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Affirmed Energy Package for MIC

June 2024 MIC

Addressing the IMM's 206

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- IMM filed 206 complaint
- PJM stopped payment to EE resources
- FERC has yet to respond
- Venue for discussion is unacceptable

The MIC risks putting the cart before the horse.

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- PJM is advocating for a slate of Energy Efficiency reforms that are incompatible with the vast majority of EE Resources currently operating.
- The changes will have the effect of **almost completely eliminating EE from the market**.
- PJM's approach presupposes a solution without engaging in earnest education and exploration of the options. We and others have identified opportunities to improve upon the status quo that would greatly benefit customers and support reliability.
- Demand is growing. EE should be enabled to be a bona fide capacity resource.

We have two options:

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PJM & IMM Proposals:

- Eliminate or arbitrarily compress EE in the market.
- Less EE will materialize.
- The load forecast will over-estimate future EE and reliability will suffer.

Affirmed Proposal:

- **Eliminate the Addback**.
- Only incremental EE will be counted and compensated.
- Reliability will improve and capacity costs will be reduced for consumers.

Addback Status Quo. Because of "?" we add back - - -

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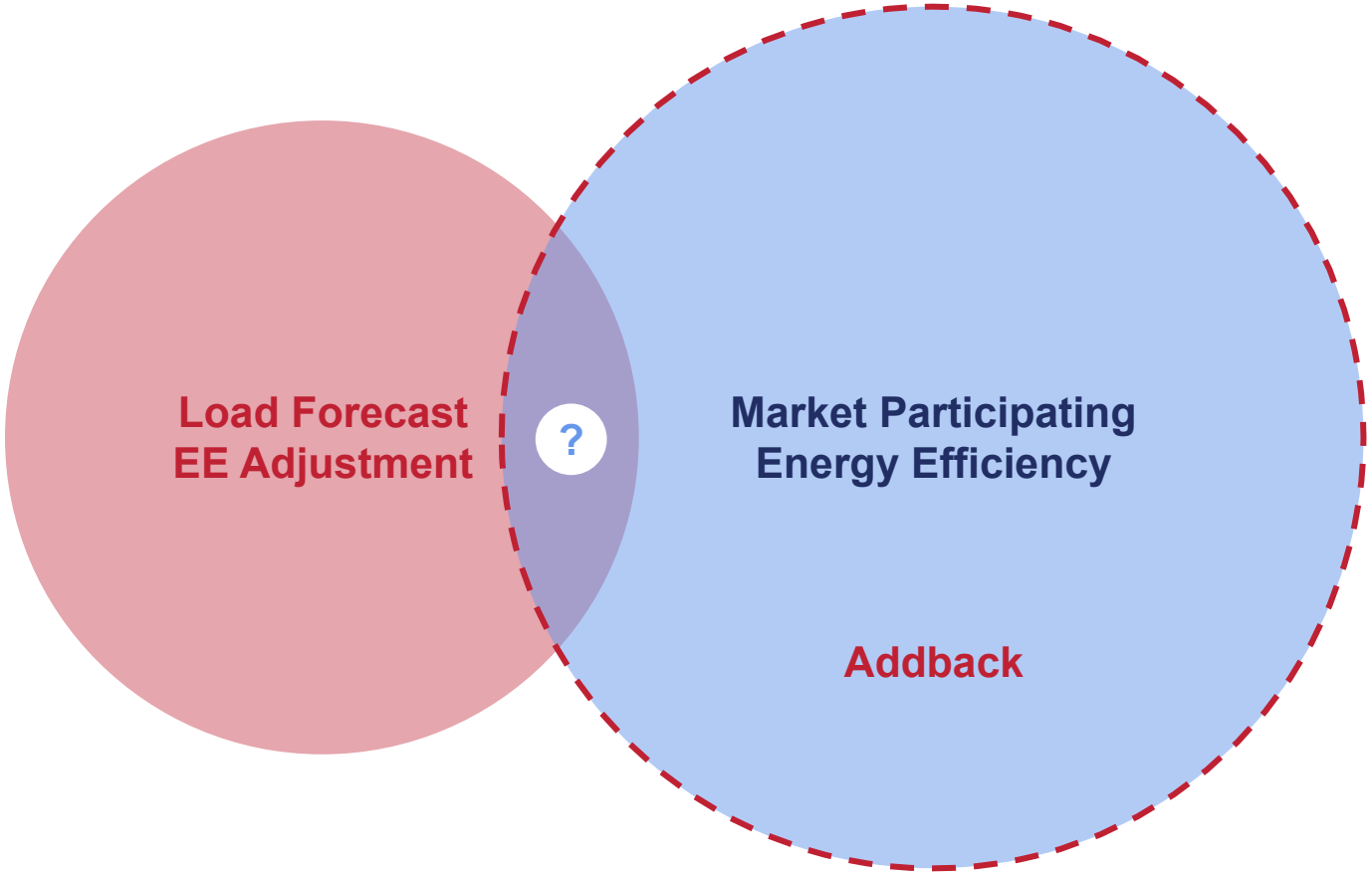

There are 3 potential scenarios:

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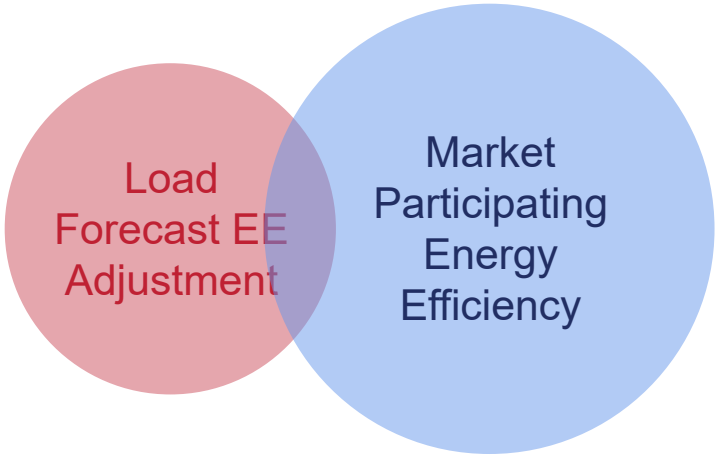
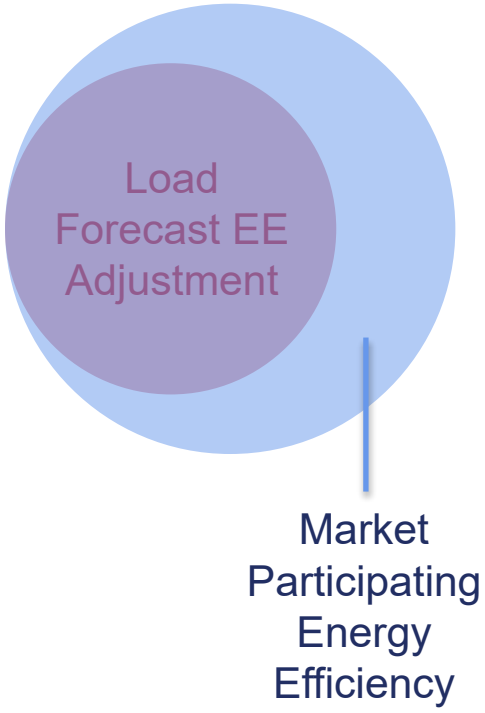
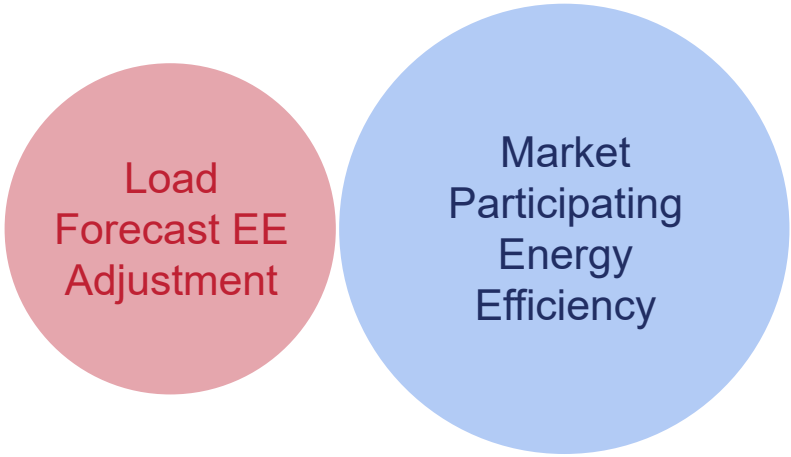
Some Overlap



Complete Overlap



No Overlap



Option 1: Add back the lesser of the EE adjustment or the Market EE. Because of "?" we add back - - -

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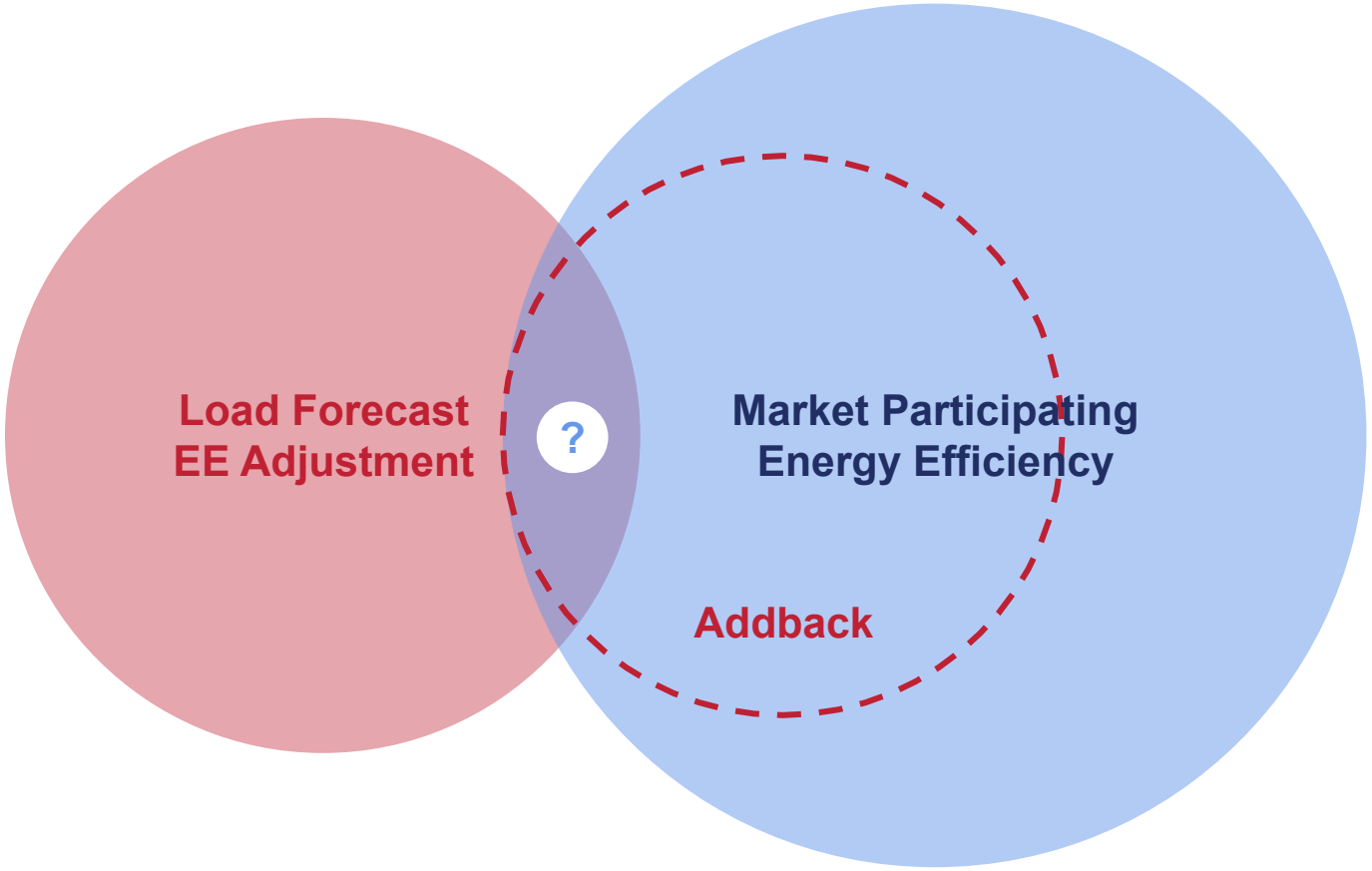

Option 2: Eliminate the Addback by Changing the Load Forecast EE Adjustment

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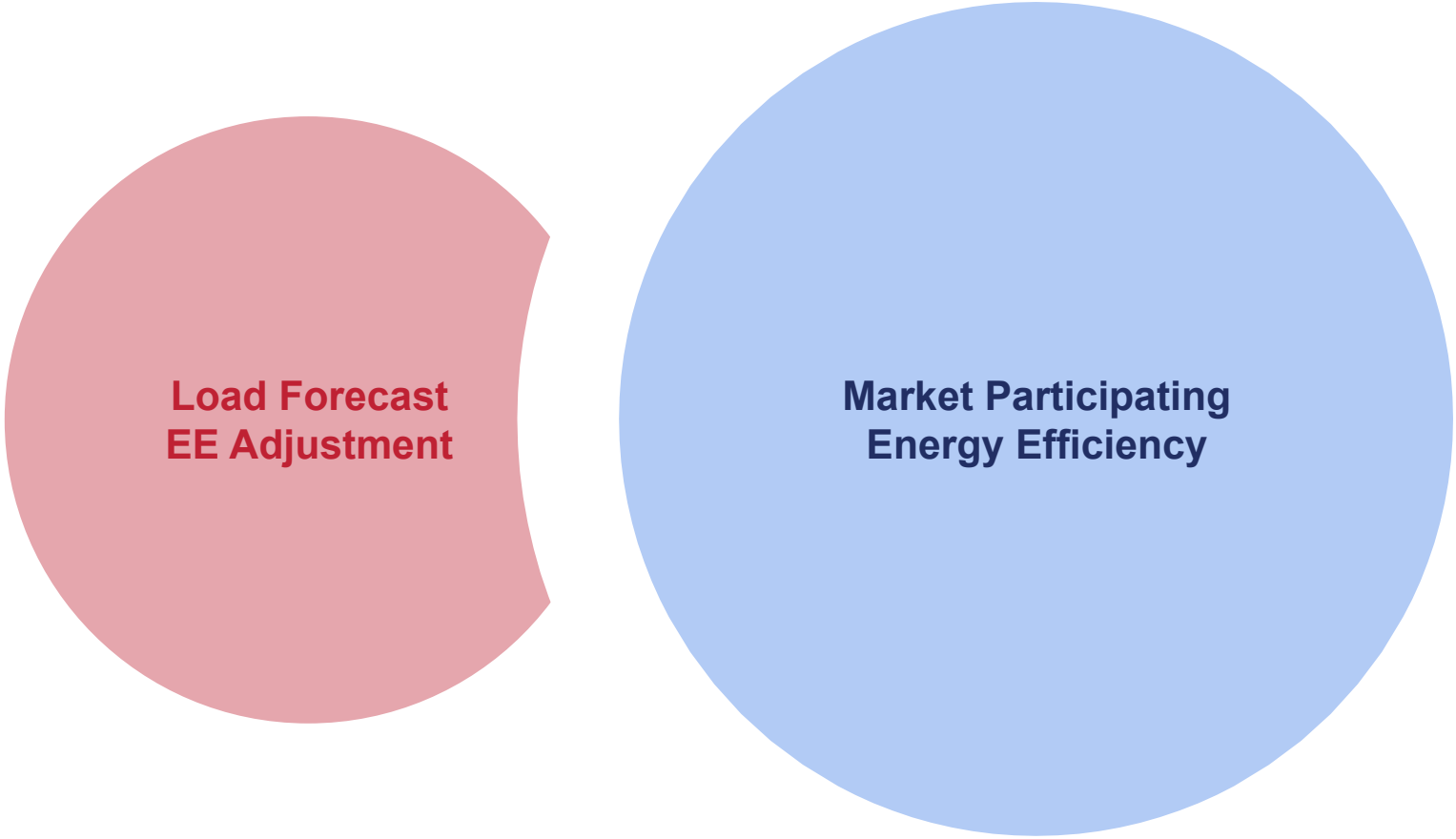

Option 3: Eliminate the Addback by Limiting Market EE, using the Load Forecast EE as Baseline

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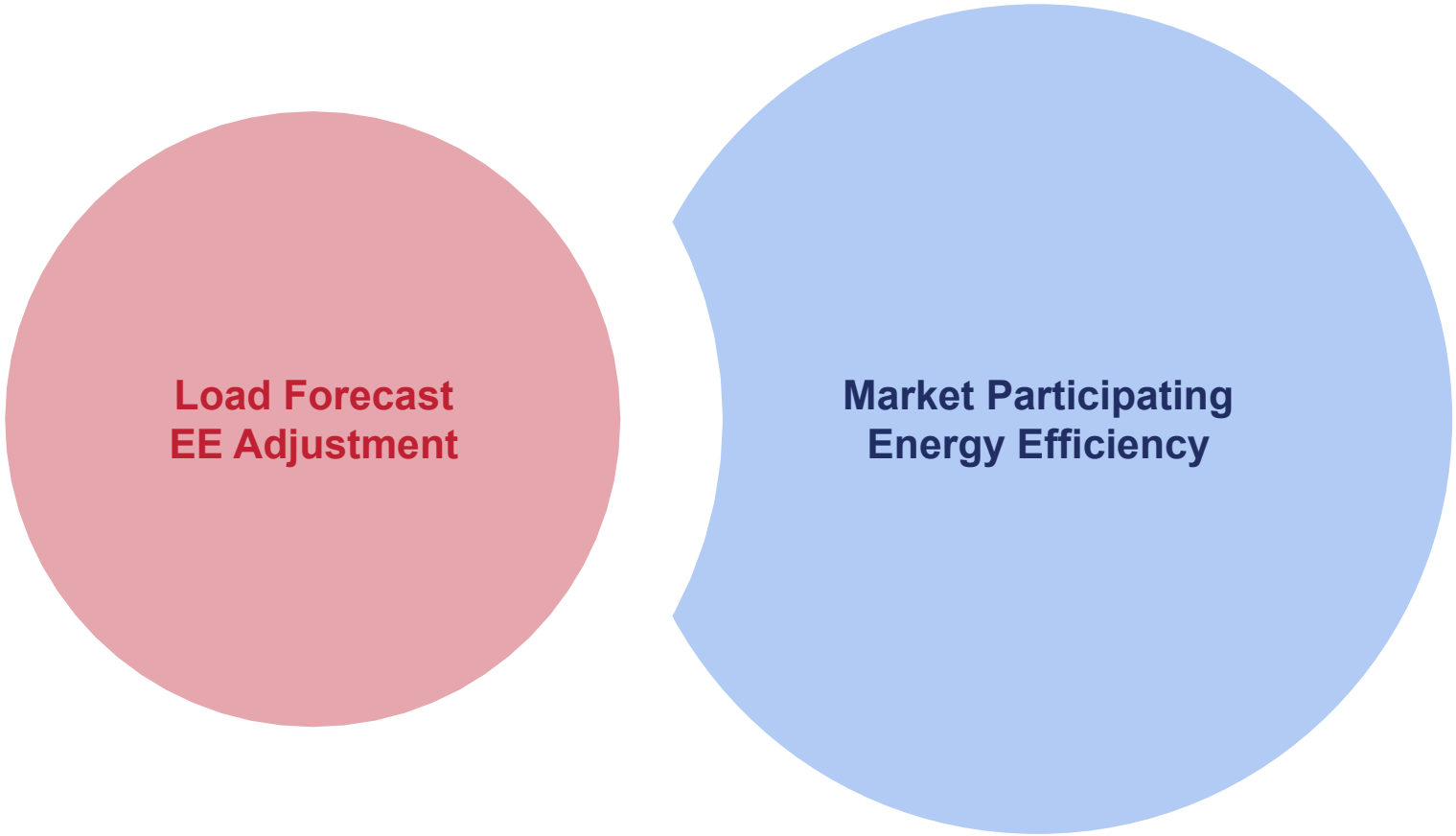

Option 3: Eliminate the Addback by Limiting Market EE, using the Load Forecast EE from NEMS as Baseline

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- Big Picture: Use the inputs to the Annual Energy Outlook, the basis for PJM's load forecast EE adjustment, to create baselines for all Market Participating EE. ***Only qualify EE that is not already in the load forecast.***
- How: Derive baselines from the EIA-maintained, freely available, open source model published as the "**National Energy Modeling System (NEMS)**." This is the source data for the AEO.
- Limitations: Some state programs are included in the AEO model so those programs would either reduce their qualified projects to the incremental ones or we would need to establish a (much smaller) addback for those programs.

Option 3: What's in the NEMS

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- Four supply modules:
  - Renewable Fuels Module (RFM)
  - Natural Gas Market Module (NGMM)
  - Oil and Gas Supply Module (OGSM)
  - Coal Market Module (CMM)
- Four demand modules:
  - Residential Demand Module (RDM)
  - Commercial Demand Module (CDM)
  - Industrial Demand Module (IDM)
  - Transportation Demand Module (TDM)
- Two conversion modules:
  - Electricity Market Module (EMM)
  - Liquid Fuels Market Module (LFMM)
- Four other modules:
  - Macroeconomic Activity Module (MAM)
  - International Energy Module (IEM)
  - Emissions Policy Module (EPM)
  - Integrating Module

"*NEMS calls each supply, conversion, and end-use demand module in sequence until the modeling system reaches an equilibrium between supply and demand. The AEO offers a solution for each year through 2050.*"

Option 3: E.g. what's in the NEMS Residential Data?

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- Space Heating
- Space Cooling
- Water Heating
- Cooking
- Clothes Drying
- Clothes Washing
- Dishwashing
- Refrigeration
- Freezing
- Lighting
- TV and Set-Top boxes
- PC's and Related Equipment
- Secondary Heating
- Furnace, Fans and Boiler Circulation Pumps
- Ceiling Fans
- Coffee Makers
- Dehumidifiers
- Microwaves
- Pool Pumps
- Pool Heaters
- Portable Electric Spas
- Non-PC Rechargeable Electronics
- Tablets
- Smartphones
- Smart Speakers
- Security System
- Wine Coolers
- Small Kitchen Appliances

Option 3: What type of data is available?

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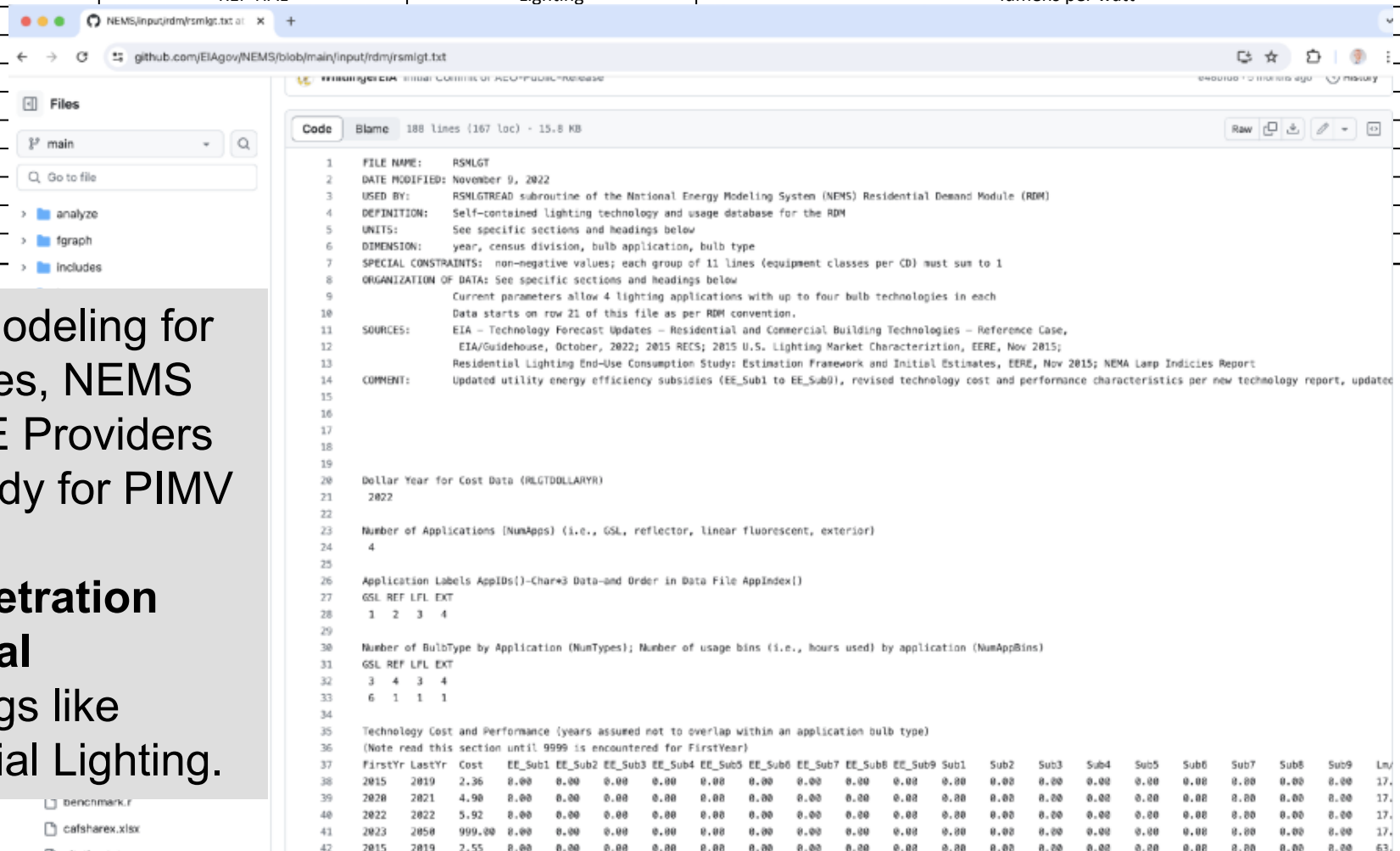
Lighting

General Service – Incandescent and Halogen	GSL-INC	Lighting	lumens per watt
General Service – Compact Fluorescent Lamp (CFL)	GSL-CFL	Lighting	lumens per watt
General Service – Light-Emitting Diode (LED)	GSL-LED	Lighting	lumens per watt
Reflector (Incandescent)	REF-INC	Lighting	lumens per watt
Reflector (Halogen)	REF-HAL	Lighting	lumens per watt
Reflector (CFL)			
Reflector (LED)			
Linear Fluorescent (T12)			
Linear Fluorescent (T8)			
Linear Fluorescent (LED)			
Exterior (Incandescent and Halogen)			
Exterior (CFL)			
Exterior (High-pressure Sodium)			
Exterior (LED)			

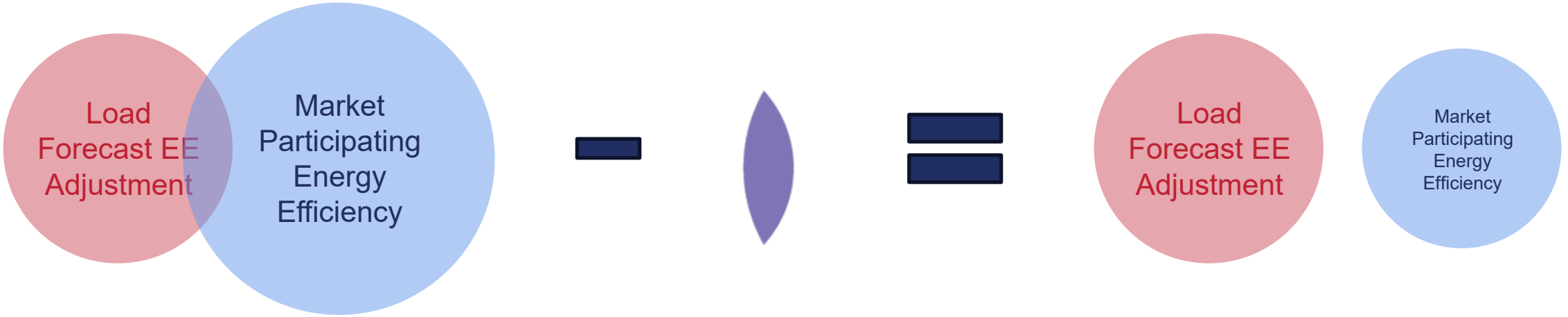


- By relying on bottom-up modeling for most of the critical end-uses, NEMS requires the same data EE Providers currently measure and study for PIMV Reports and Plans.
- This includes **market penetration over time** and **all essential stipulated values** for things like Residential and Commercial Lighting.

Status Quo

Remove Overlap (by shrinking Market EE)

Future State without Addback



Next Steps (in normal times):

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- PJM and Stakeholders - Engage with the EIA, Itron and others to establish load forecast-informed baselines.
- PJM - Figure out whether reduced qualification or modified addback is more appropriate for state and federal programs that leverage capacity market as a source of funding
- PJM - Publish new load forecast compatible baselines
- Market Participants - Update M&V Plan and Reports using new baseline values.

Rather than arbitrarily compressing EE through qualification changes, PJM should work toward realizing all of the benefits of EE.

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