



Integrated Resource Plan Stakeholder Engagement Meeting Series

Stakeholder Meeting # 4 – October 19, 2023

Agenda



Cantrece Jones
Acuity Design Group

Integrated Resource Plan
Get Connected | A community engagement process.

2023 IRP STAKEHOLDER MEETING SERIES

IRP Stakeholder Meeting # 4 Agenda

GRU Updates

Eric Walters, GRU Interim Chief Sustainability Officer

Preliminary IRP Modeling Results

Brad Kushner, Acuity Design Group Team

Open Discussion & Next Steps

Cantrece Jones, Acuity Design Group Team

GRU Updates

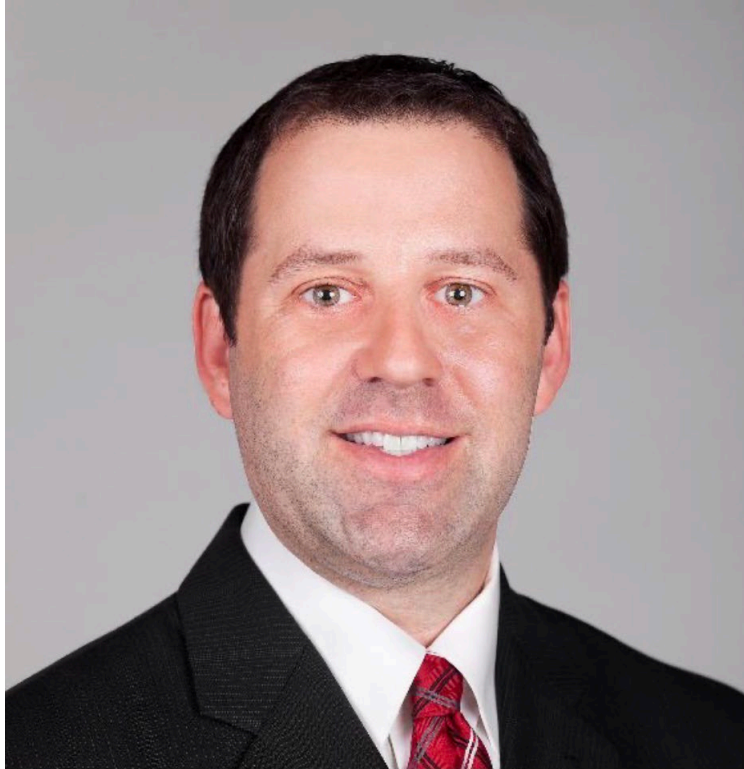


Eric Walters
Interim Chief
Sustainability Officer

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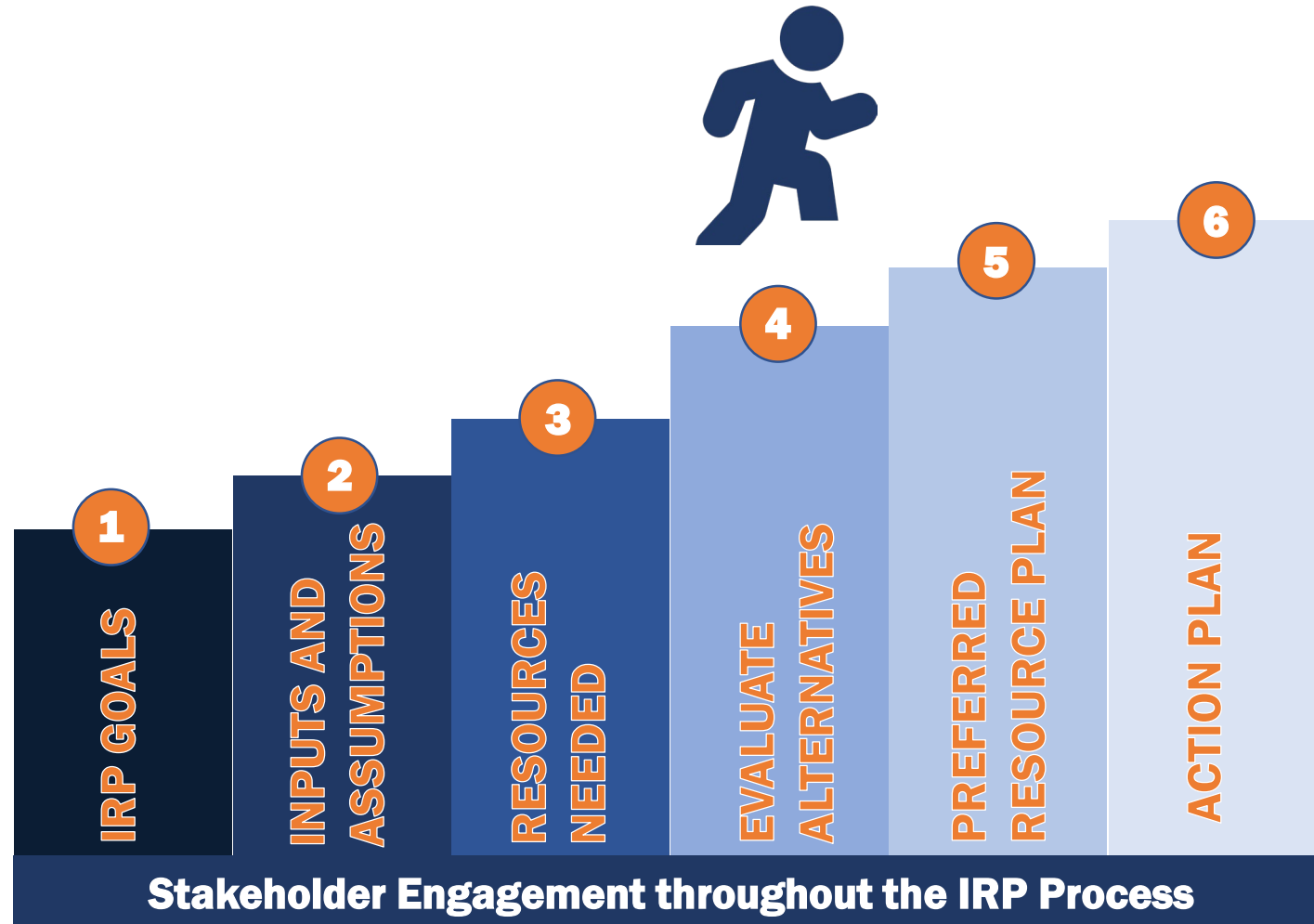
2023 IRP STAKEHOLDER MEETING SERIES

Preliminary IRP Modeling Results



Brad Kushner
Acuity Design Group

The IRP Process



IRP Scenarios and Sensitivities

- **Used to identify robust resource plan across a range of potential futures**
- **Scenario**
 - **Consideration of changes to multiple IRP Variables simultaneously to analyze a potential future**
- **Sensitivity**
 - **Consideration of changes to one of the IRP Variables at a time within a given potential future**

IRP Scenarios

- **Baseline**
 - Reflects current expected future conditions
- **High Utility-Scale Renewables in Southeast US**
 - Renewable prices increased 20% over baseline
 - Non-firm off system power purchase prices adjusted
 - Planning reserve margin increased to 20%
- **Rapid Electrification**
 - GRU becomes a dual peaking utility
 - Higher EV and DG penetration
 - Higher natural gas prices
 - 20% increase in the cost of supply resources
- **High Inflation**
 - Annual Long-term inflation rate increased from 2.3% to 3.3%
 - No growth in electric demand over forecast period

Variables	Scenarios			
	Baseline	High Utility-Scale Renewables in Southeast US	Rapid Electrification	High Inflation
Inflation/Discount Rates	Base	Base	Base	High
Load Forecast (Peak Demand and Net Energy for Load)	Base	Base	High	No Load Growth
Planning Reserve Margin	Base (15%)	High (20%)	Base (15%)	Base (15%)
Transmission Import	Base	Base	Base	Base
Price of Off-System Power Purchases	Base	High	High	High
Natural Gas Prices	Base	Base	High	High
Cost of New NG Resources	Base	Base	High	High
Renewable Prices	Base	High	High	High
CO ₂ Emissions Targets	None	None	None	None
Cost for CO ₂ Emissions	None	None	None	None

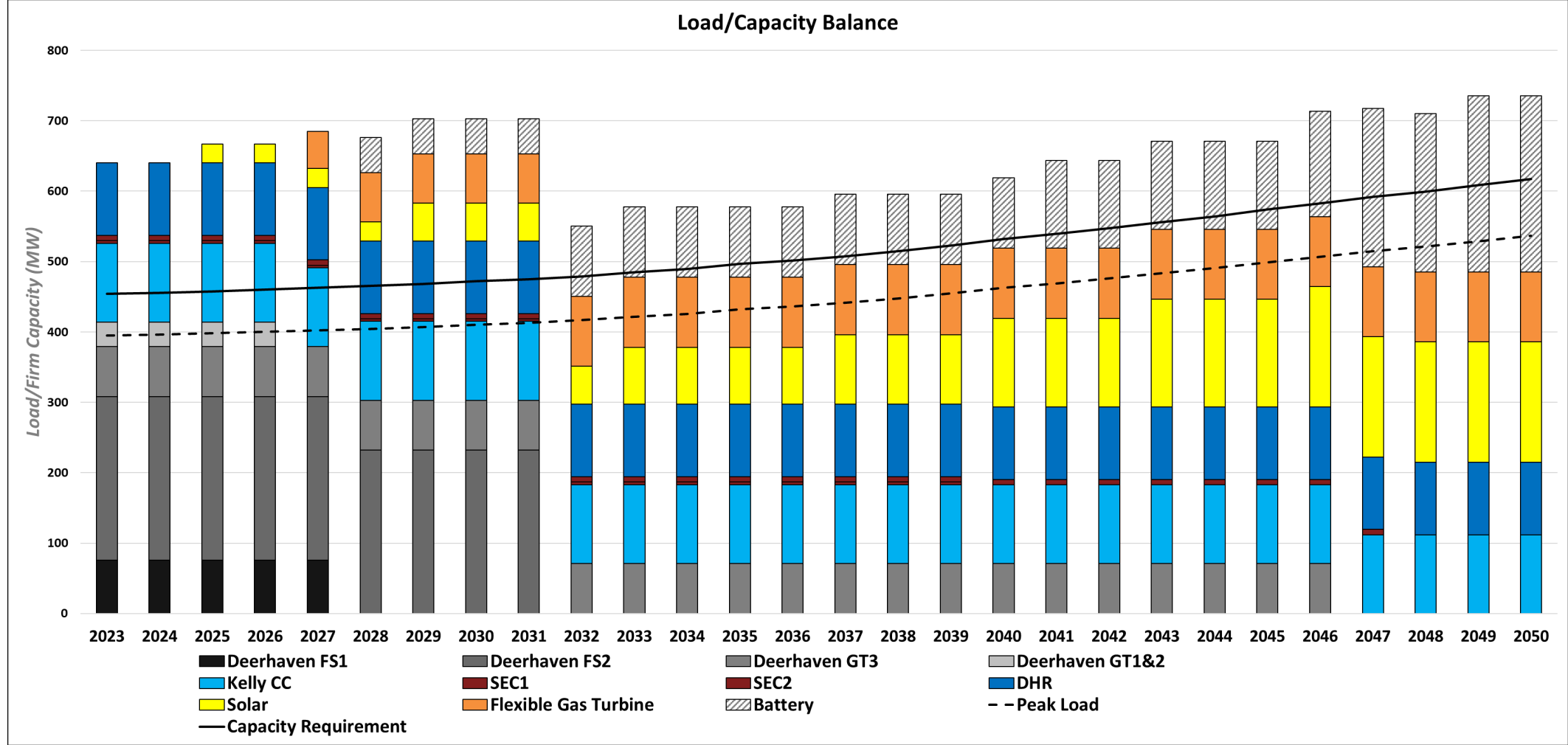
IRP Sensitivities

- **Demand-Side Management**
- **No Load Growth**
- **Increased Import Capabilities**
- **Carbon Tax**
- **2018 City Commission Resolution**
- **Significant CO₂ Reductions**
- **2 Percent Present Worth Discount Rate**

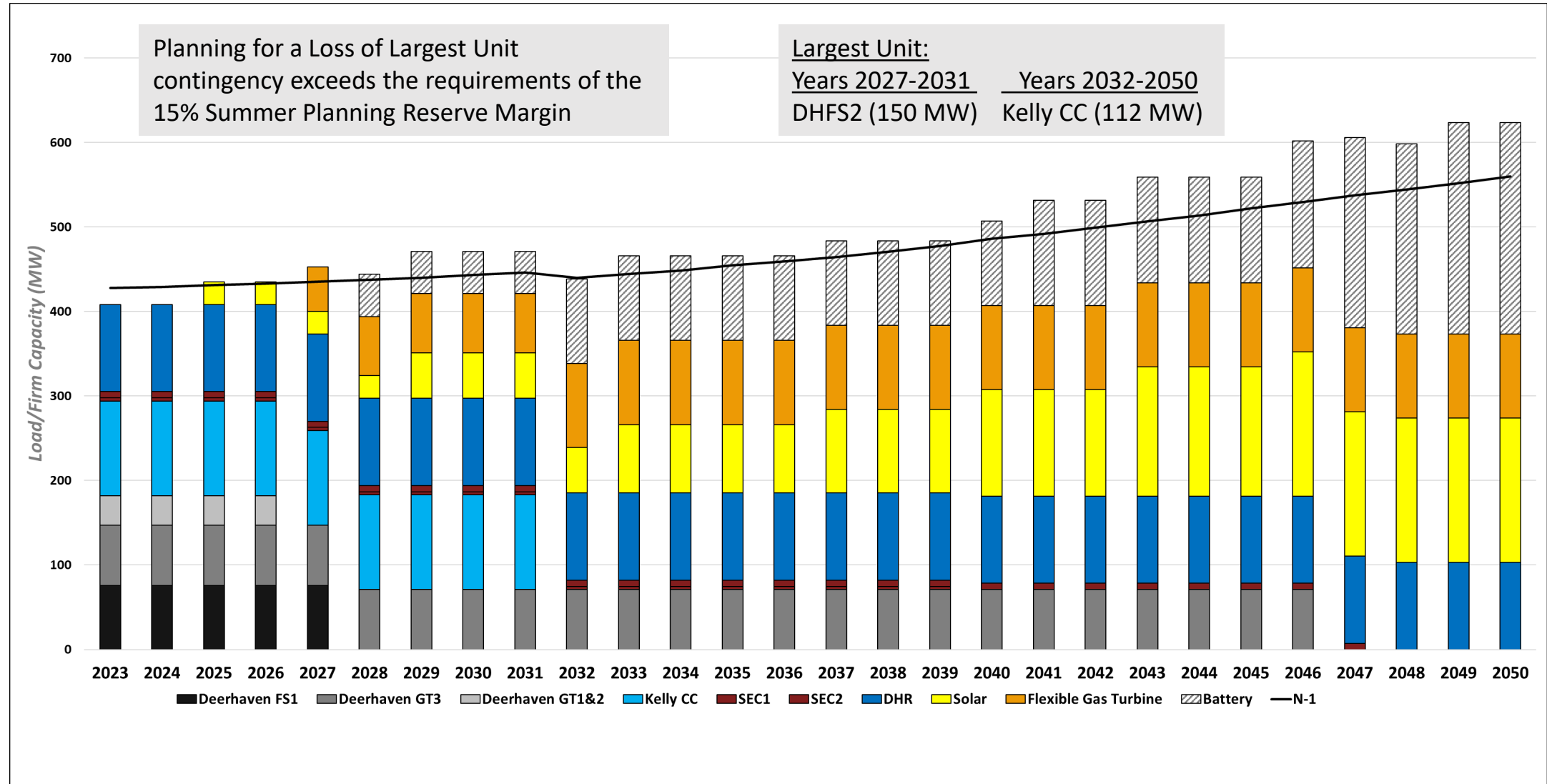
IRP Resource Selection Approach

- **PLEXOS (production cost modeling software)**
 - **Selects Optimum Resources**
 - **Meet peak demand, reserve margin, and reliability requirements**
 - **Achieve lowest lifecycle costs**
- **Reliability Requirements**
 - **Reserve margin (15% per Florida Public Service Commission and Florida Reliability Coordinating Council)**
 - **Meet peak demand with largest unit out of service (NERC)**
 - **“N-1” criteria**
- **Refine Preliminary Results**
 - **Results presented herein are preliminary and subject to change**

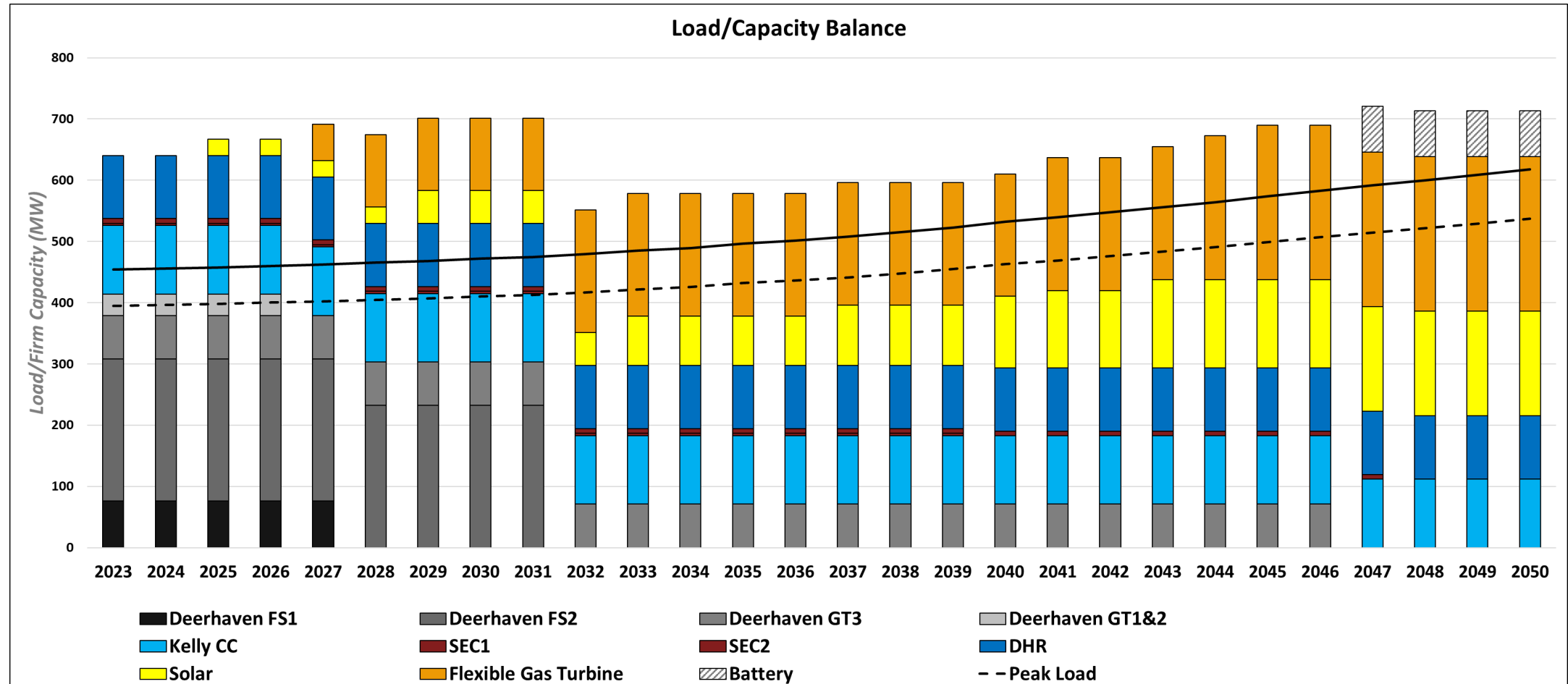
Preliminary Results - Load and Resource Balance - Baseline Scenario



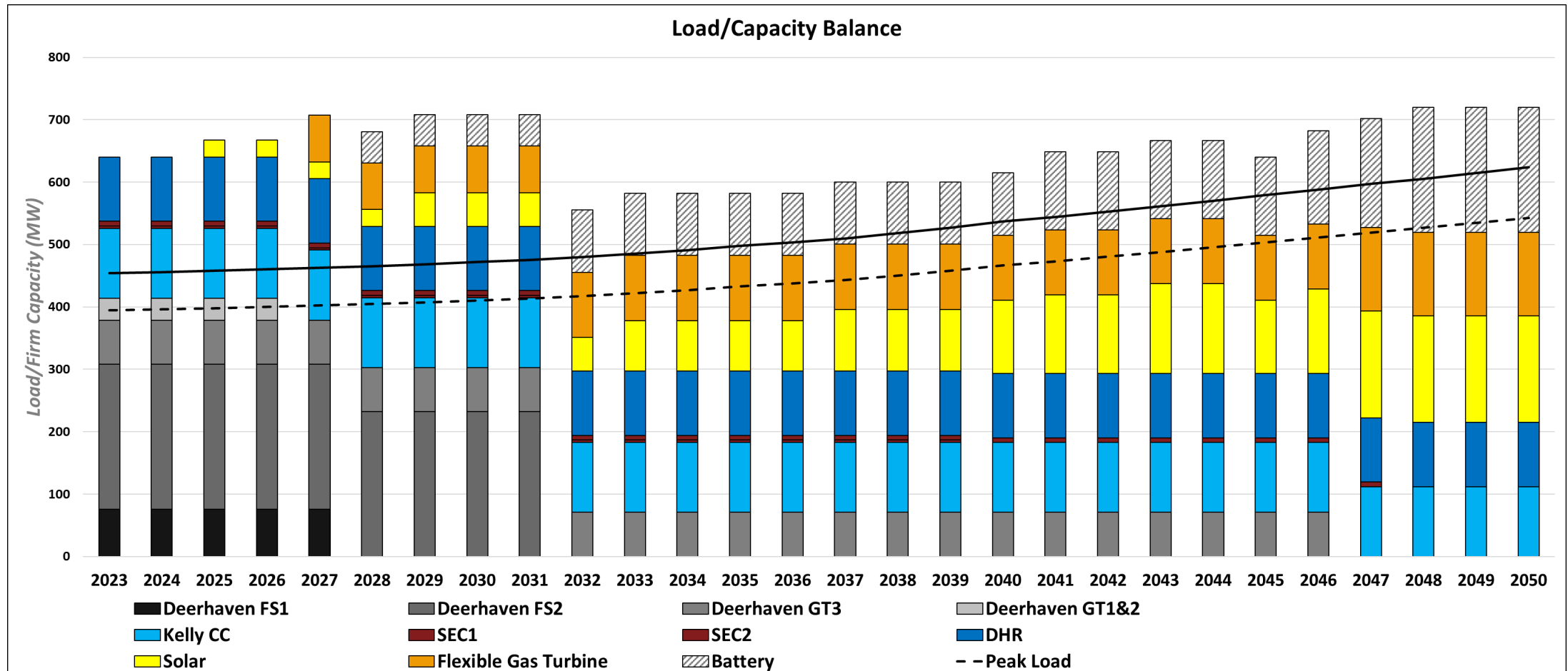
N-1 Requirement - Preliminary Results - Baseline Scenario



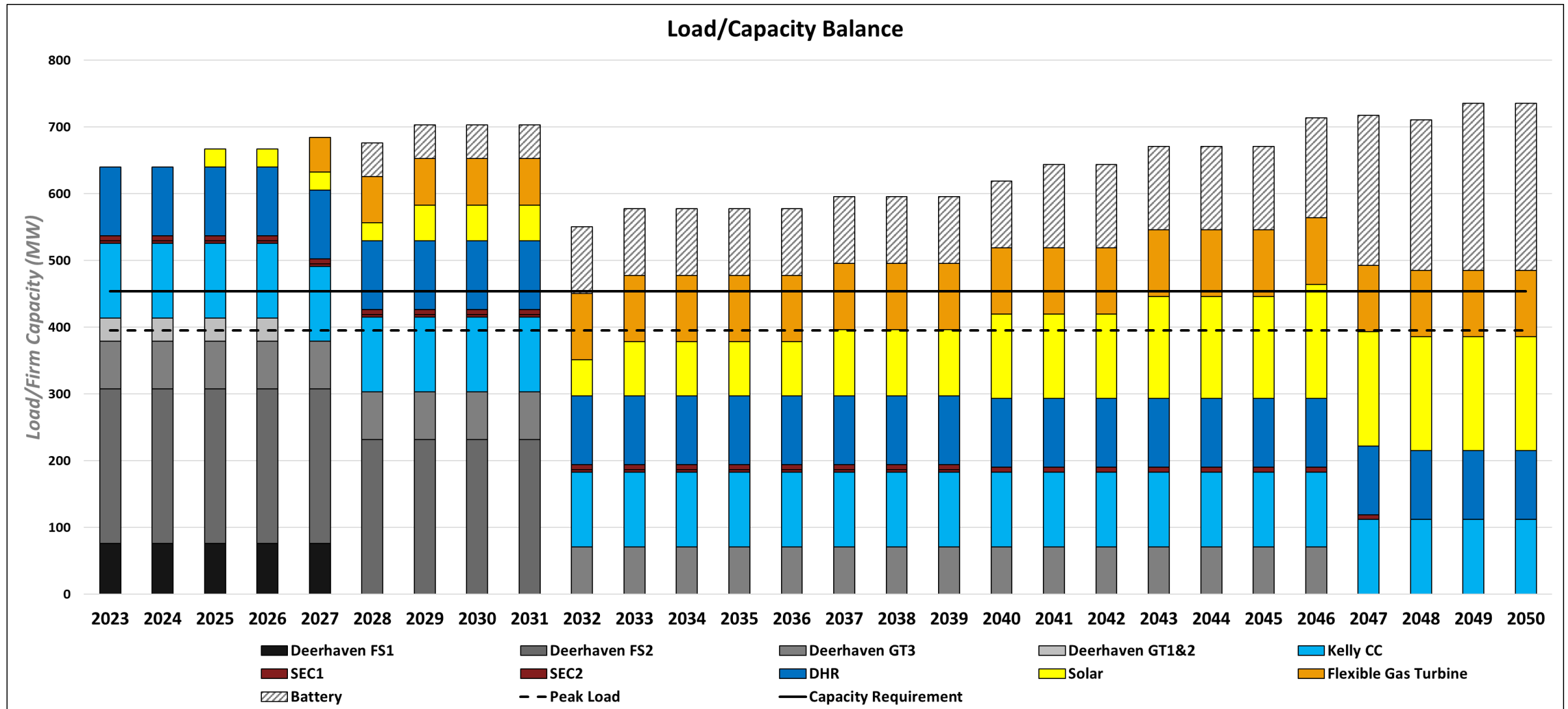
Preliminary Results - Load and Resource Balance – High Utility-Scale Renewables in SE US Scenario



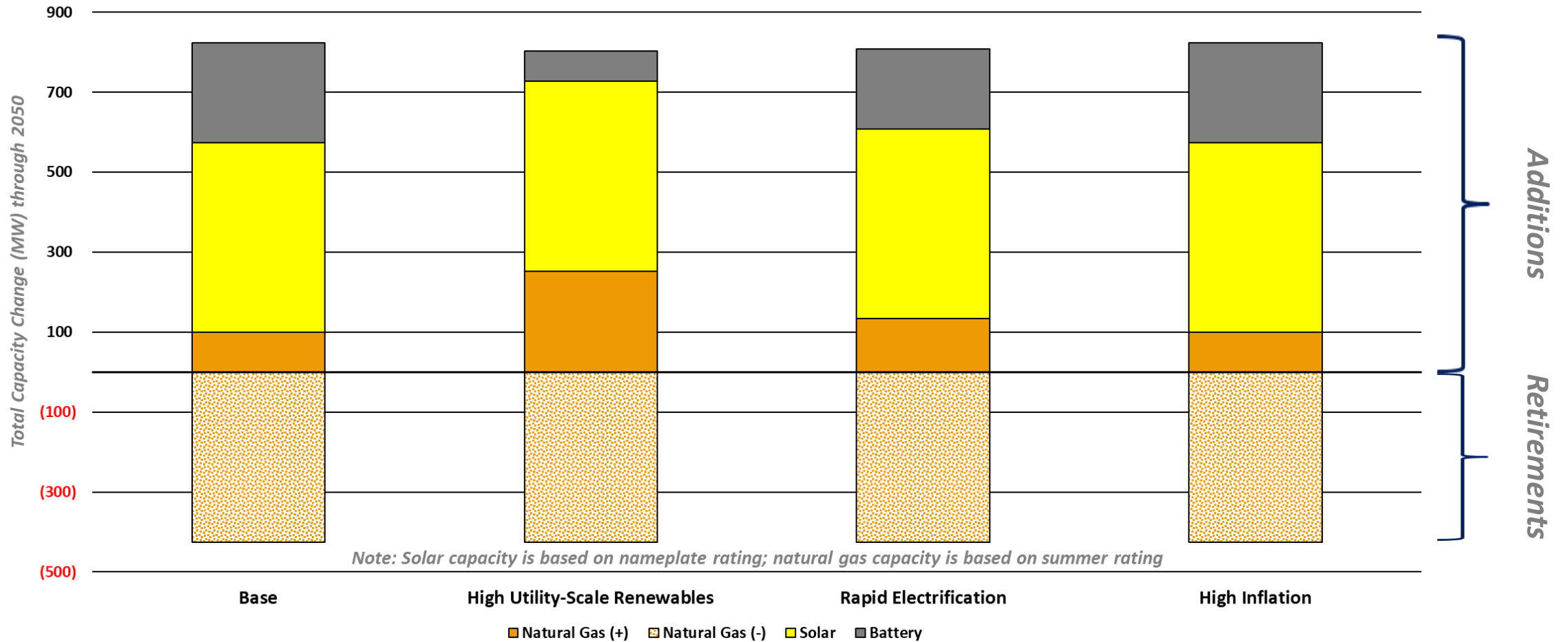
Preliminary Results - Load and Resource Balance – Rapid Electrification Scenario



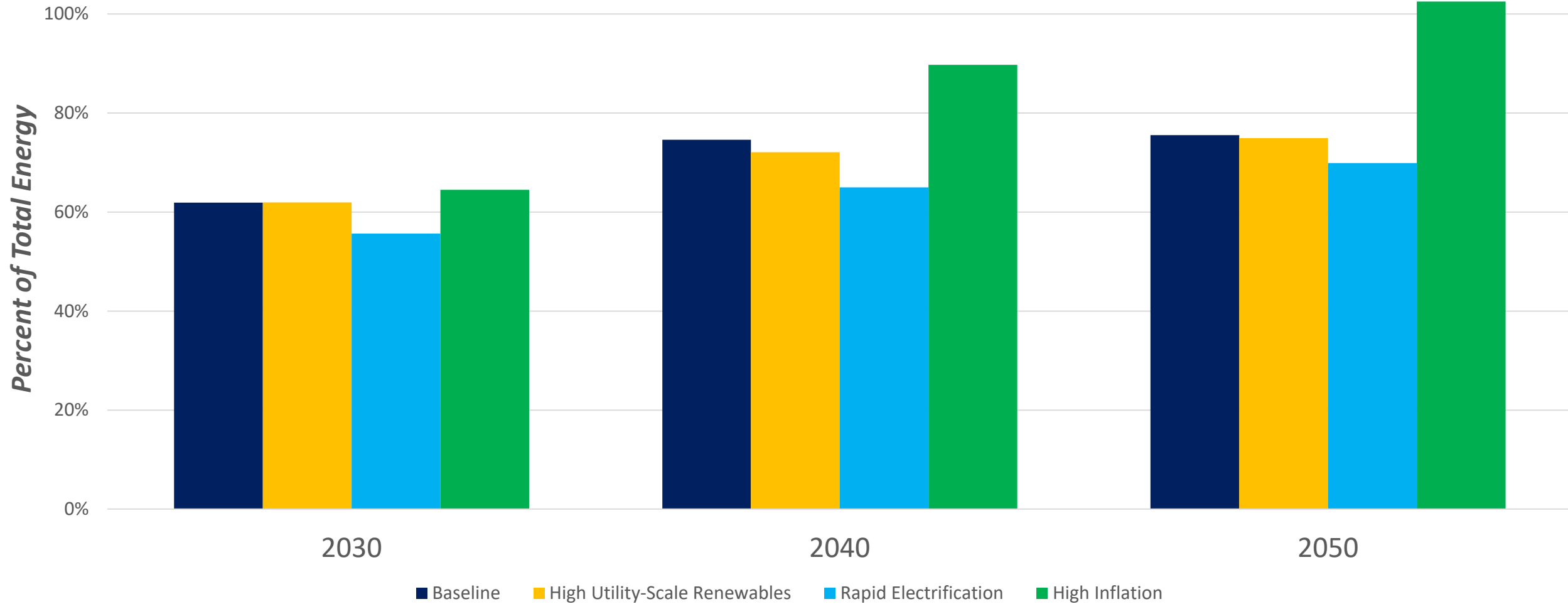
Preliminary Results - Load and Resource Balance – High Inflation



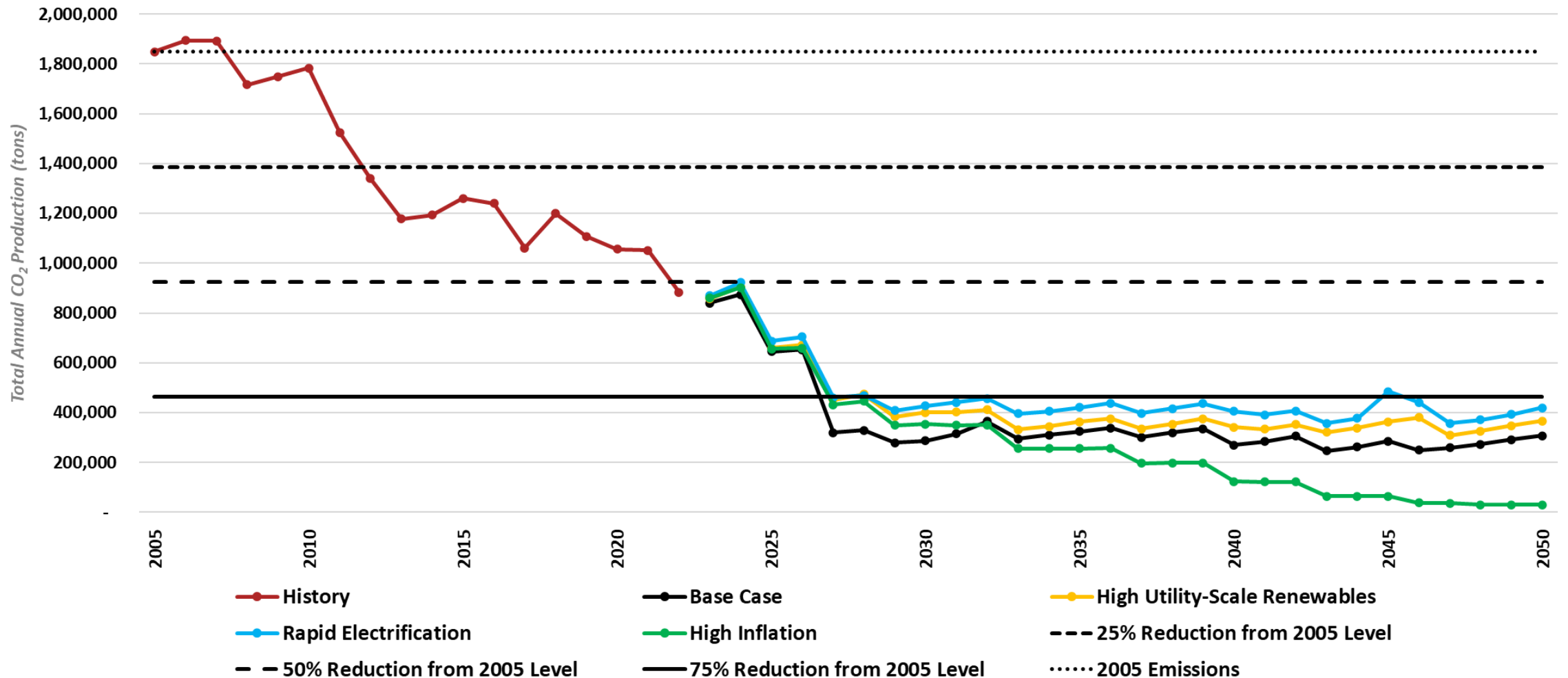
Preliminary Resource Additions (MW) – All Scenarios in 2050



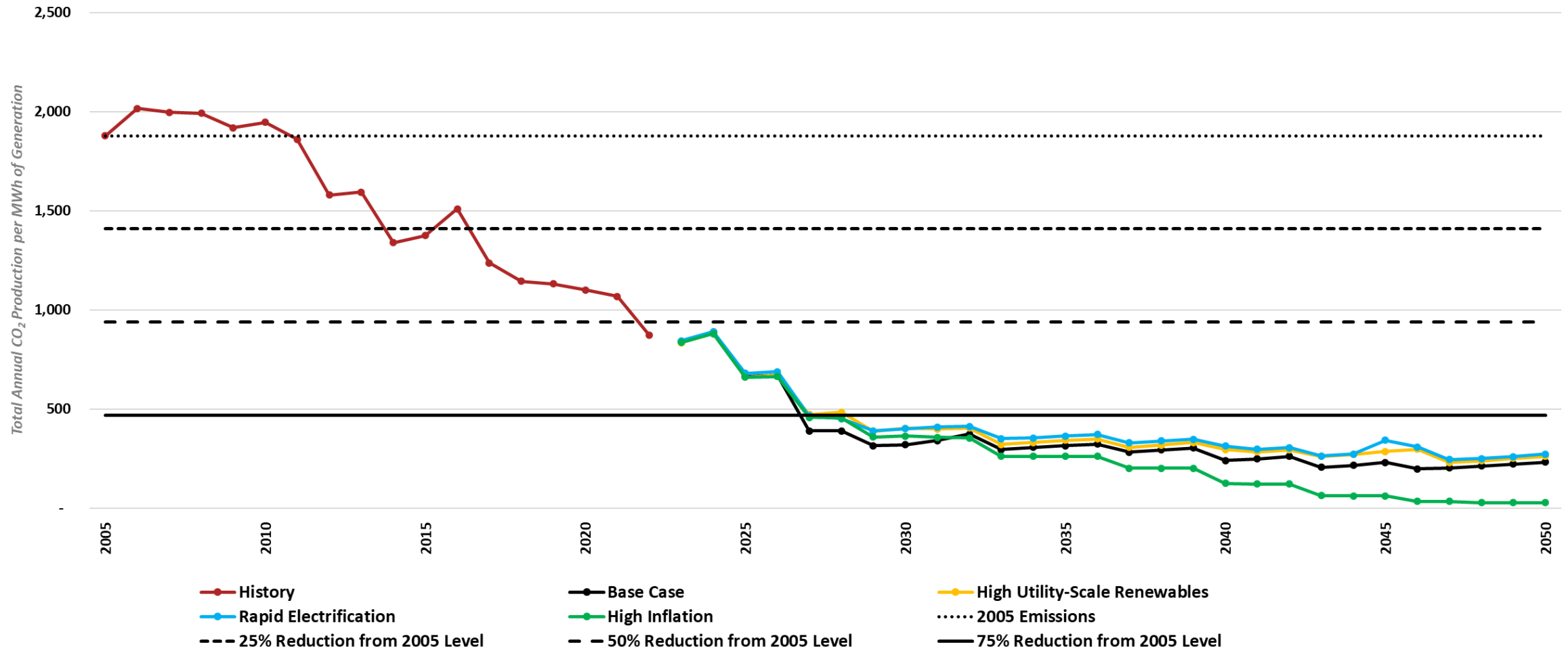
Preliminary Renewable Energy – % of Total Energy Requirement



Preliminary Results – Net CO₂ Emissions



Preliminary Results – Net CO₂ Emissions per MWh



Open Discussion and Next Steps



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2023 IRP STAKEHOLDER MEETING SERIES

Open Discussion and Next Steps

- **Upcoming IRP Stakeholder Engagement Meeting**

- **Meeting 5 – Scenario and Sensitivity Modeling Results**

- **1/10/24**

- **Meeting 6 –GRU’s Path Forward**

- **Date to be Determined (February/March 2024)**

- **We value YOUR feedback**