

City of Burbank – 2023 IRP

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Black & Veatch Global Advisory

Today's Presentation

IRP Status Update



IRP Status Update



Base Case



Zero Carbon by 2030 Case



SB 100+SB 1020+SMR Case



Sensitivities



Questions & Answer Session

IRP Status Update



FINALIZED BASE CASE
ASSUMPTIONS, BASE
CASE MODEL AND
TWO SENSITIVITIES



IRP REPORT
WORK
UNDERWAY



SENSITIVITY
DISCUSSION
UNDERWAY

Today's Presentation

Base Case



IRP Status Update



Base Case



Zero Carbon by 2030 Case



SB 100+SB 1020+SMR Case



Sensitivities



Questions & Answer Session

IRP Base Case Assumptions

- Assumes the renewable resources WILL be available to meet compliance
 - The resources included in the base case are from interconnection queues on transmission lines where we have rights and contracts under negotiation
 - As mentioned in previous meetings, we are actively negotiating several renewable contracts and 4 contracts in total have not moved forward

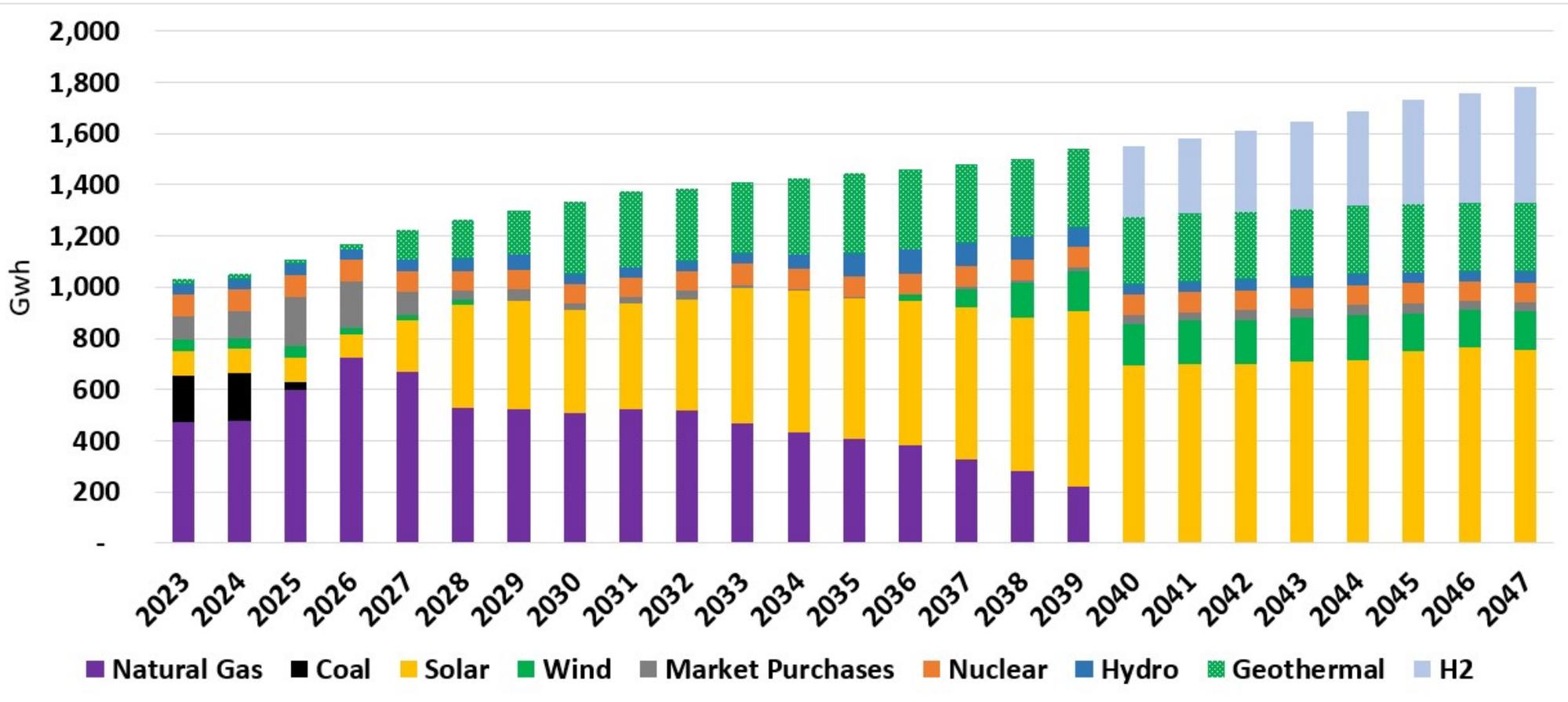


IRP Base Case Assumptions

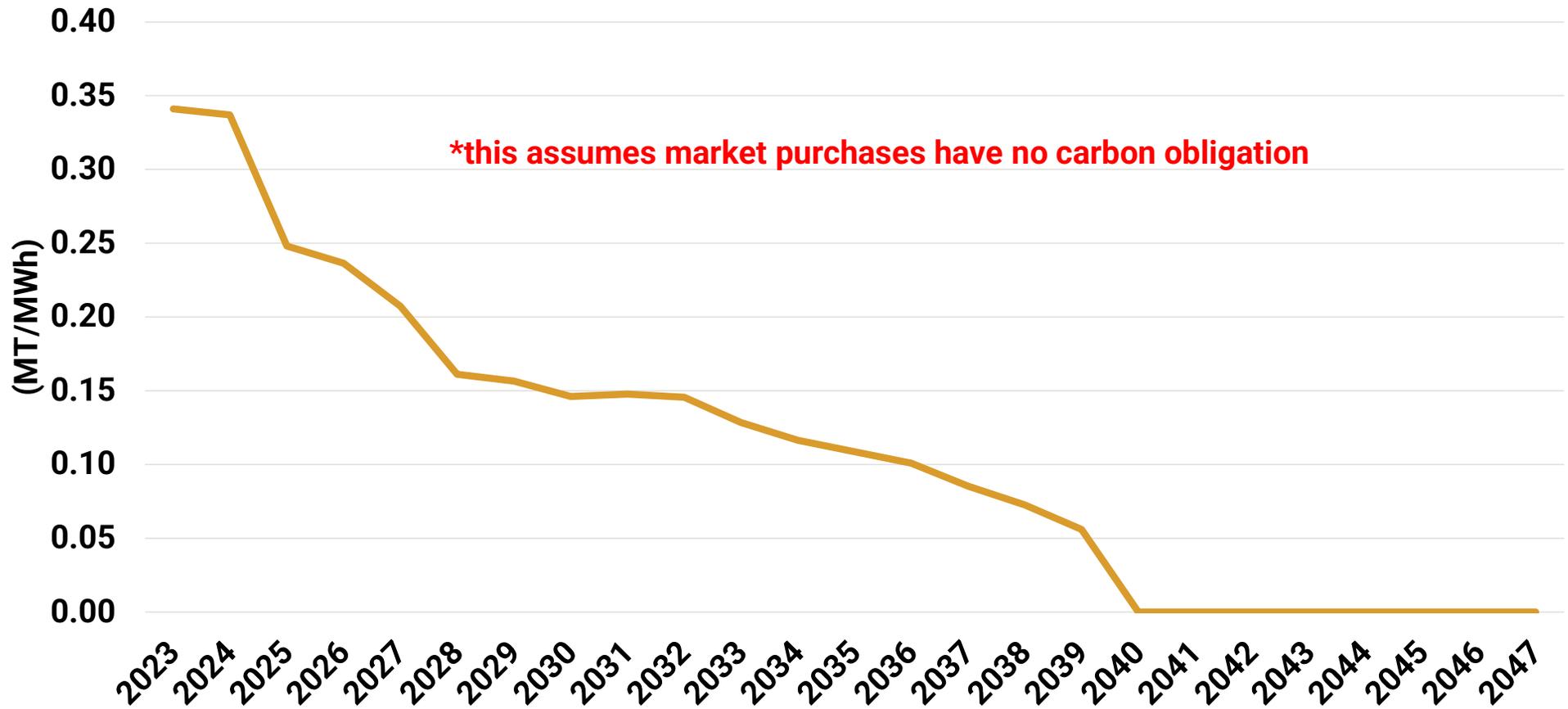
- Assumes that technology will be available in the future
 - Assumes that Magnolia, Lake and Intermountain Power Project will be hydrogen capable by 2040
- Does NOT include transmission costs (only resource costs) and relies on existing/contracted transmission rights
- Based on information from April-June 2023



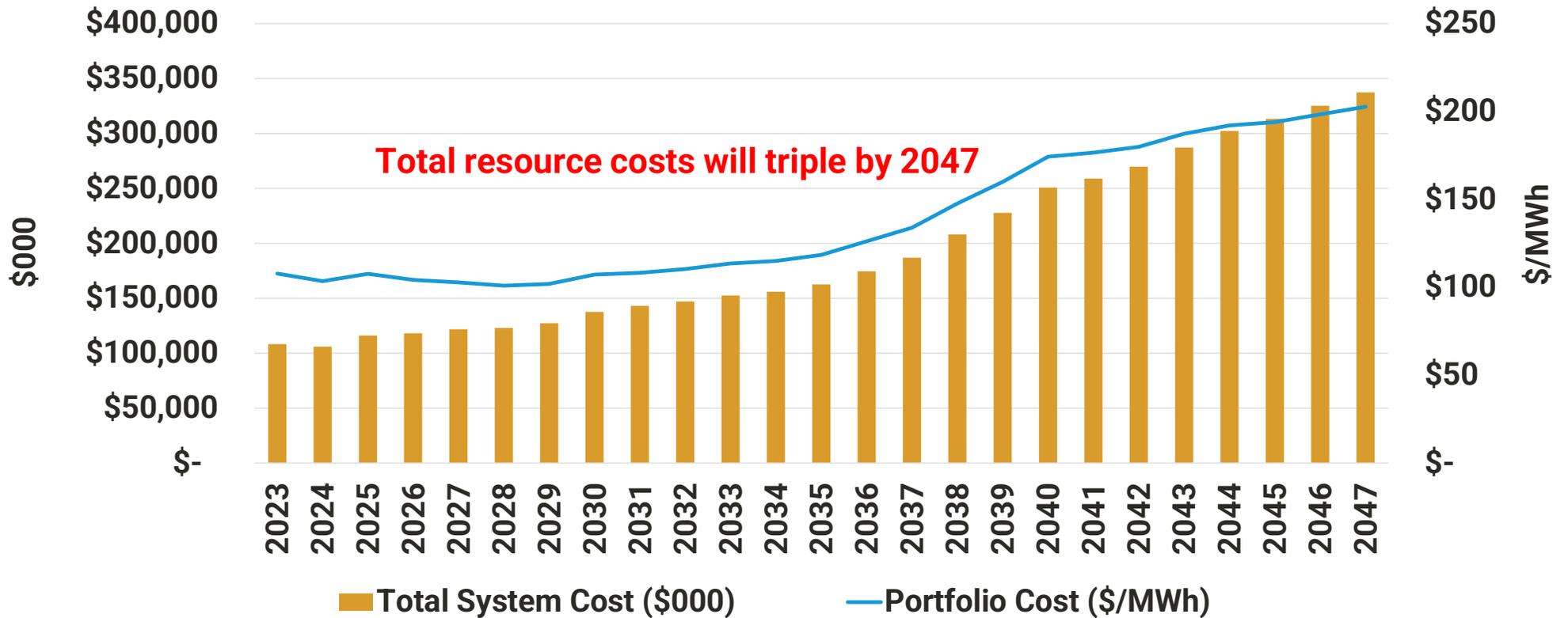
Base Case – Projected Generation Mix



Base Case Carbon Intensity – MT/MWh



Base Case Total Energy Supply Cost – Nominal Dollars



Today's Presentation

Sensitivities



IRP Status Update



Base Case



Zero Carbon Case by 2030



SB 100+SB 1020+SMR



Sensitivities



Questions & Answer Session

IRP Zero Carbon by 2030 Case Assumptions

- Assumes the renewable resources WILL be available to meet compliance
 - The resources included are from interconnection queues on transmission lines where we have rights and contracts under negotiation



IRP Zero Carbon by 2030 Case Assumptions

- Relies on renewable natural gas- RNG (certified as renewable by the California Energy Commission) for Magnolia
 - Assumes that the gas is available for purchase in the quantity we need it
 - Please note, even past contracts we had for RNG the vendor did not perform and the contracts were terminated
 - **THIS CASE IS NOT POSSIBLE UNLESS THERE IS A SUPPLY OF RNG IN THE MARKET [WHICH THERE ISN'T RIGHT NOW]**

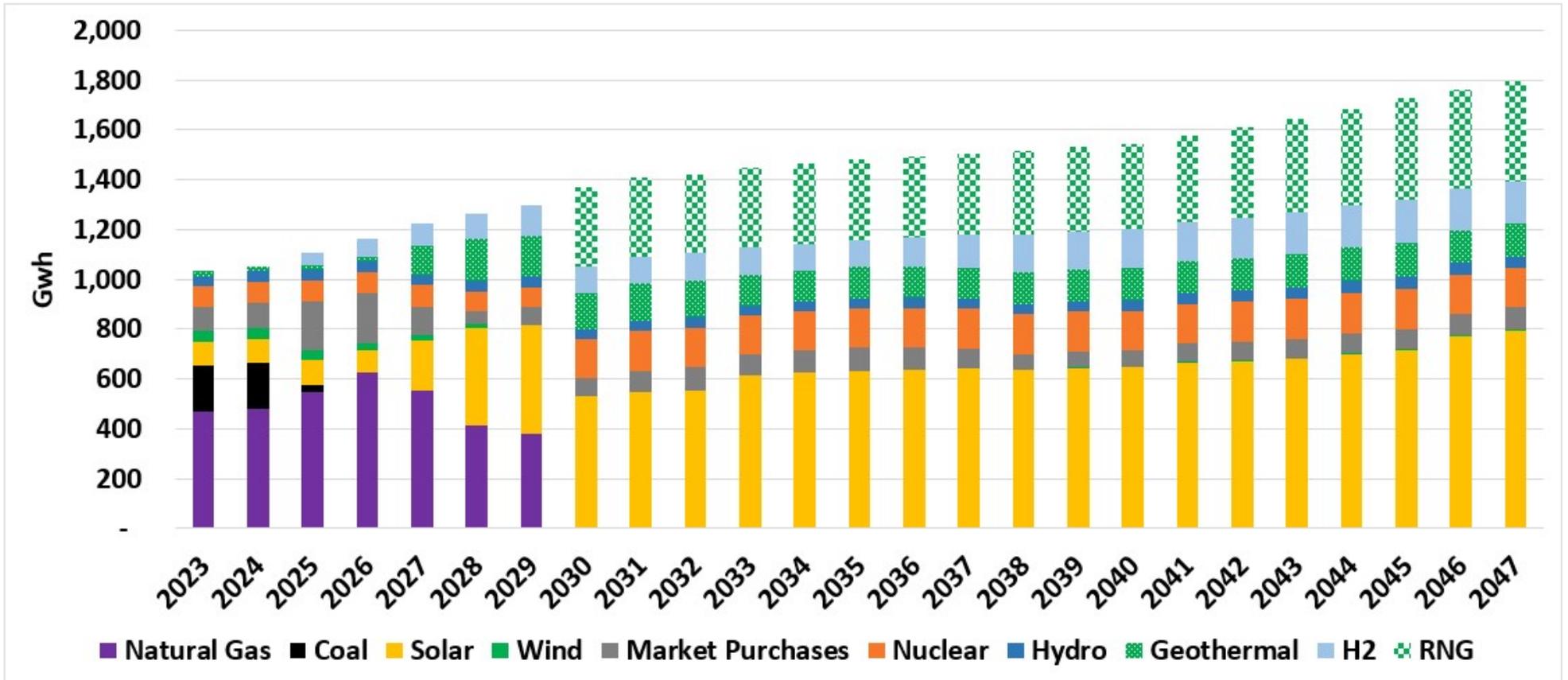


IRP Zero Carbon by 2030 Case Assumptions

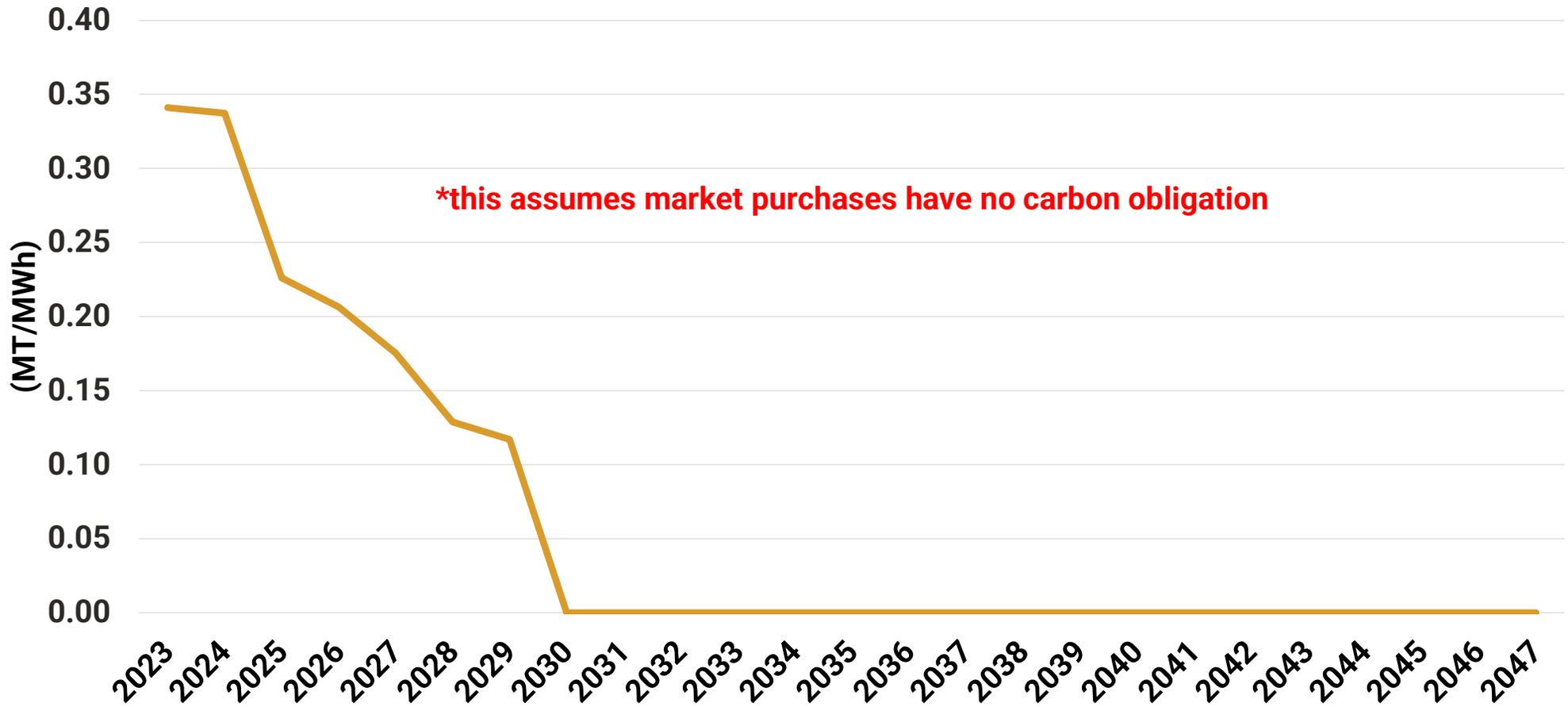
- Does NOT include transmission costs (only resource costs) and relies on existing/contracted transmission rights
- Based on information from April-June 2023
 - Cost of RNG is modeled at **\$30/mmbtu**, which is no longer accurate, and costs are significantly higher, if available



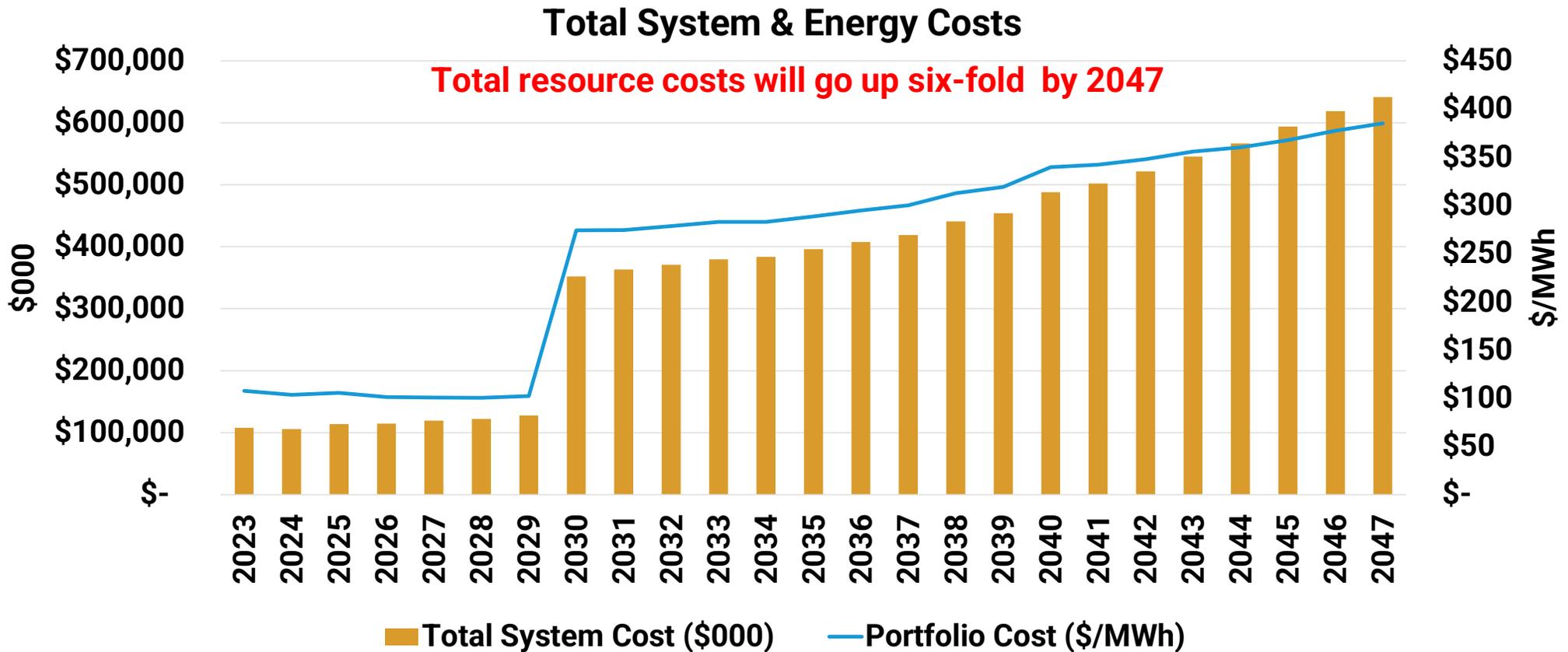
Zero Carbon by 2030 Case Generation Mix



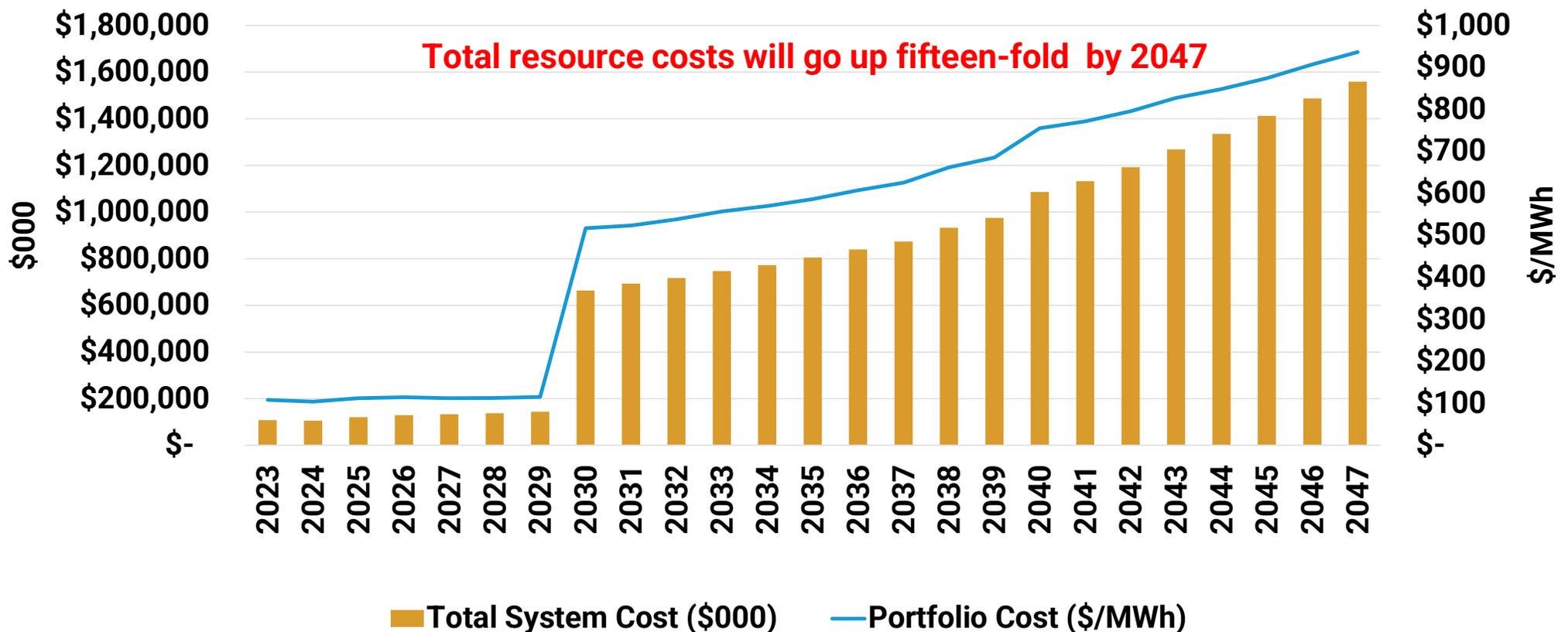
Base Case Carbon Intensity – MT/MWh



Zero Carbon by 2030 Case Total Energy Supply Cost – Nominal Dollars



Zero Carbon by 2030 Case Total Energy Supply Cost – Nominal Dollars (assumes all of MPP is RNG and BWP picks up the cost)



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Base Case



Zero Carbon Case by 2030



SB 100+SB 1020+SMR



Sensitivities



Questions & Answer Session

IRP SB 100+SB 1020+ SMR Case Assumptions

- SB 100 is 60% RPS by 2030 and 100% zero carbon by 2045
- SB 1020 is 90% carbon free by 2035, 95% carbon free by 2040 and 100% carbon free by 2045
- Small Modular Reactor (SMR) was modeled at \$89/MWh+ escalation for 25 MW baseload energy (zero-carbon resource)



IRP SB 100+SB 1020+ SMR Case Assumptions

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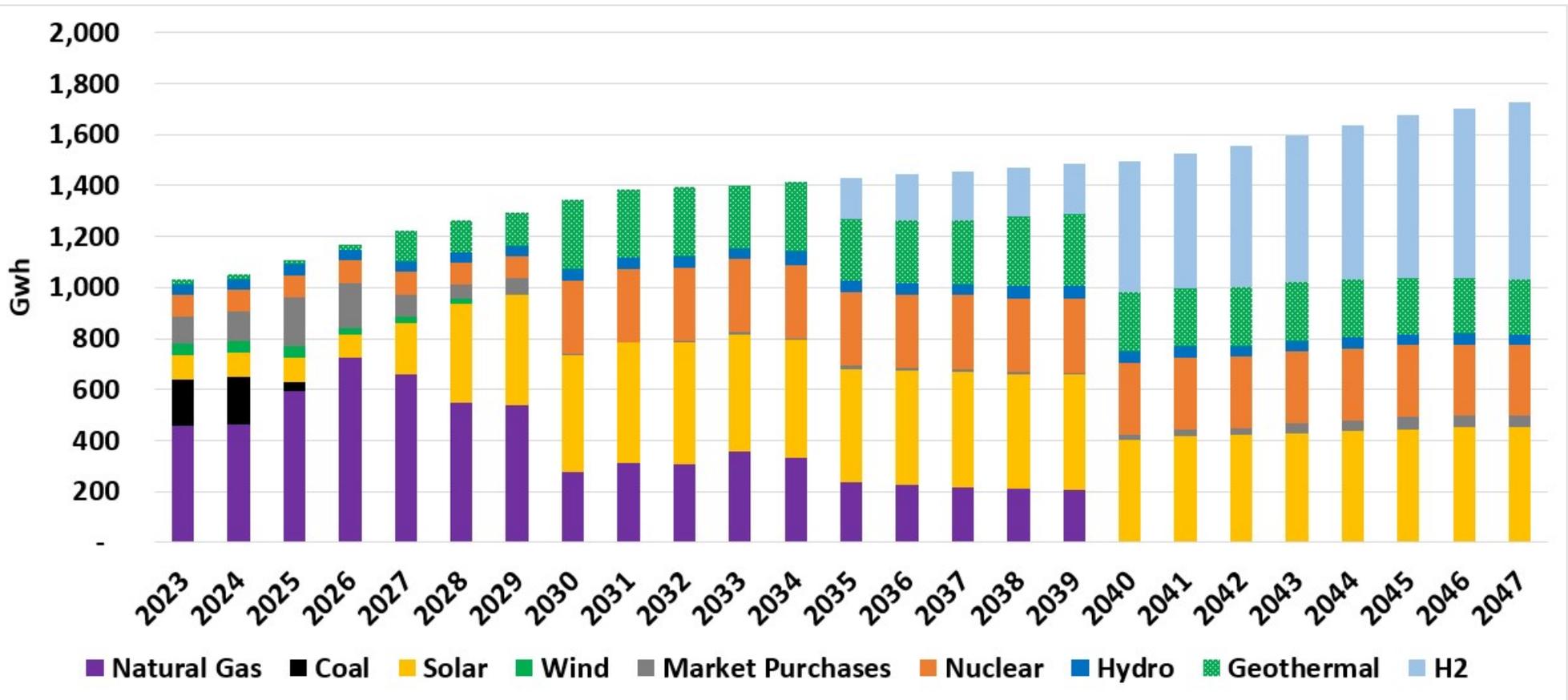


IRP Sb 100+SB 1020+ SMR Case Assumptions

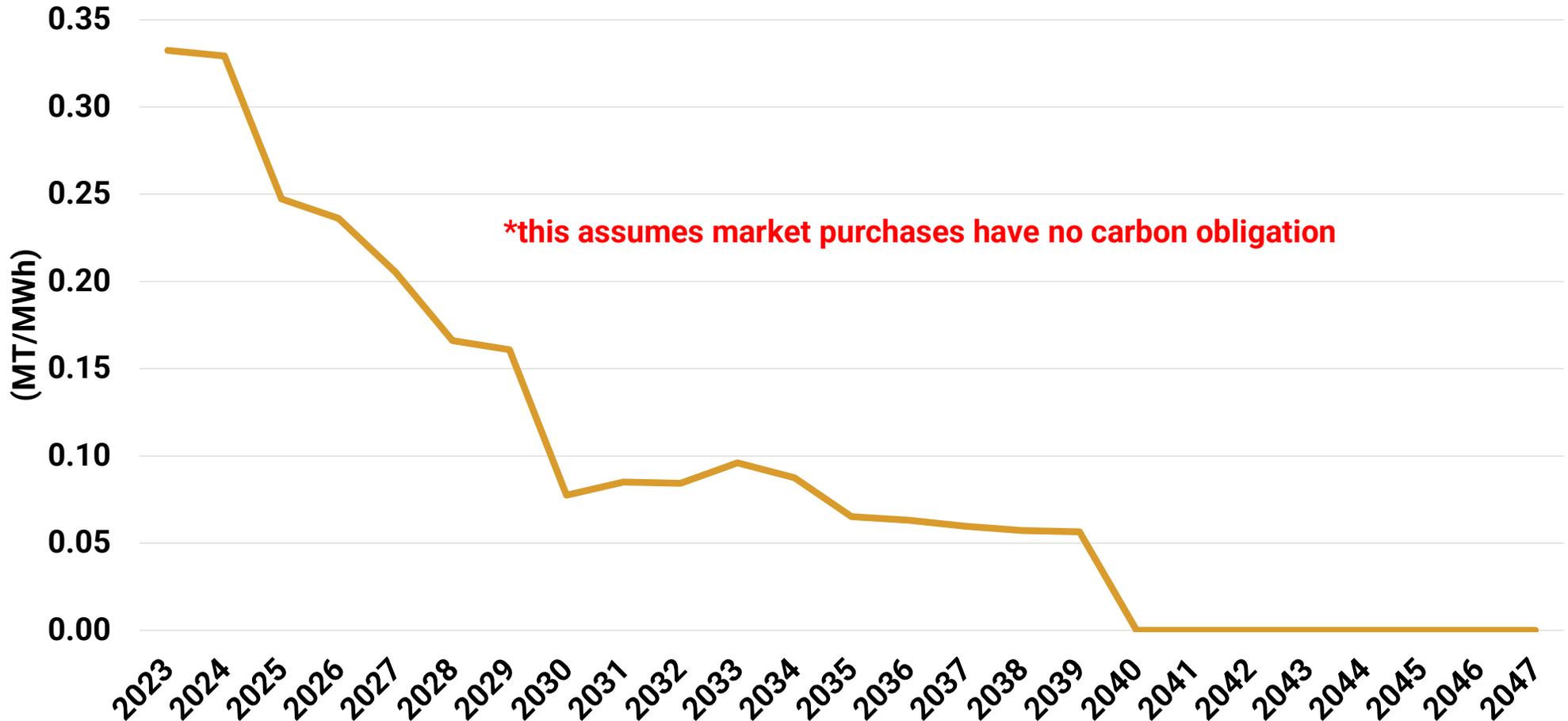
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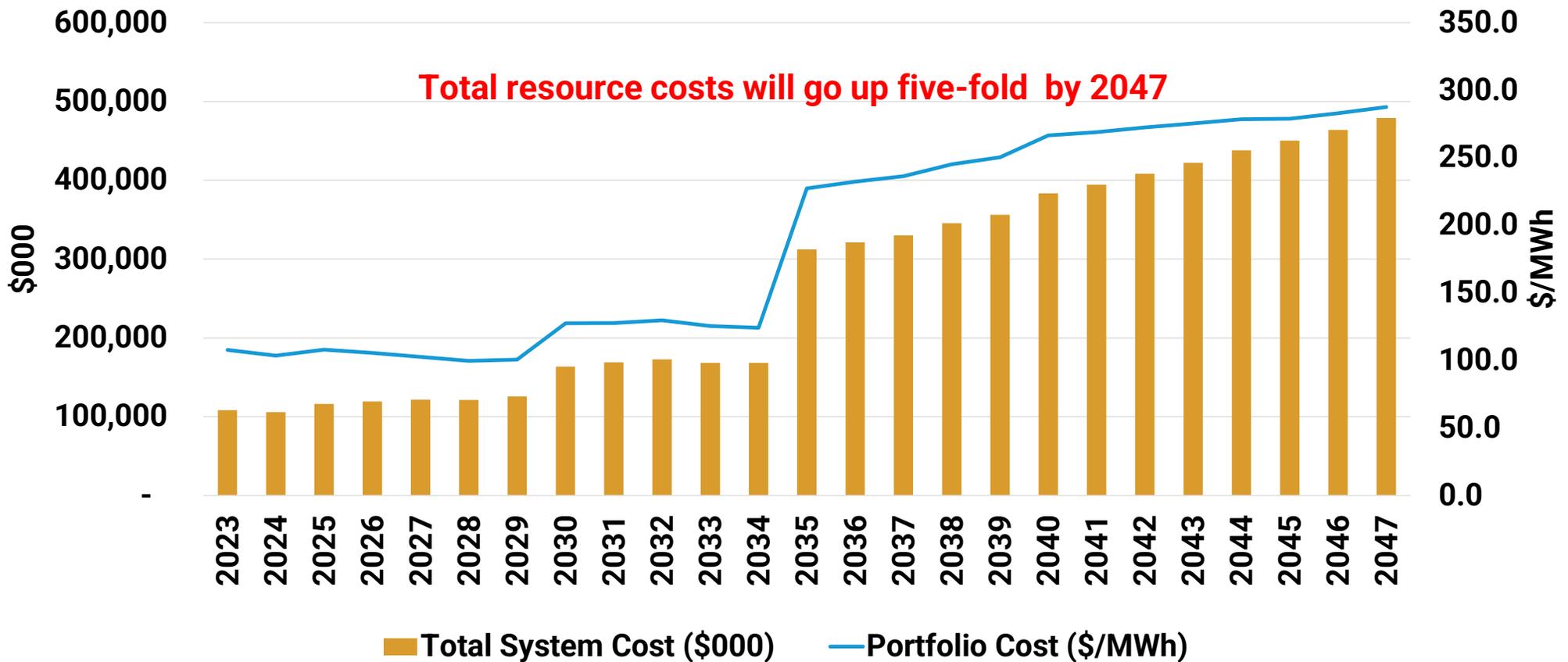
SB100+SB1020+SMR Case Generation Mix



SB 100+SB 1020+ SMR Case Carbon Intensity – MT/MWh



SB100+SB 1020+SMR Case Total Energy Supply Cost – Nominal Dollars



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Sensitivities



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Base Case



Zero Carbon Case by 2030



SB 100+SB 1020+SMR



Sensitivities



Questions & Answer Session

Sensitivity Options

Sensitivity	IRP Mandate	BWP Request
Base Case	X	
Net Zero Carbon by 2030 Case		X
SB 100+ SB 1020+ SMR		X
SB 100+ SB 1020+ SMR+50% reduction in load from “new development projects”+ 50% reduction in load for EVs		X

Sensitivity Options for Stakeholders (2 will be selected)

Sensitivity

Base Case+ 10% higher load+ no new technologies

Base Case+ 10% lower forecast+ no new technologies

Base Case+ Using AAEE aggressive load for EVs starting now

Base Case+ no new technologies+ major investment in local renewables, batteries, demand response, conversation

Sensitivity Options for Stakeholders (2 will be selected)

Sensitivity

Base Case+ 20% higher load + no new technologies [no carbon capture and sequestration, no H2]

Base Case+ 20% higher load + new technologies

Base Case+ carbon capture and sequestration at MPP to meet the 2040 zero carbon goal

Base Case+ no new technologies + buildout of transmission to meet the 2040 zero carbon goal

Base Case+ H2 at Intermountain Power Project starting 2023

Base Case+ large scale offshore wind+ buildout of transmission to meet offshore wind adoption

Today's Presentation

Questions & Answer Session



IRP Status Update



Load Forecast



Natural Gas Price Assumptions



Base Case Results



Sensitivities



Questions & Answer Session

Questions?

