

# Electric Vehicles

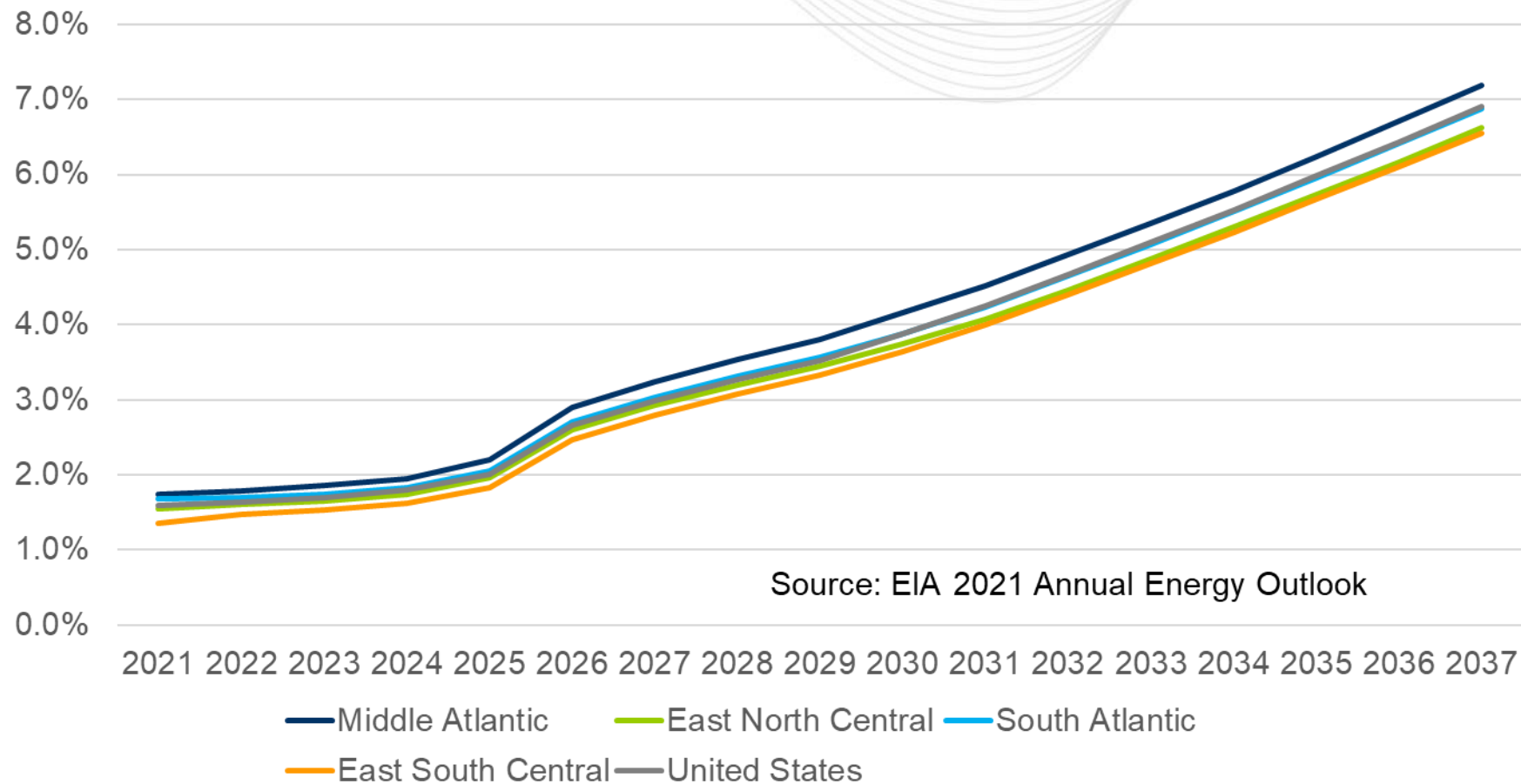
Load Analysis Subcommittee  
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Resource Adequacy Planning

Derive an estimate of light duty PEV stock from:

- Registered PEVs by state – Auto Alliance
- Forecasted PEV sales by census division - EIA Annual Energy Outlook
- State share of census division registrations – PJM calculation
- Vehicle retirement rate - Jacobsen, Mark R., and Arthur A. van Benthem. 2015. "Vehicle Scrappage and Gasoline Policy." *American Economic Review*, 105 (3): 1312-38.
- Charging:
  - Prevalence of Level 1 (1.4 kW) - trend from 80% to 0% by 2030
  - Prevalence of charging at peak - trend from 15% to 5% by 2030
  - Annual charging – 4,500 kWh

## EV Share of Light-Duty Vehicle Sales

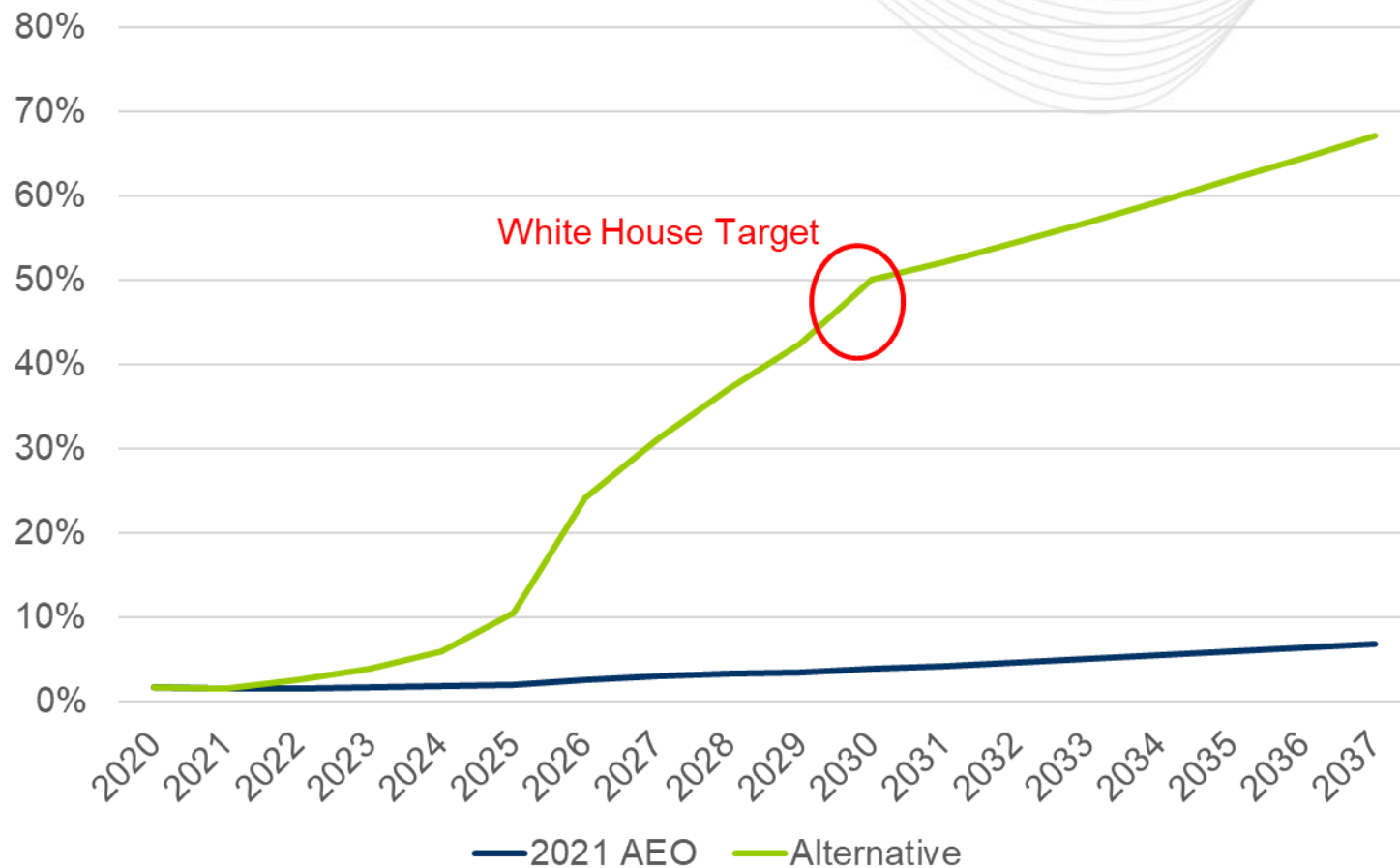


Source: EIA 2021 Annual Energy Outlook

### Alternative Views

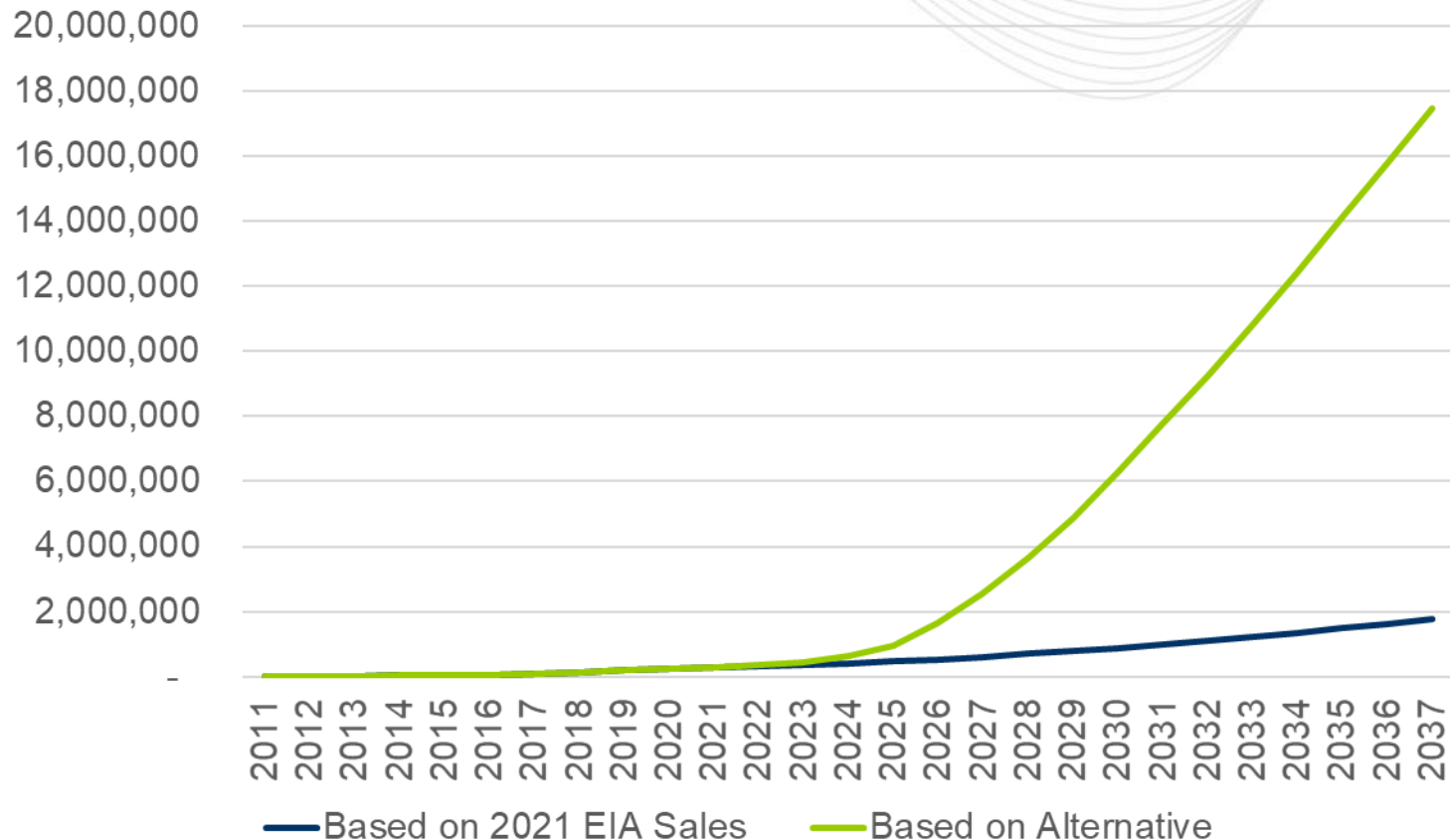
- White House target of 50% of vehicle sales being electric by 2030
- Other outlets are significantly more optimistic

U.S. EV Sales as a Share of Total EV Sales

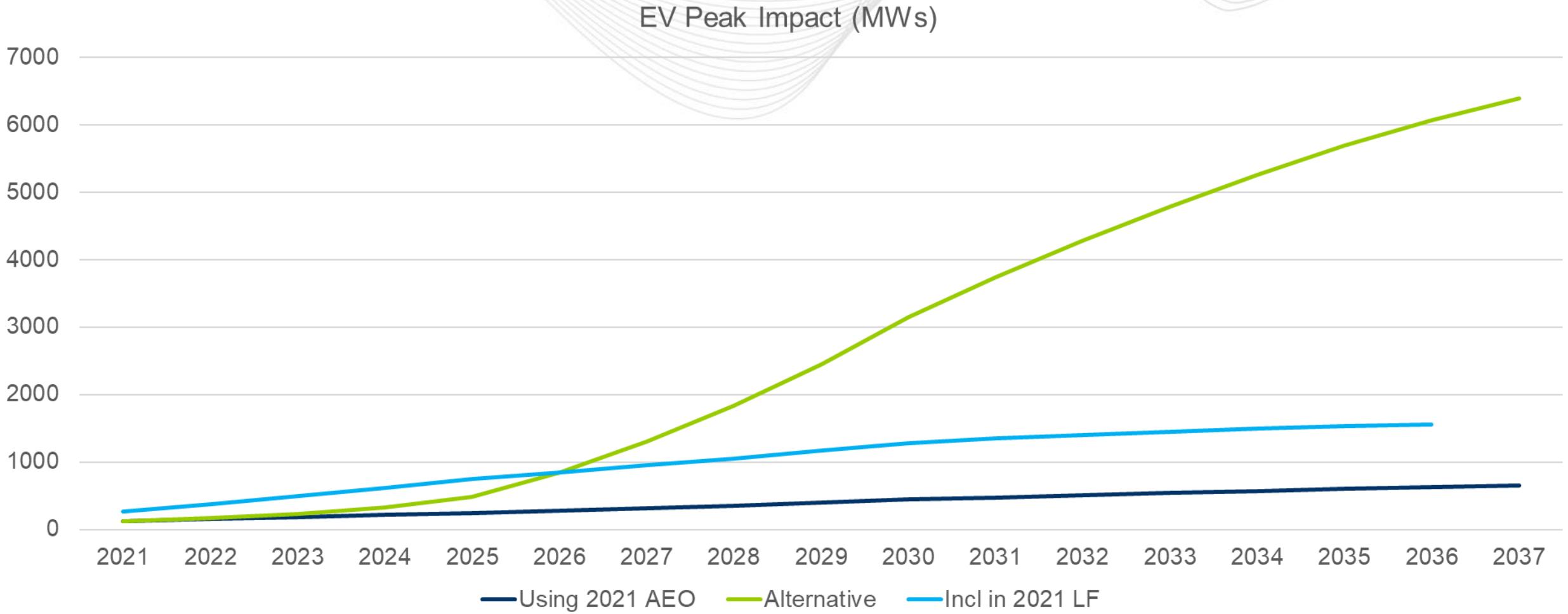


1. Alternative produced by choosing target for U.S. in 2030 of 50% and 75% by 2040.
2. Shape intervening years according to shape from EIA 2021 AEO projections.
3. Keep relative position of Census Regions to U.S.

PJM EV Stock



- Alternative scenario works out to roughly a third of cars in PJM being electric by 2037.
- Scenario based on 2021 AEO works out to less than 5% of cars being electric by 2037.



- PJM believes that using the 2021 AEO EV sales projections as the basis for expectations is likely too pessimistic regarding the path of future EV penetration.
- PJM is looking for feedback on...
  - Should we use the White House target to help set expectations?
    - If not, what should be the basis? A percent of the target?
  - Any other comments?

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## Electric Vehicles



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