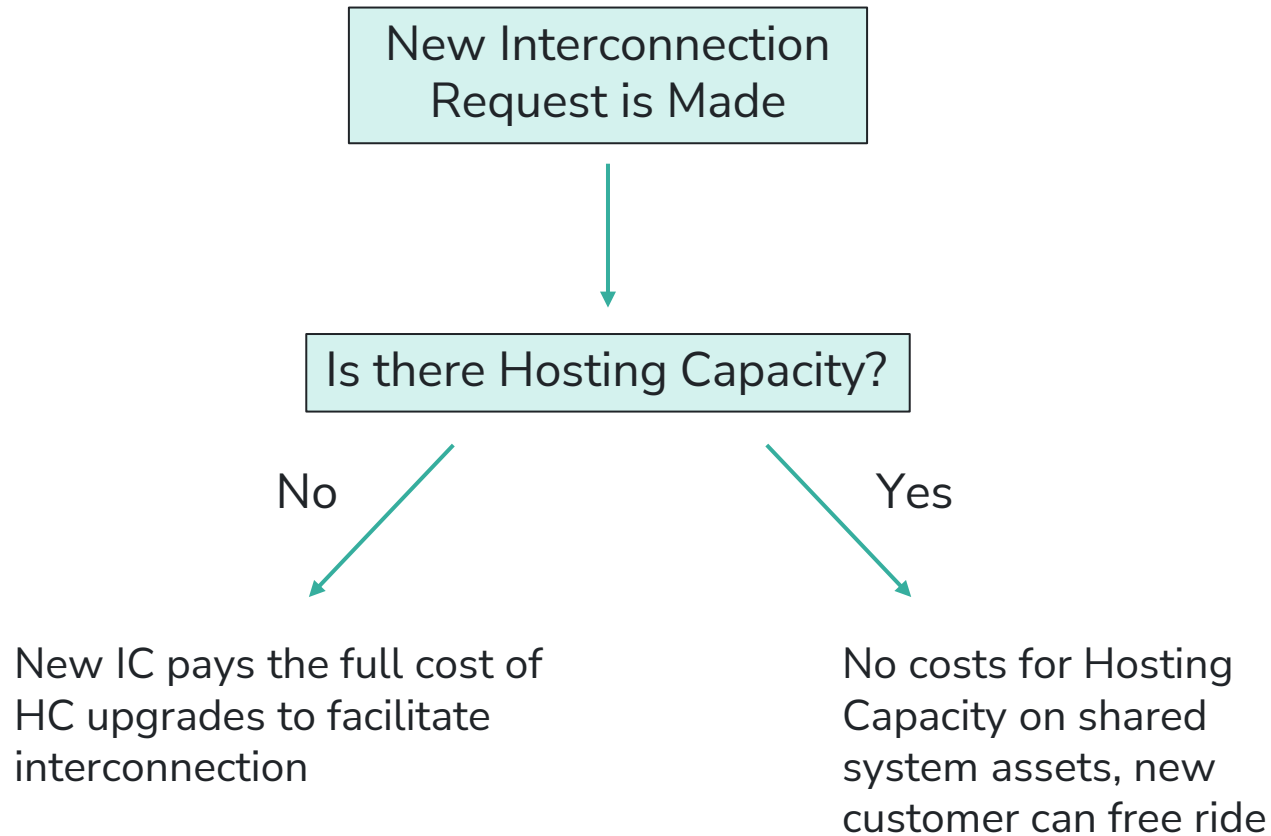


Overview

- Why new cost allocation mechanisms are needed for DER and Distributed Generation
- The Maryland Cost Allocation Method
- Export Tariffs



Why New Cost Allocation is Needed



Challenges of Causer Pays:

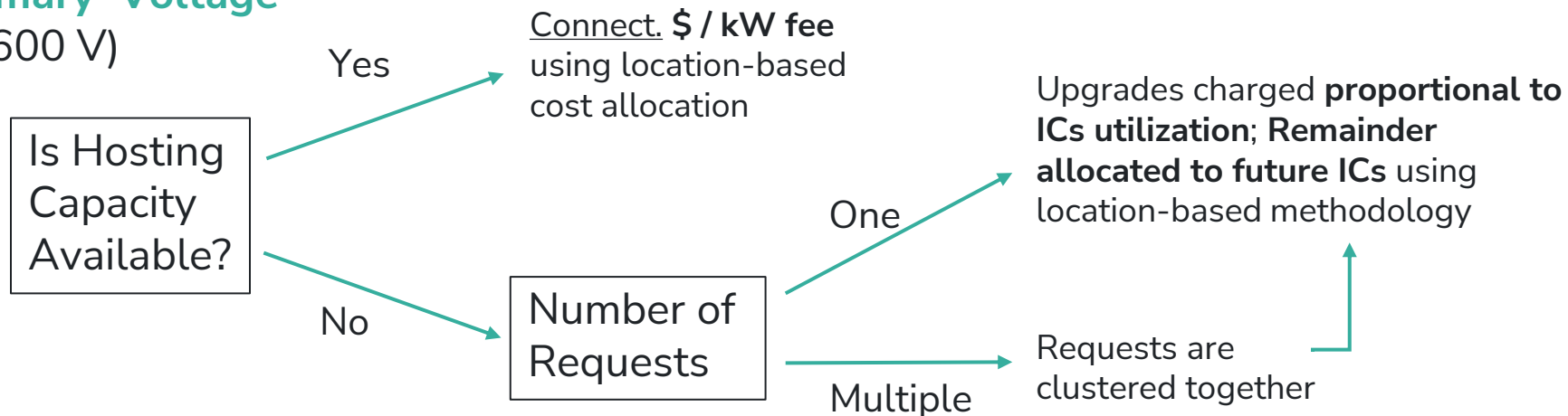
- Free Ridership
- Saturation of hosting capacity and high costs to interconnect
- Interconnection delays
- Misaligned incentives for utility to facilitate interconnection
- Misaligned incentives for DERs to utilize the grid efficiently.

Maryland Cost Allocation Method (MCAM)



Primary Voltage

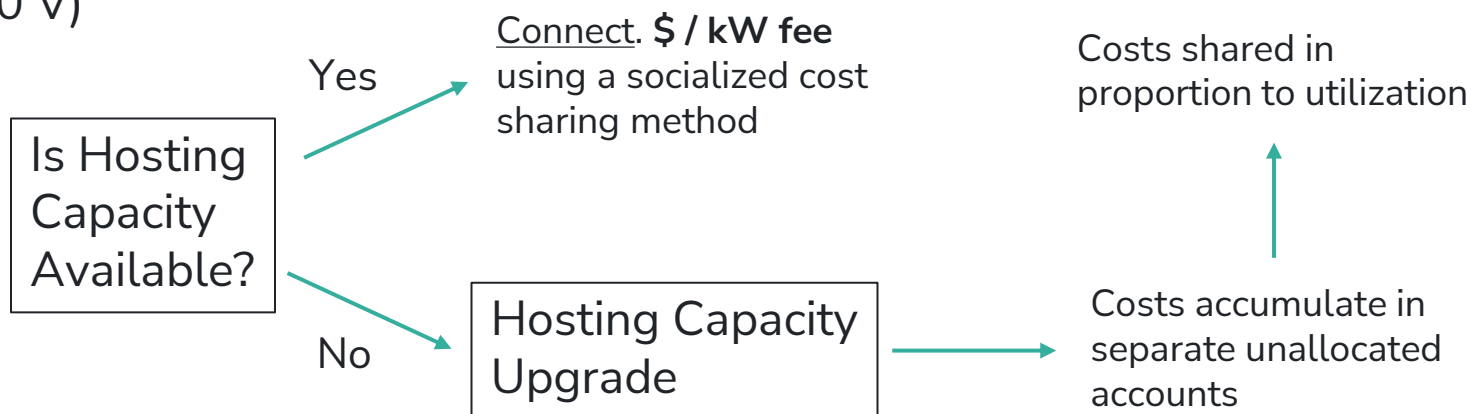
(> 600 V)



- “Beneficiary pays” proposal will improve price signals
- Locational prices higher in constrained areas
- Eliminates “free riders”

Secondary Voltage

(< 600 V)



- Socializes cost among ICs
- Eliminates “free riders”
- Only one type of interconnection fee for all ICs



Export Tariff Framework

What is an Export Tariff?

- An **export tariff** is an electric service agreement for DER operating on the distribution system that combines:
 - Compensation for services provided to the grid (e.g., peak load reduction, voltage support)
 - Cost allocation and recovery for export-related impacts (e.g., capacity upgrades, new monitoring and control systems).
- **Align DER cost allocation with traditional ratemaking principles** and cost-of-service modeling
- **Reflect a bidirectional ratemaking structure** for import and export



Export Tariff Example

Conceptual Framework

	Applicable time	Consumption Charge	Export Reward/Charge
Peak import period	2pm - 8pm everyday	Peak charge 25.37 c/kWh	Reward equal to -25.37 c/kWh
Solar soak period	10am-2pm everyday	Off-peak charge 3.77 c/kWh	Off-peak charge 1.85 c/kWh
Off-peak	8pm to 10am everyday	Off-peak charge 3.77 c/kWh	
Fixed charge		Fixed charge 48.72 c/day	



Bi-directional Planning and Forecasts



Export tariffs can create an obligation for utilities to integrate export requirements into “traditional” processes



Export tariffs can provide price signals to incentive flexible connections that can be integrated into forecasting and planning



Increased focus on co-optimization and prioritization



Align utility incentives with improving export services

- + Utilities earn returns on rate-based investments to improve export capability

The current framework provides no incentive to the utility to expand hosting capacity when customers fund hosting capacity upgrades at interconnection.



Export Tariffs provide utilities a return for planned infrastructure hosting capacity investments which become part of the utility's rate base.

- + Utilities receive revenue from exporters

Under current cost allocation utilities lose revenue from DER that provide grid services.



Export Tariffs create continued revenue from exporters, as exporting DER pay recurring fees based on their ongoing use of the grid to export.

- + Utilities receive prudency review of their system plans

Current cost allocation provides little oversight of interconnection upgrades and cost impacts.



Export Tariffs integrate hosting capacity upgrades into the system planning process. Utilities demonstrate prudent investment to receive recovery.



Closing Thoughts

- The MCAM is a step toward bi-directional cost allocation:
 - Shifts from “Causer Pays” to “Beneficiary Pays”
 - Allocates interconnection costs to all users
 - Creates locational incentive structure
- Export Tariffs integrate DER into the cost-of-service model:
 - Substitutes up-front connection costs with ongoing service rates
 - Allocates costs based on how DER use the system
 - Recovers costs for enabling DER beyond physical infrastructure



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Shaping the Path Forward

Thank you

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Why New Cost Allocation is Needed

Current cost allocation frameworks treat load and generation differently

Utility Customer (Load)
Connection: Socialized network upgrades

New Connection Request



Connection funded through base rates by default, typically. New customer pays only costs exceeding 'standard' connection costs.

DER Connection: 'Causer pays' method

New Interconnection Request



Is there Hosting Capacity (HC)?

No

Yes



New interconnection customer (IC) pays the full cost of HC upgrades to facilitate interconnection

Connect at no cost for HC