



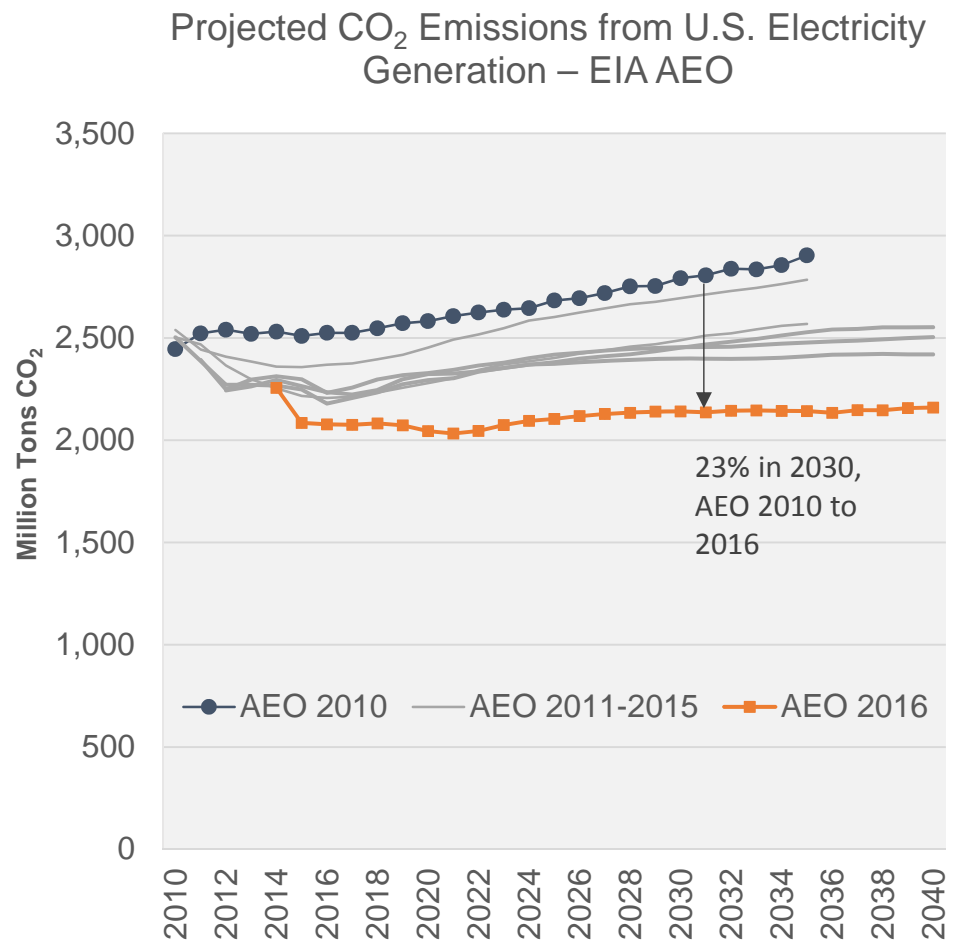
Power Sector Trends in the Eastern Interconnect: Follow the Falling Baseline

SEPTEMBER 13, 2016



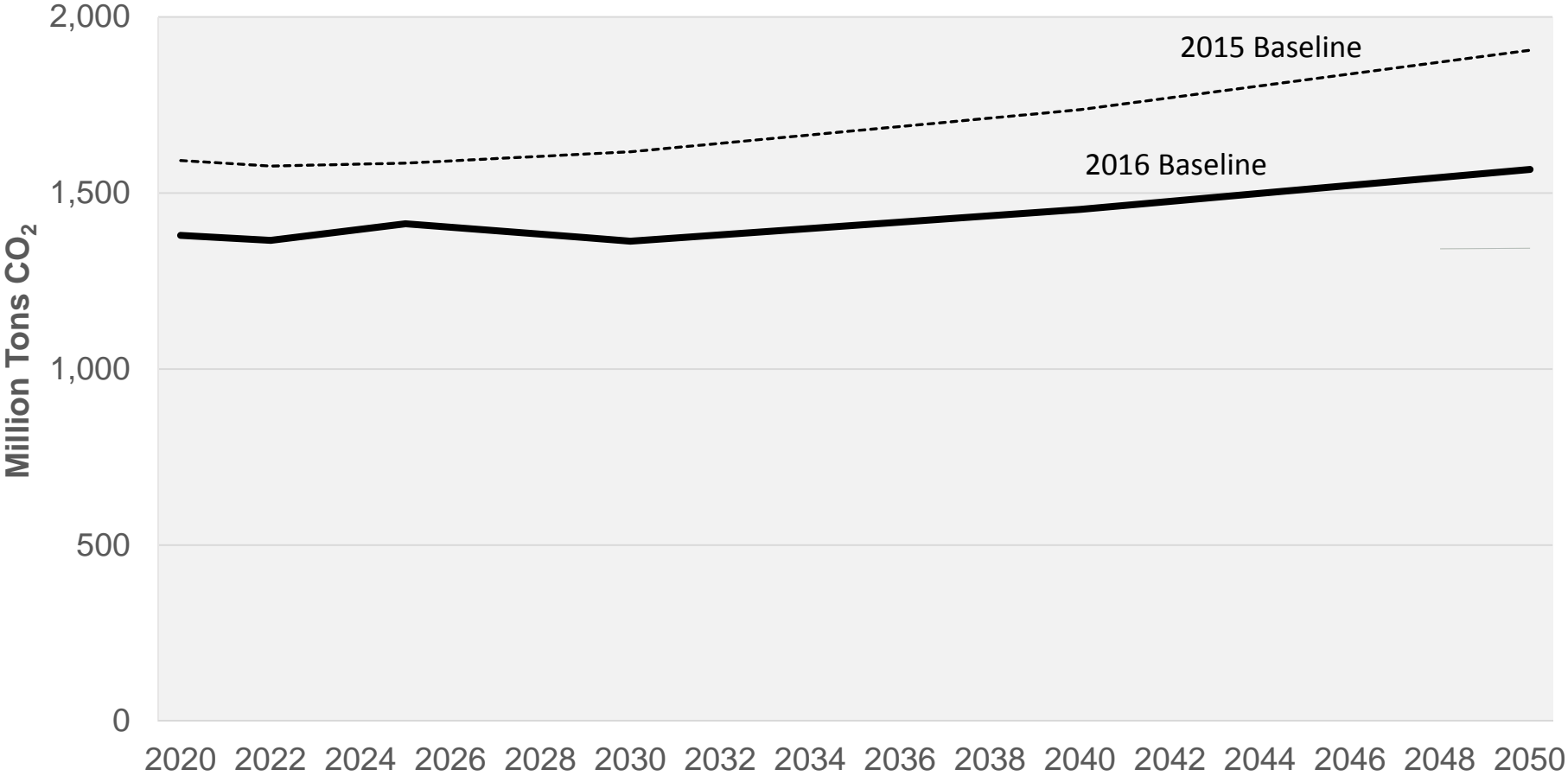
Have We Reached a New, Lower Range for U.S. Power Sector CO₂ Emissions?

- Projected 2030 emissions in EIA's Annual Energy Outlook have fallen 23% since 2010 study
- Projections in AEO 2012-2015 were in a tight band, with small year-on-year declines
- AEO 2016 projection is significant departure, driven by lower gas prices and renewable penetration



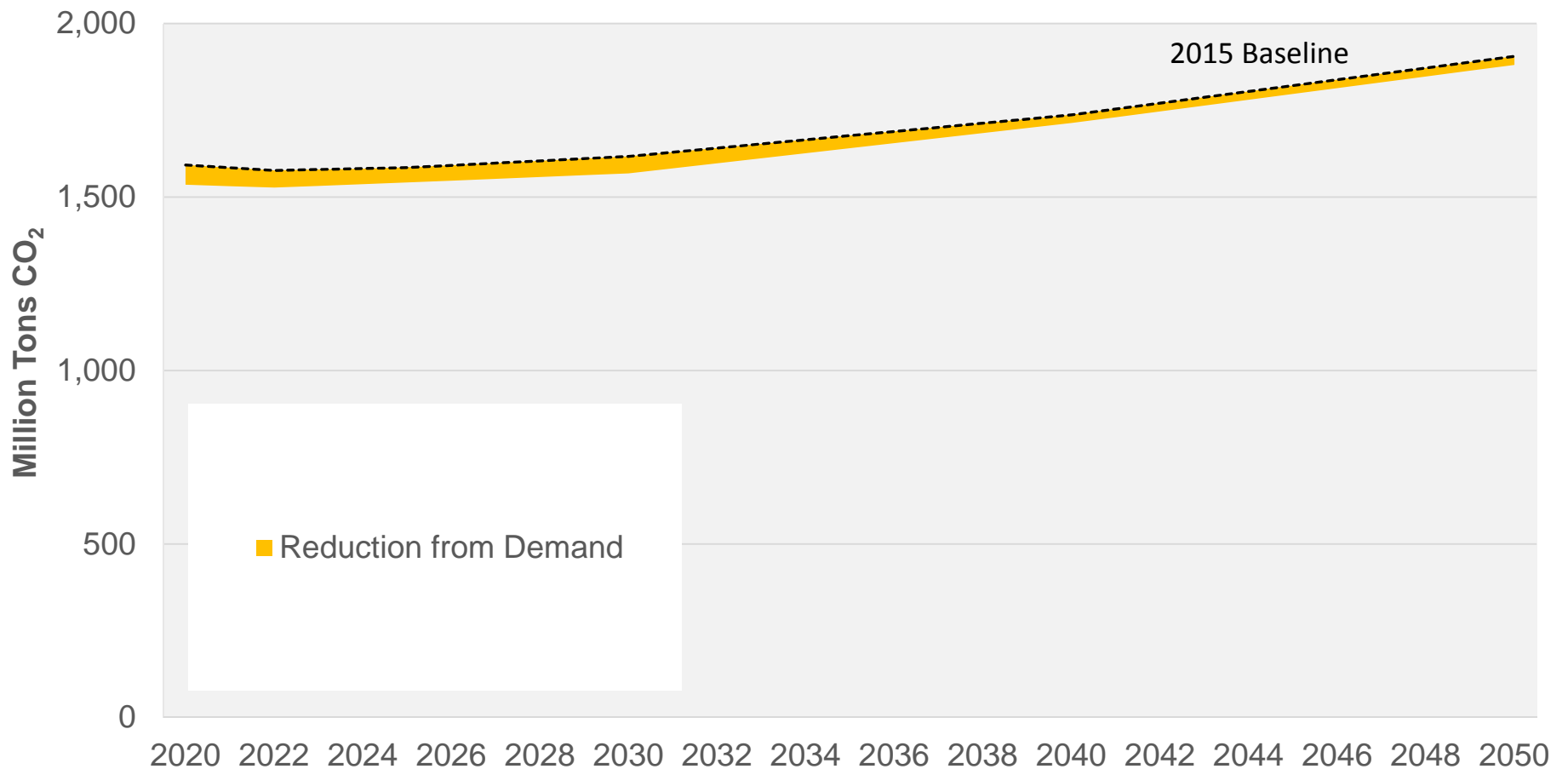
Over the Past Year, Projected Baseline CO₂ Emissions in Eastern Interconnect Dropped by 15%

Projected CO₂ Emissions for Eastern Interconnect



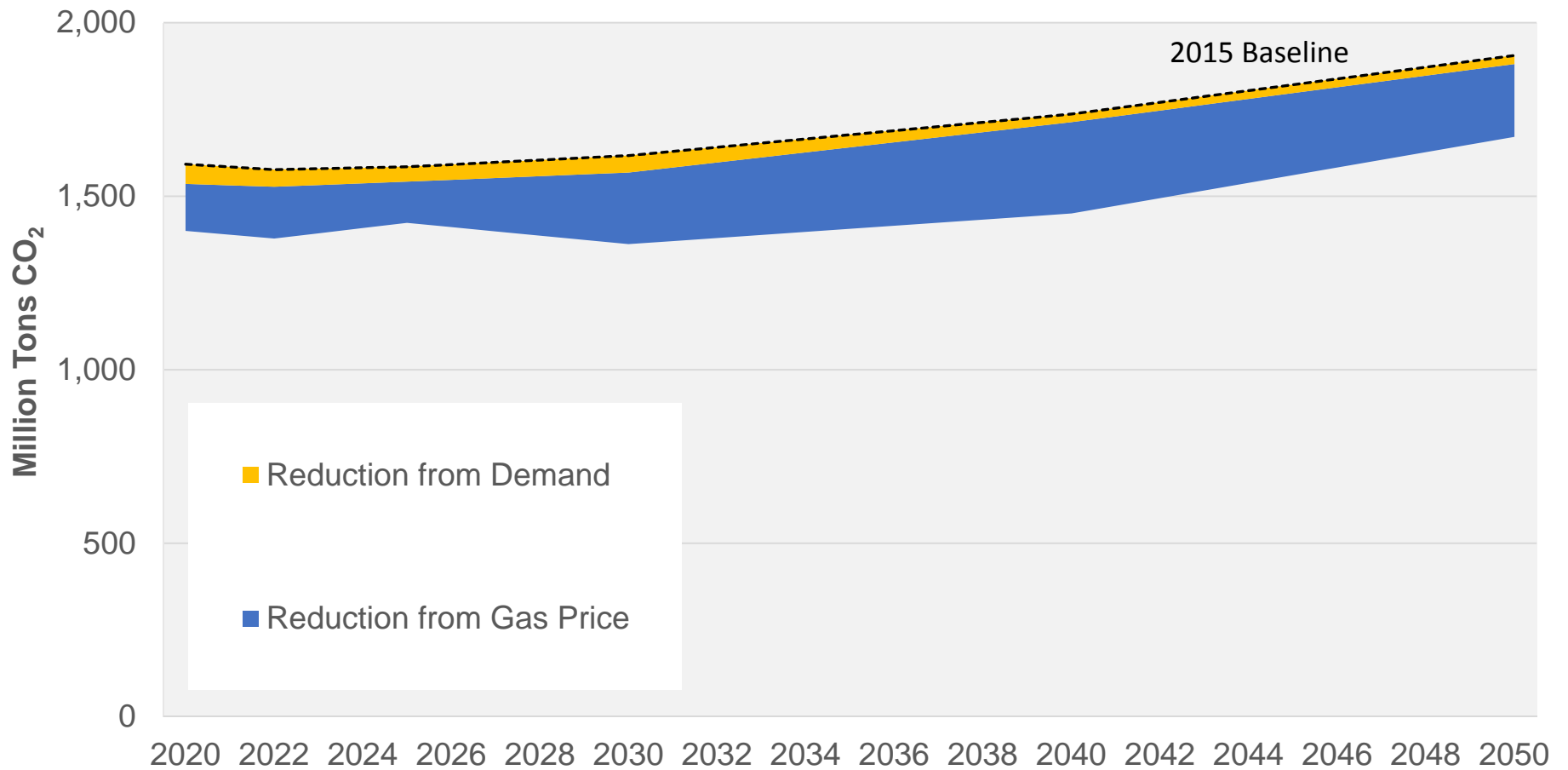
Contribution of Lower Load Growth toward CO₂ Reductions Declines Over Time

Projected CO₂ Emissions for Eastern Interconnect



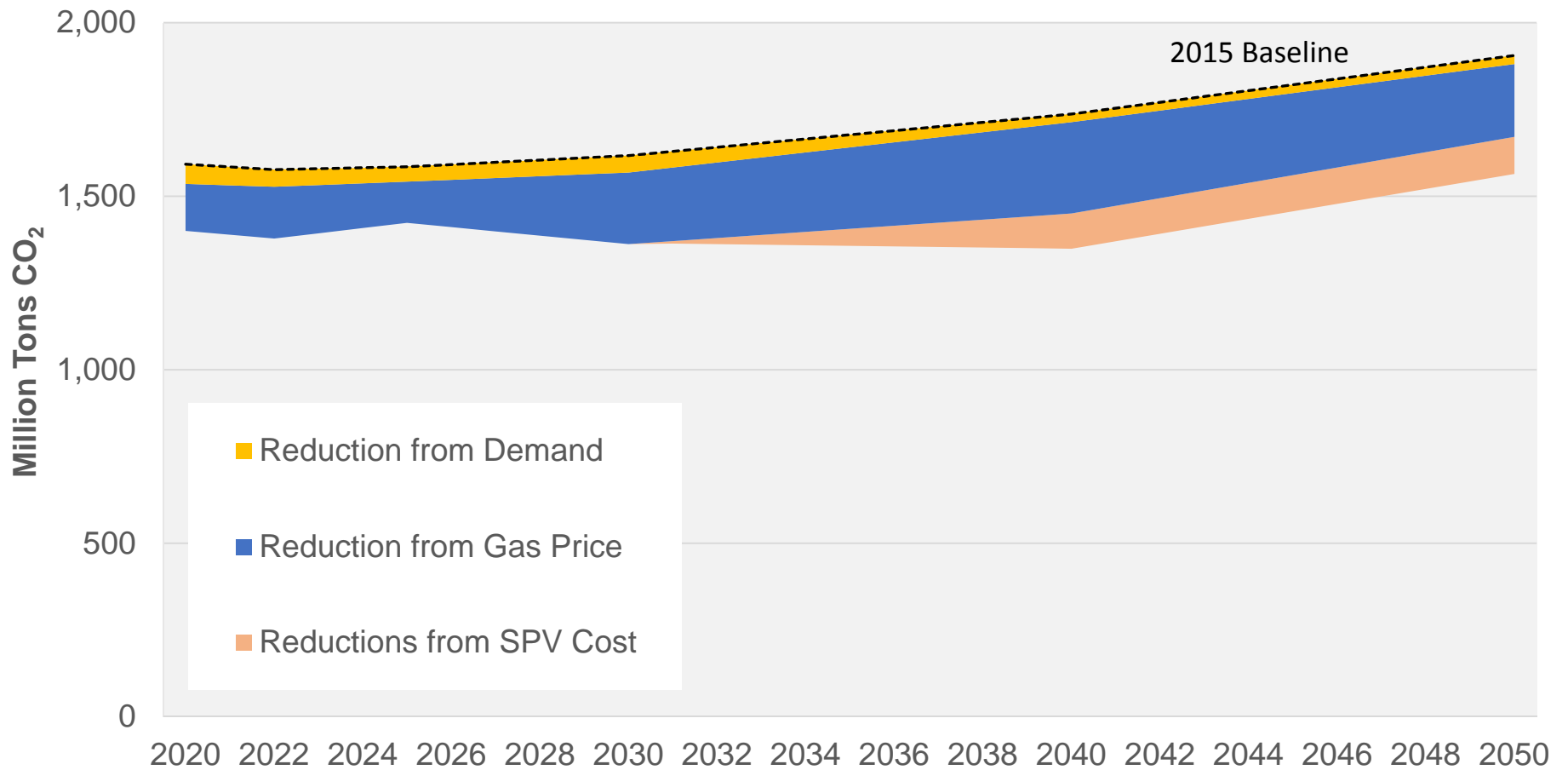
Lower Gas Prices are the Central Driver Behind Reductions

Projected CO₂ Emissions for Eastern Interconnect



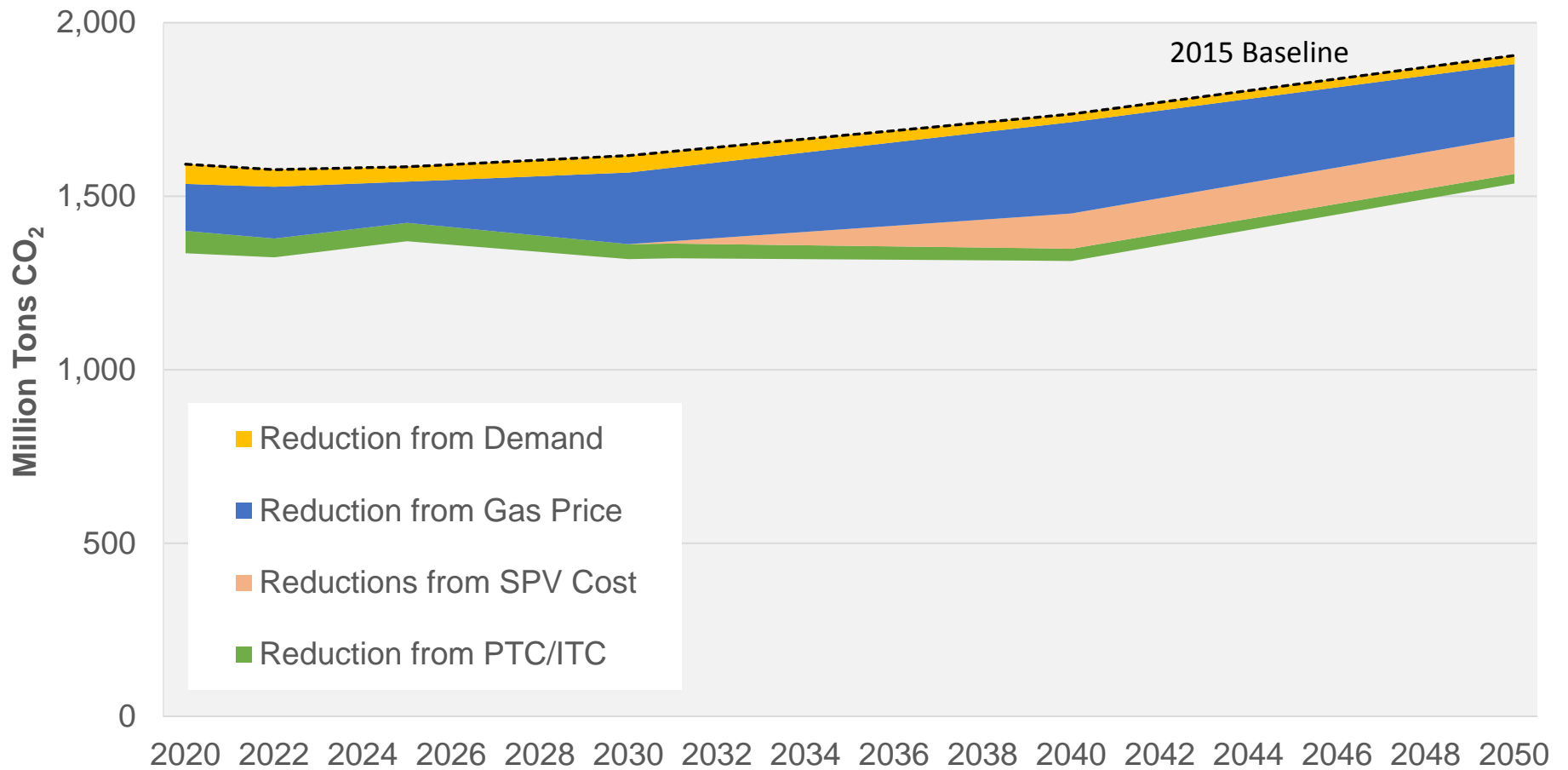
Lower Solar PV Costs Impact Emissions Post-2030

Projected CO₂ Emissions for Eastern Interconnect



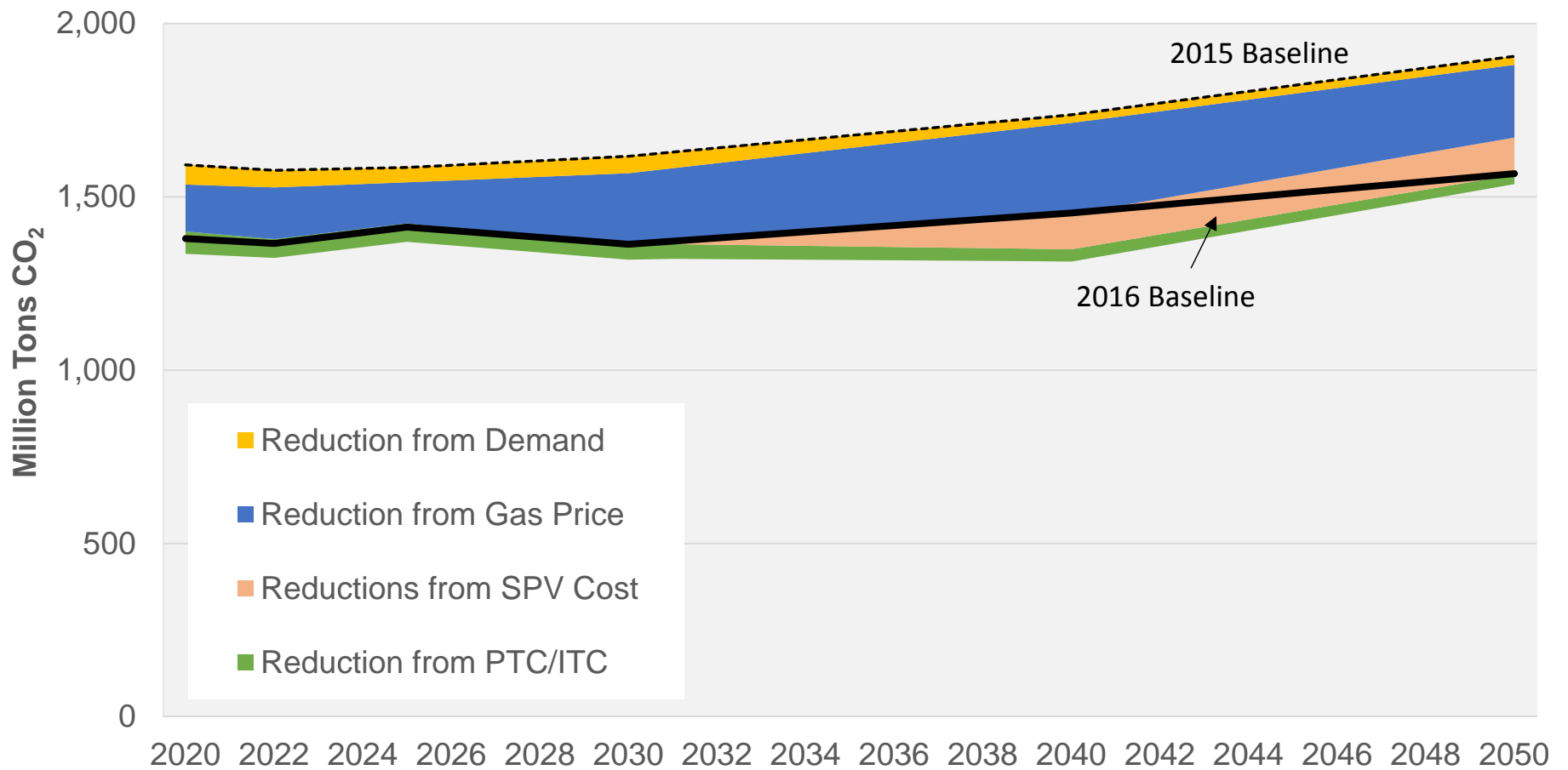
PTC and ITC Extensions Drive Incremental Renewable Penetration in Near-term

Projected CO₂ Emissions for Eastern Interconnect



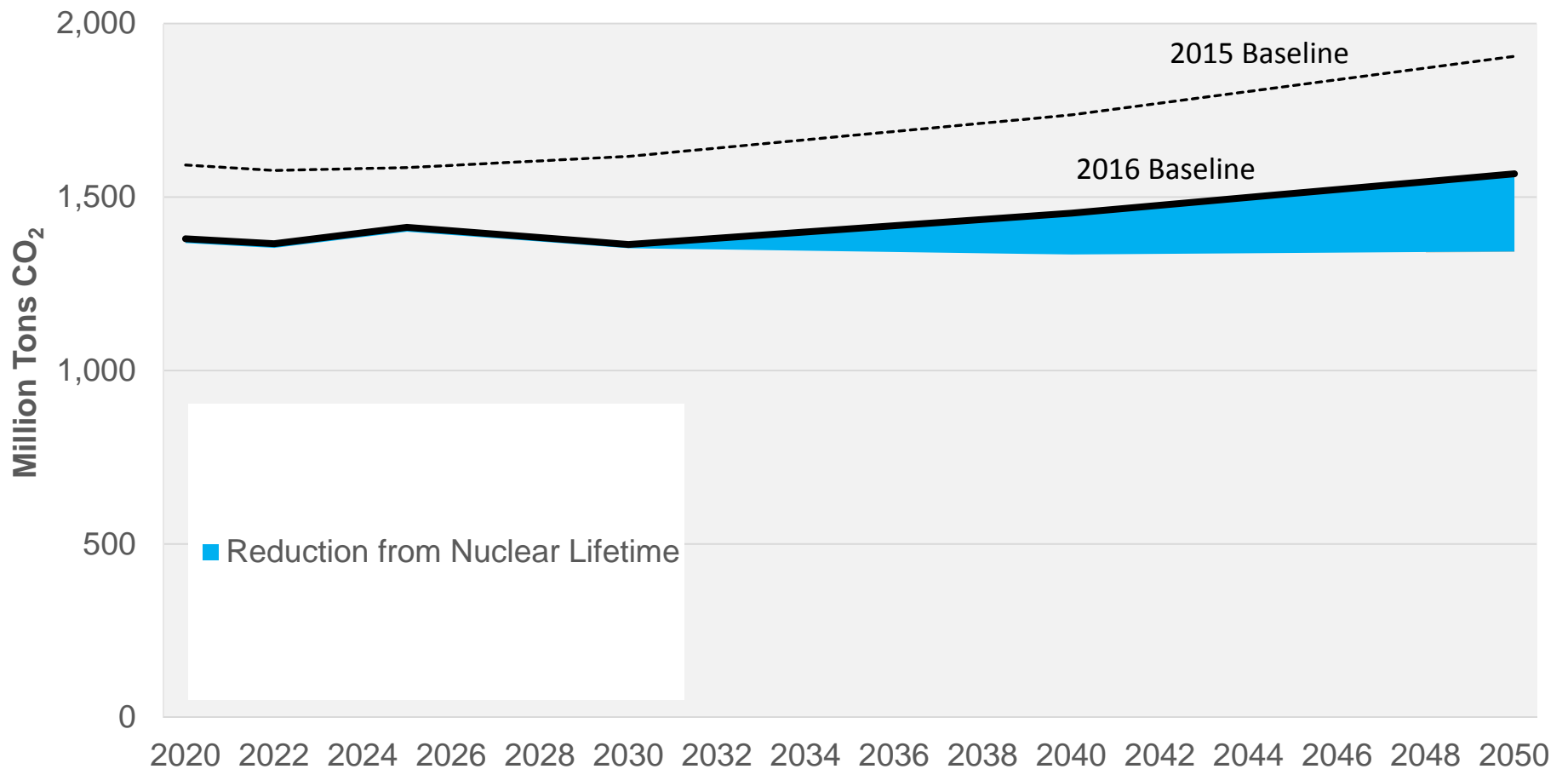
Total Reductions Less Than the Sum of the Parts

Projected CO₂ Emissions for Eastern Interconnect



Challenge of Replacing Generation from Existing Nuclear Post-2030

Projected CO₂ Emissions for Eastern Interconnect



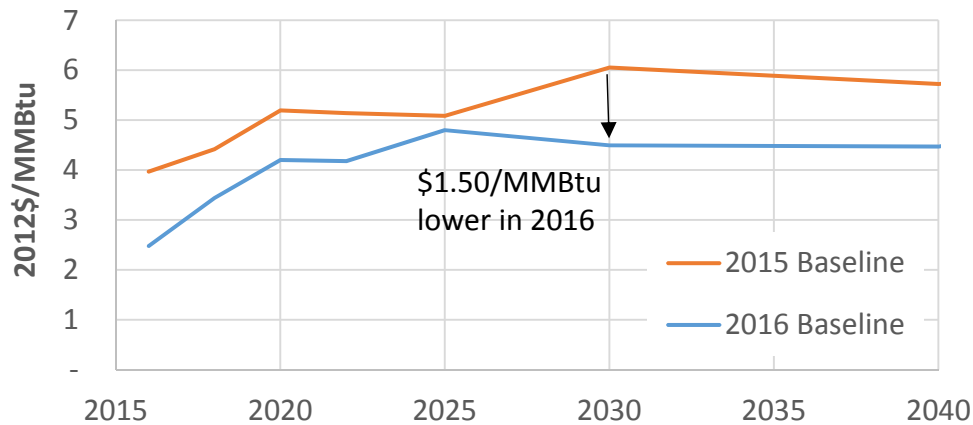
Thank You

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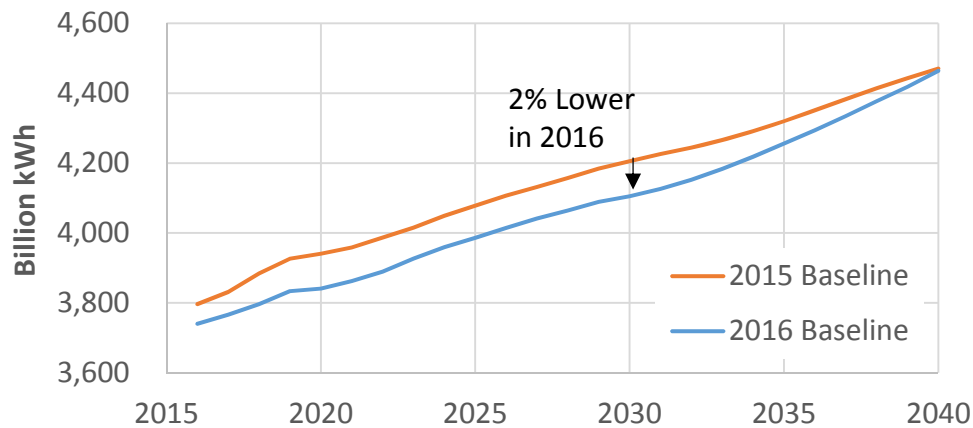


Assumptions Changes, 2015 Baseline to 2016 Baseline

Henry Hub Gas Prices



U.S. Retail Sales



- Henry Hub prices fell sharply between the 2015 and 2016 baselines – roughly 25% in 2030.
 - 2015 projections are from EPA’s final Clean Power Plan Regulatory Impact Analysis
 - 2016 projections are from EIA’s AEO 2016 Reference Case
- Retail sales average about 2% lower between 2016 and 2040 in the 2016 Baseline relative to the 2015 Baseline based on AEO projections.
- Solar PV costs fell by 37%, or about \$620/kW, in 2040 from the 2015 Baseline to the 2016 Baseline, consistent with adoption of NREL’s latest cost assumptions.
- The Production Tax Credit and Investment Tax Credit (PTC/ITC) were implemented as finalized in the 2016 Baseline.
- Assumptions about lifetime of existing nuclear facilities differ between EPA (60 years) and EIA (80 years). Adopting the longer lifetime pushes most retirements beyond 2050.

Baseline Adjustments Get U.S. 60% of the Way Toward CPP Targets

Projected CO₂ Emissions for U.S.

