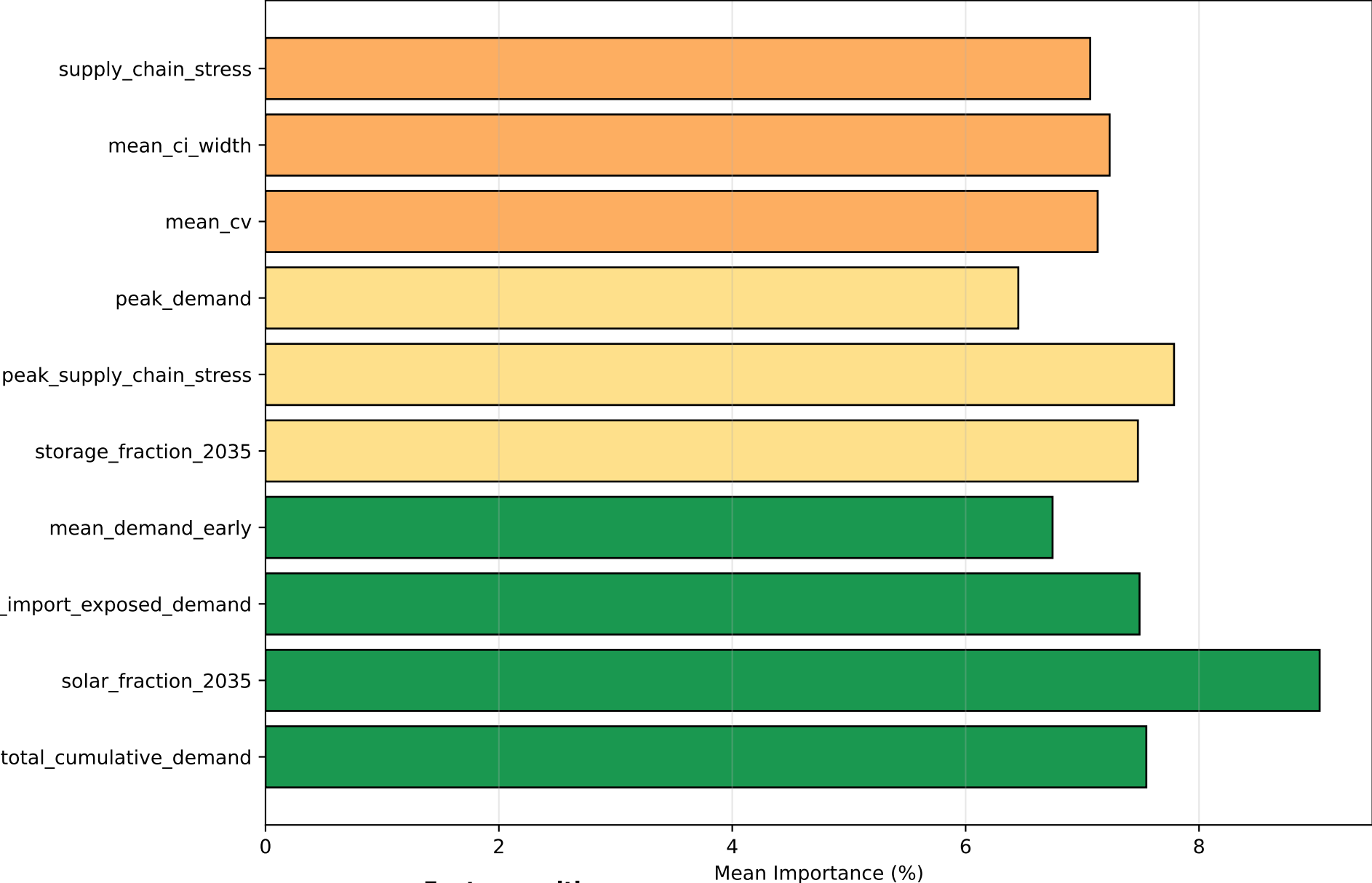
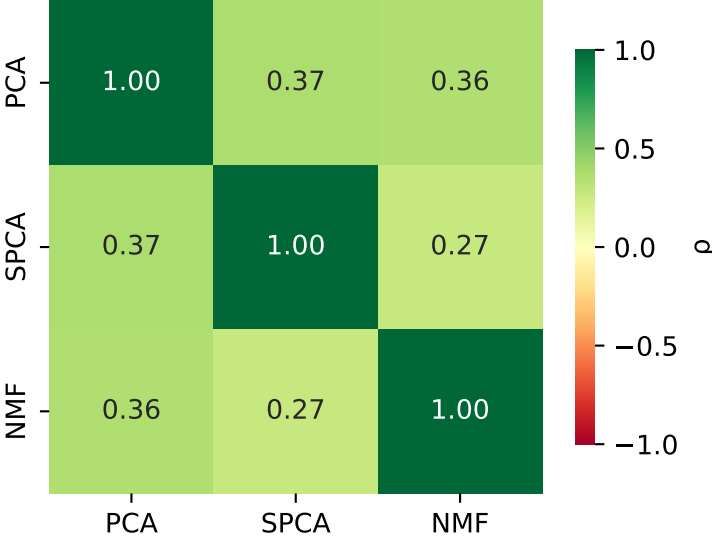


Dimensionality Reduction Summary — Scenarios

Top 10 Features by Consensus



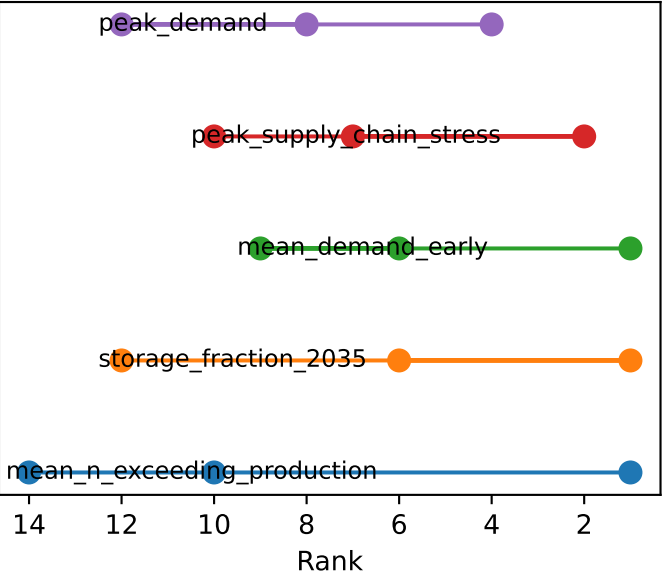
Method Agreement (Spearman  $\rho$ )



Summary Statistics

Total features: 15  
Strong agreement: 4 (rank spread  $\leq 3$ )  
Top tier features: 3 (avg rank  $\leq 5$ )  
Mean correlation: 0.33

Features with Highest Disagreement



Method-Specific Top Features

PCA emphasizes: mean\_demand\_early, total\_cumulative\_demand, total\_import\_exposed\_demand  
Sparse PCA selects: storage\_fraction\_2035, peak\_supply\_chain\_stress, supply\_chain\_stress  
NMF identifies: mean\_n\_exceeding\_production, solar\_fraction\_2035, total\_import\_exposed\_demand

Interpretation Guide:

- PCA: Features driving overall variance
- Sparse PCA: Essential features (others can be dropped)
- NMF: Features that co-occur in additive "parts"