MLGW Power Supply RFP Update
&
Management Recommendation

MLGW BOARD OF COMMISSIONERS

SEPTEMBER 1, 2022

Presentation Agenda

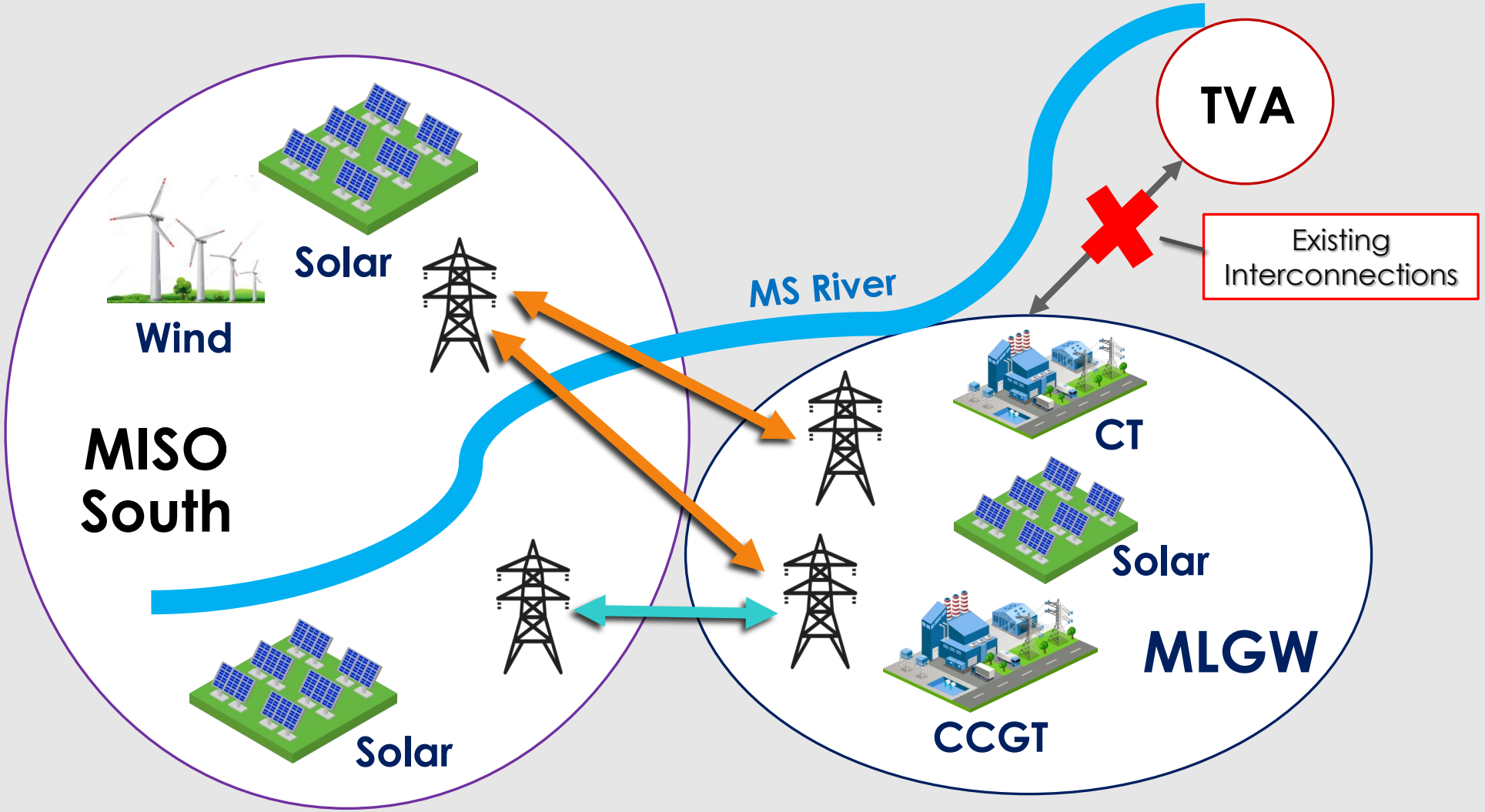
- RFP Recap
- Savings Analysis
- Updated RFP Proposal Evaluation
- Updated Analysis
- RFP Conclusions
- Recommendation

Industry Terms and Acronyms

- BESS – Battery Energy Storage System
- CCGT – Combined Cycle Gas Turbine
- CT – Combustion Turbine (Gas)
- IRA – Inflation Reduction Act
- IRP – Integrated Resource Plan
- LTP – TVA Long-Term Partnership Agreement
- MISO – Midcontinent Independent System Operator
- RFP – Request For Proposals

Recap of RFP Process

MLGW RFP Portfolios

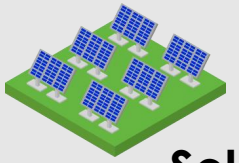


500kV T/L

230kV T/L

New Transmission

Thermal Generation
Local: ~1,200 MW



Solar
Local: 1,000 MW
MISO: 1,800 – 3,000 MW

Wind
MISO: 400 MW

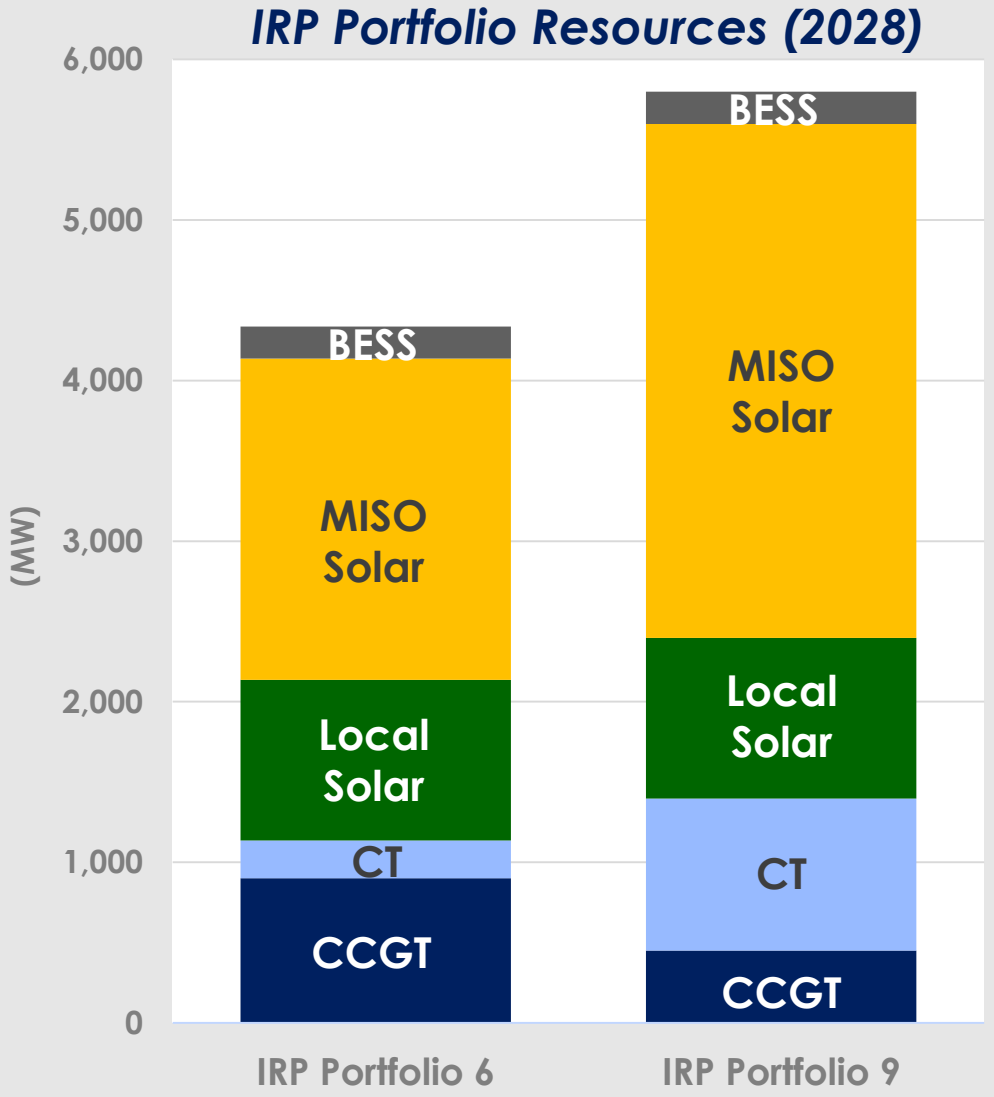
RFP Schedule / Process

Latest Updates

- After June 2022 discussion:
  - MLGW provided notifications to vendor "short-list" for all three RFPs
  - Provided vendors with MLGW's preferred PPA terms and conditions
  - Conducted interviews with all short-list entities
- Earlier in August, MLGW received updated proposals from all short-list respondents. Updated proposals included revised pricing and associated PPA terms and conditions.

RFP Short-List & Resource Portfolios

- **Transmission RFP** → Top 2 Proposals
- **Renewable RFP** → Top 9 Solar Proposals
- **Thermal RFP** → Top 3 CCGT / CT Proposals



Savings Analysis

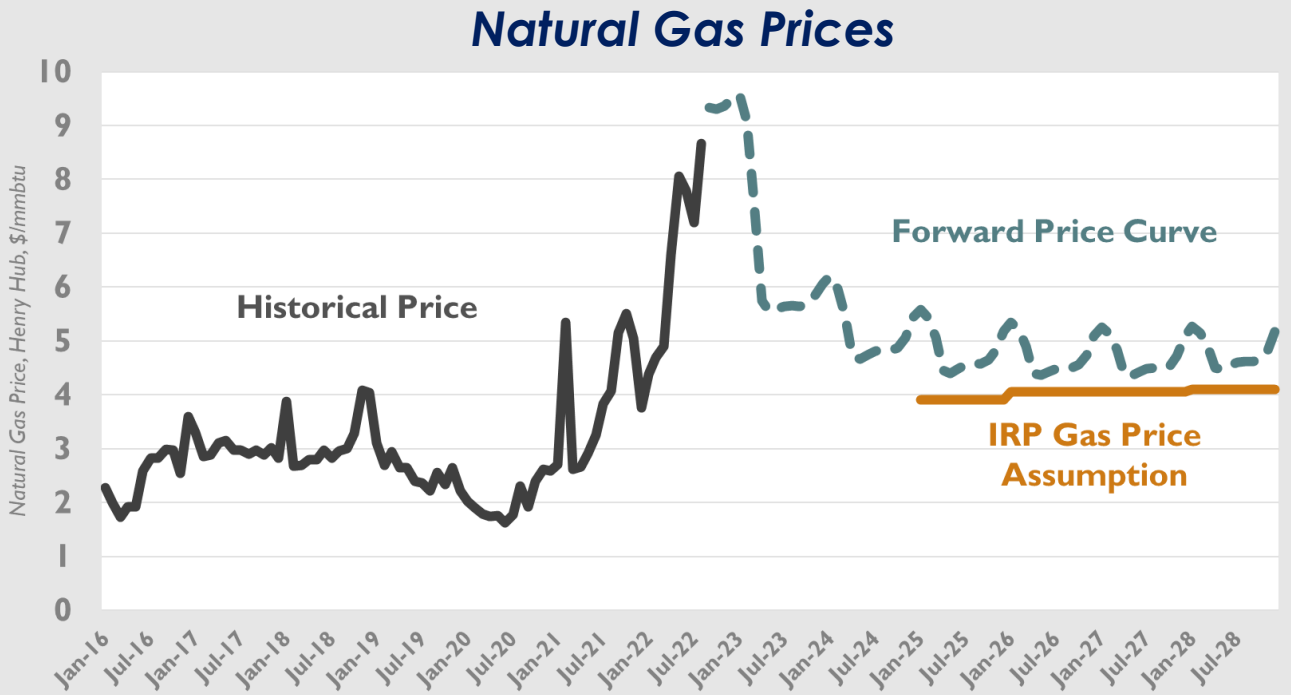
What Is The Validation Savings Analysis?

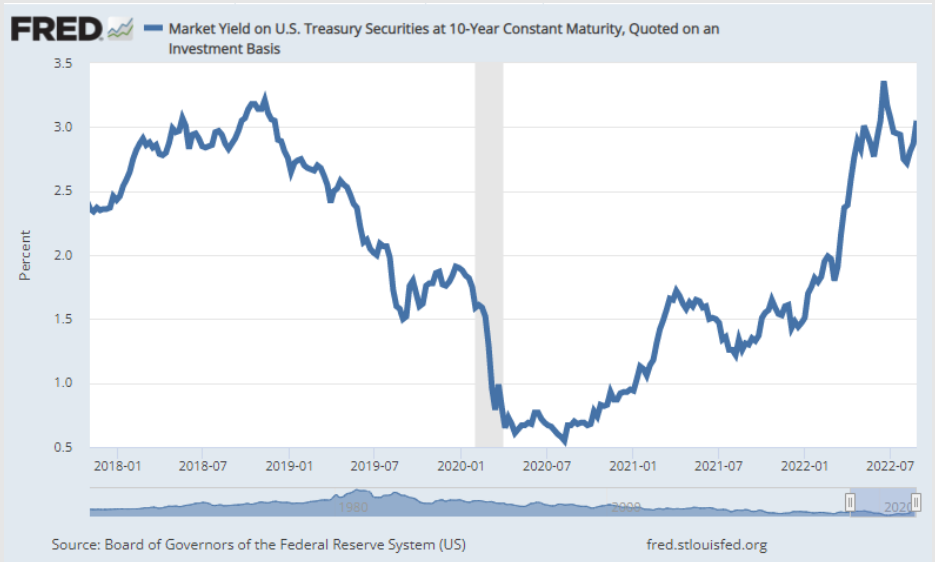
- Purpose of RFP was to "validate" potential savings identified in IRP
- RFP acquired 'real-world' information for (1) new transmission facilities, (2) thermal generation, and (3) Local / MISO solar resources
- Validation analysis replaces IRP assumptions **for those three items** BUT, analysis does rely on several IRP assumptions

Power Cost Items	IRP	RFP
1. Gas Price Forecast	✓	
2. Capacity Price Forecast	✓	
3. Interest & Inflation Rates	✓	
4. PILOT / Other Cost	✓	
5. New Transmission Facilities		✓
6. New Thermal Generation		✓
7. New Local & MISO Solar		✓

2020 IRP Assumptions vs Current Environment

- Natural Gas Price
  - IRP: average price of $5.04/mmBtu
  - Current Environment: gas prices and futures outlook is higher
- Capacity Price
  - IRP: average price of $4.77/kW-month
  - Current Environment: Capacity reserves quickly eroding, difficult to procure long-term capacity
- Interest Rate
  - IRP: assumes 3.50% financing rate
  - Current Environment: interest rates are much higher





Updated RFP Proposal Evaluation

Changes in Solar PPA Pricing

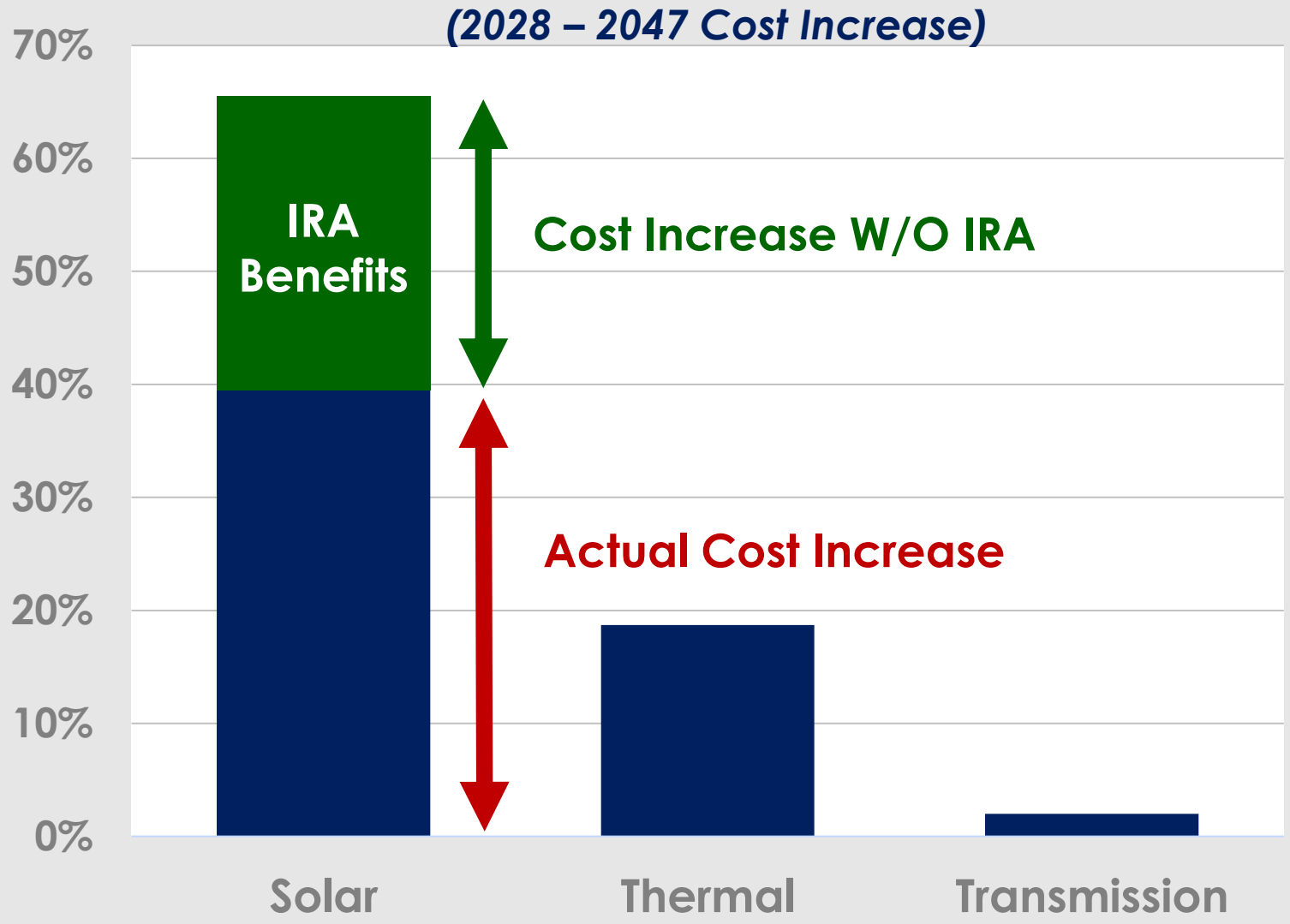
- Solar PPA pricing has increased across the country (some regions more than others)
- Reasons for cost increases are **inflation, supply constraints, higher materials cost, labor shortages, higher interest rates, etc.**

P25 solar prices rose across all ISOs during Q2 for the second-consecutive quarter:

- P25 solar prices in MISO jumped by 15.66%, or $6.20 per MWh, and now rest at $45.80. Year over year, MISO solar prices have gone up 29.6%.

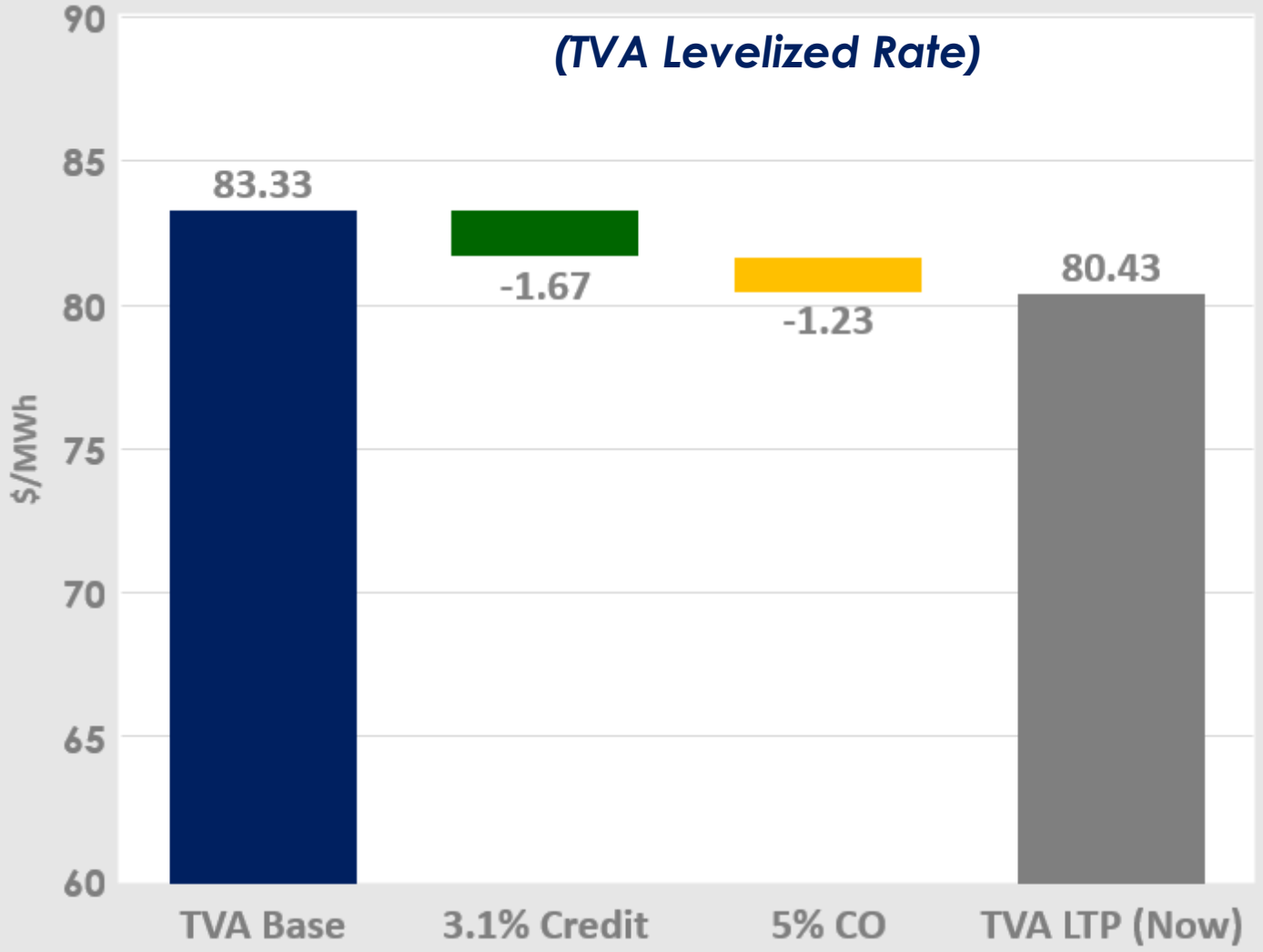
Updated RFP Pricing (Compared to Original)

- Short-list vendors increased pricing in all three RFPs (relative to original proposals)
- Solar proposals had largest price increase – cost would have been **25%** higher WITHOUT benefits of the IRA
  - *Multiple solar vendors stated that higher cost were result of supply chain issues and higher cost associated with supplies & materials, financing cost, wage / labor, land lease, etc.*



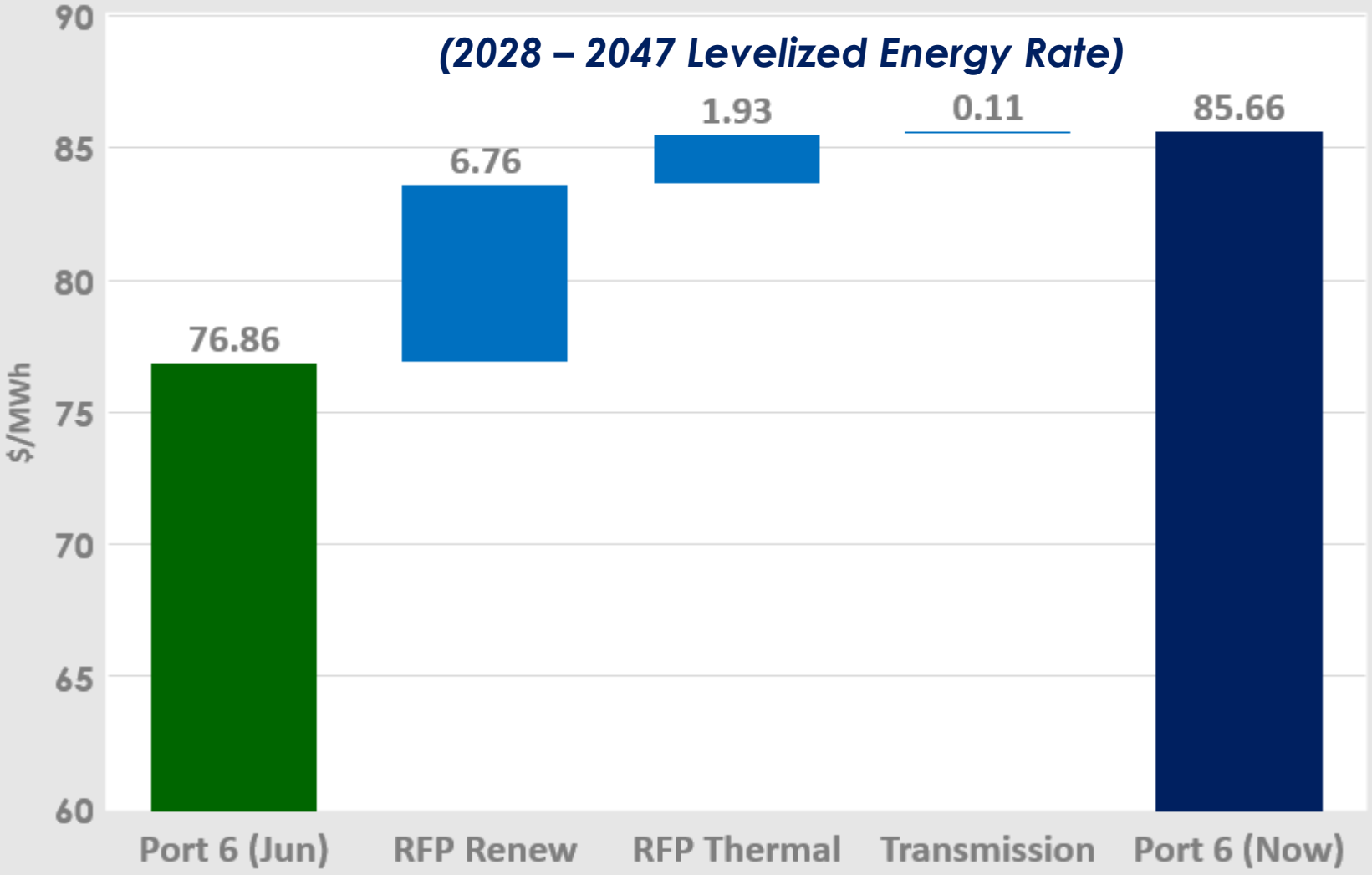
2028-2047 TVA Power Cost (UPDATED)

- TVA plans to add large amounts of new carbon-free generation
- TVA cost projections updated for cost of new generation, BUT TVA is only replacing a portion of its 38,000 MW generation fleet
- LTP provides 3.1% base rate reduction and 5% energy carve-out benefit



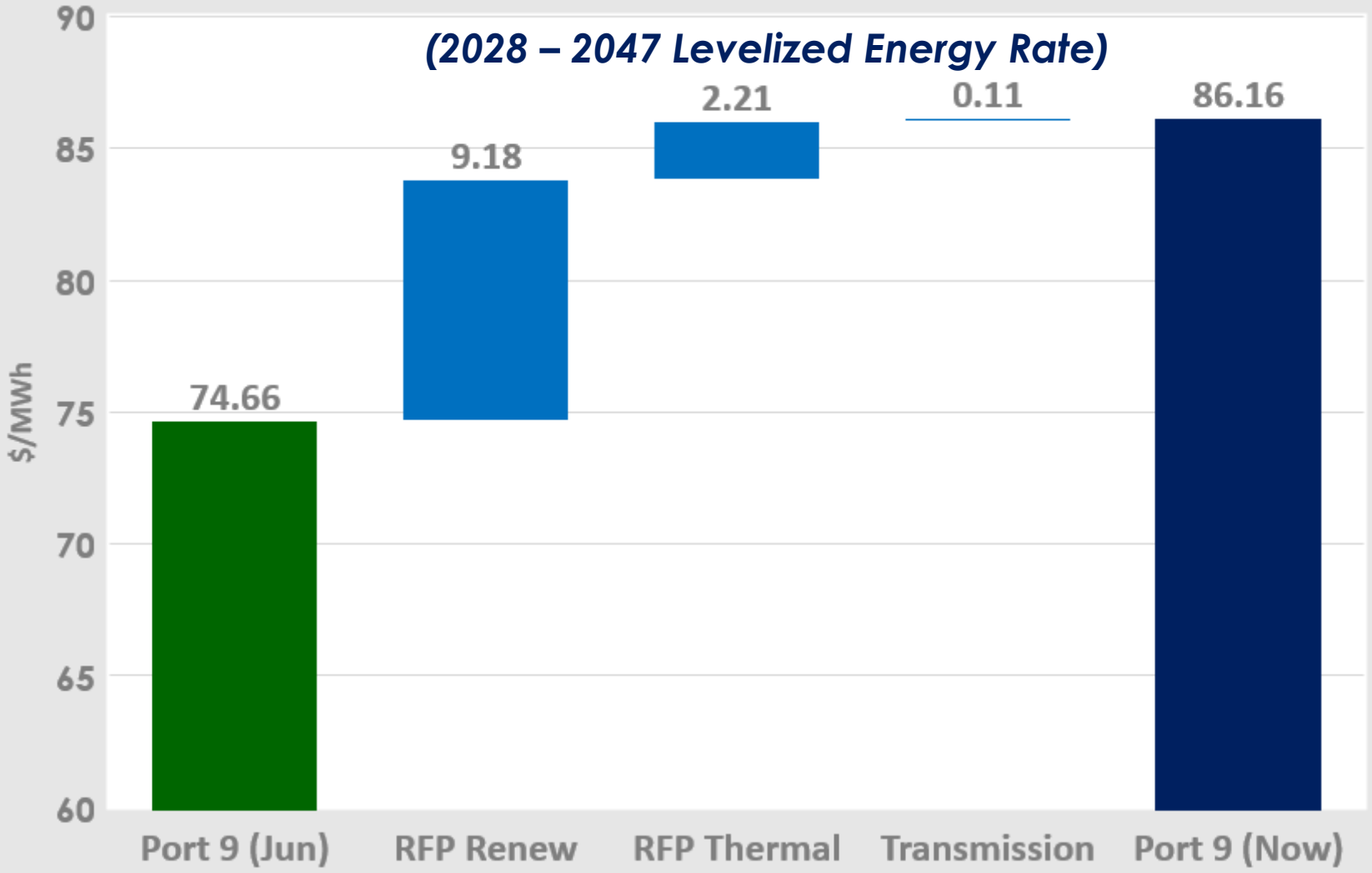
Updated Portfolio 6 Cost

- 2020 IRP Portfolio 6 average cost was $70.7/MWh
  - Initial RFP proposals increased cost to $76.9/MWh
- Aug 2022 updated RFP proposals result in higher cost for resources and transmission
- Based on updated RFP proposals, Portfolio 6 projected cost is $85.7/MWh



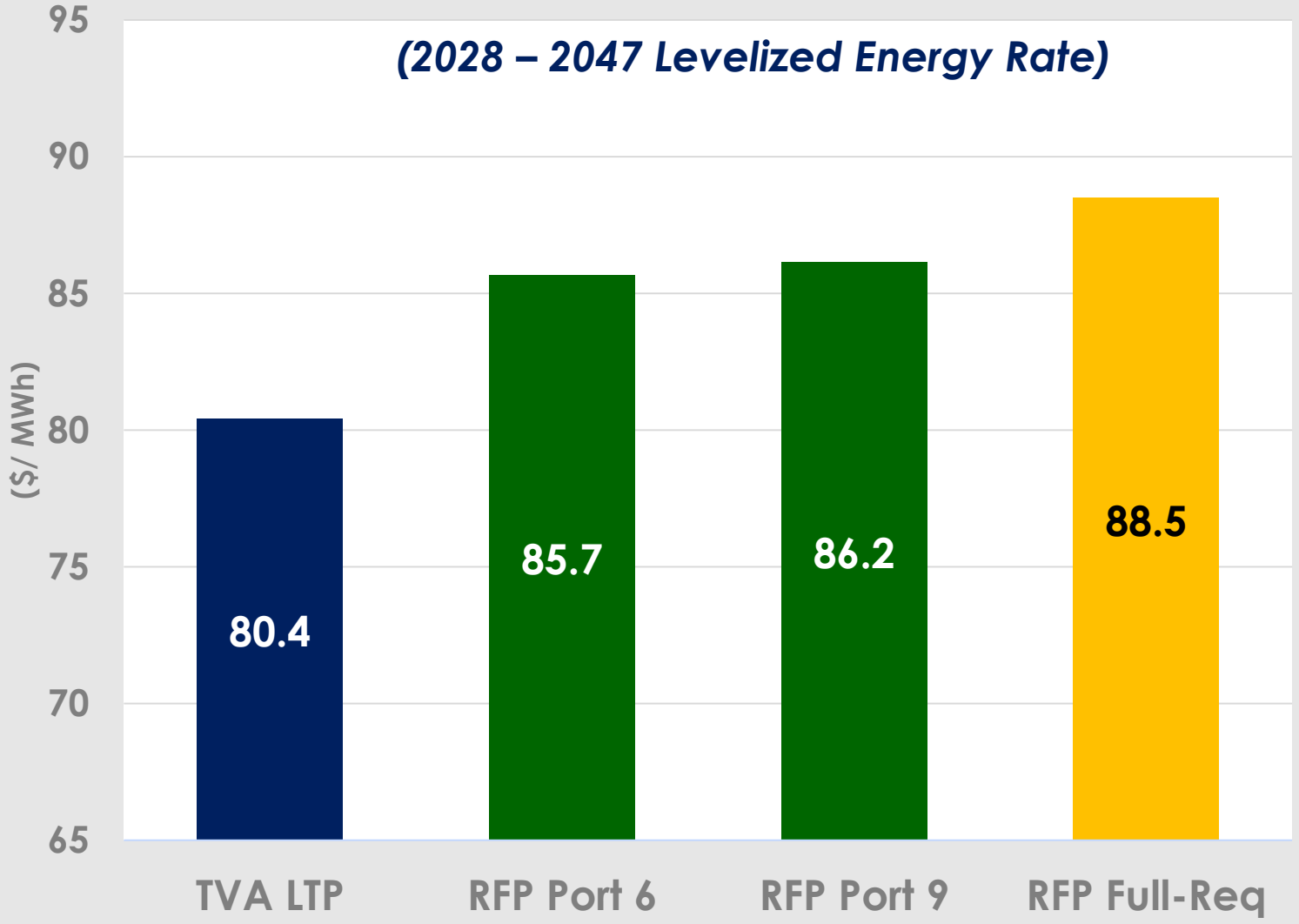
Updated Portfolio 9 Cost

- 2020 IRP Portfolio 9 average cost was $69.6/MWh
  - Initial RFP proposals increased cost to $74.7/MWh
- Aug 2022 updated RFP proposals result in higher cost for resources and transmission
- Based on updated RFP proposals, Portfolio 9 projected cost is $86.2/MWh



RFP Full-Requirements Comparison to Portfolios

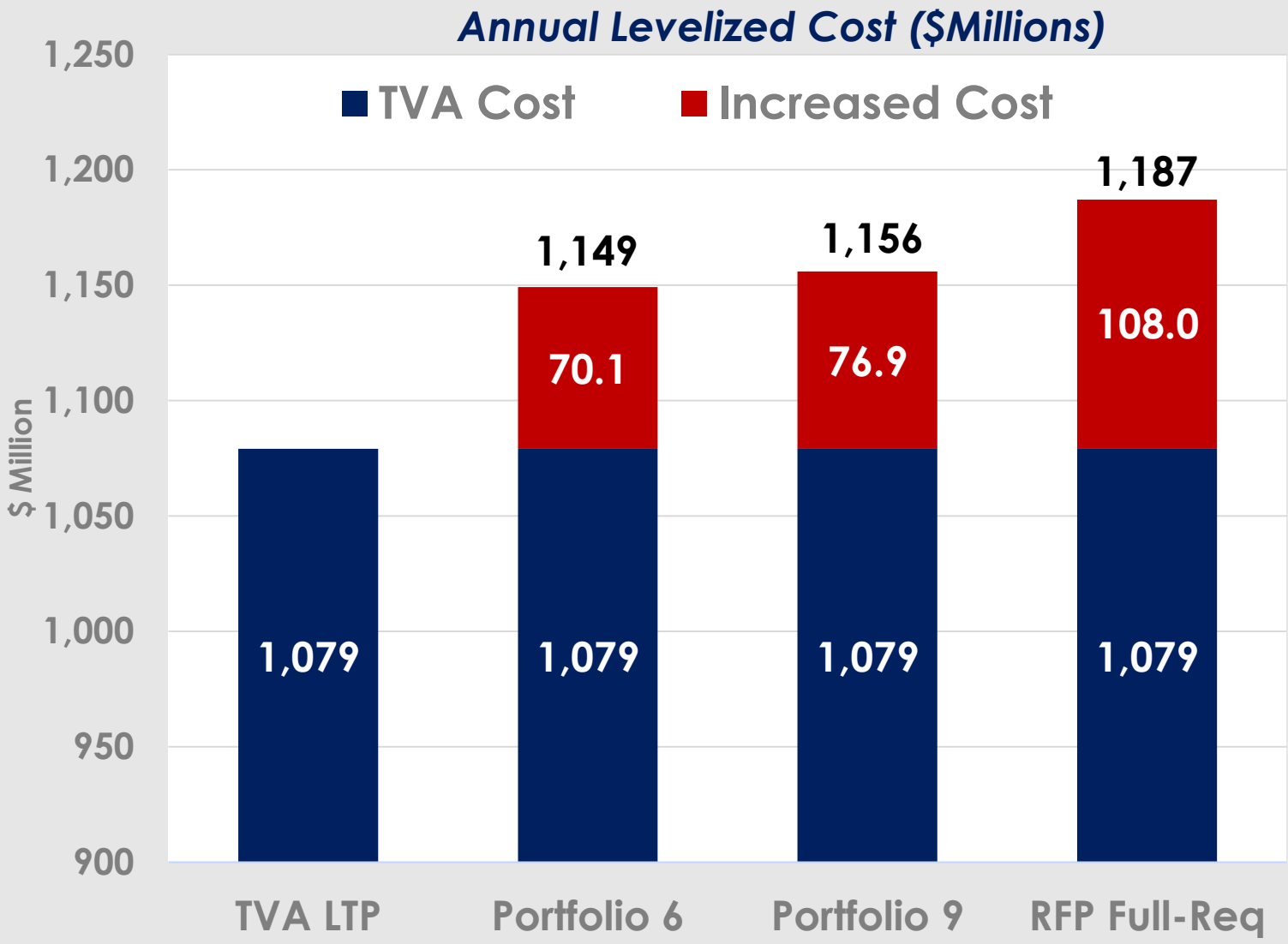
- MLGW received an updated, non-TVA full-requirements proposal (more expensive than the other alternatives)
- Updated RFP Portfolios 6 and 9 are now more expensive than TVA LTP



Updated Analysis

RFP Power Cost Vs TVA LTP (2028 – 2047)

- TVA submitted LTP proposal as part of MLGW's RFP process
- Comparing power cost for updated TVA LTP and all RFP alternatives results in increased cost **[NO SAVINGS]**



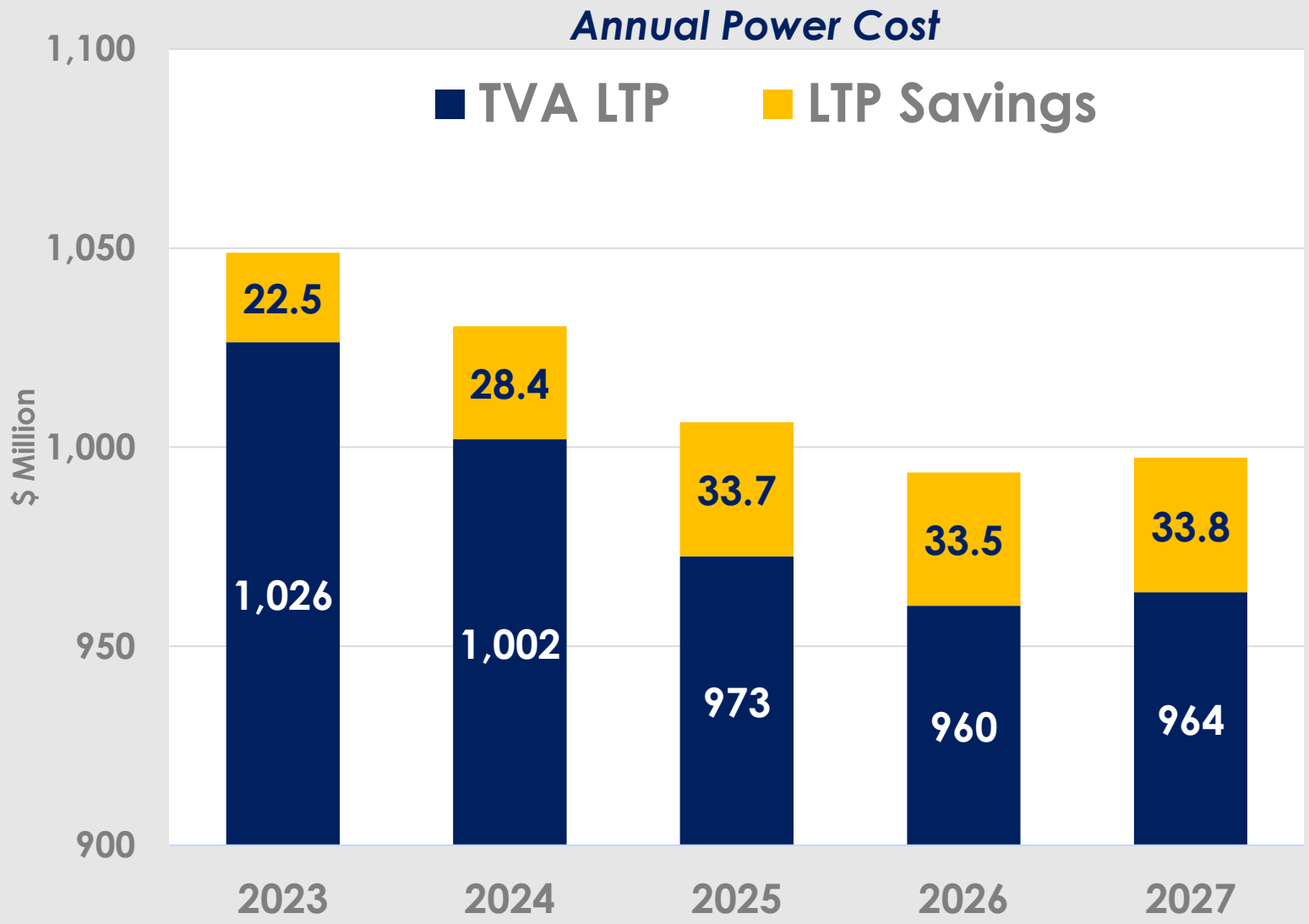
Existing TVA Base Agreement Vs LTP

- Comparing key benefits of LTP to MLGW's existing TVA arrangement
- LTP provides immediate and long-term cost reductions
- LTP contains a 20-year rolling termination notice

Key Contract Items	TVA Base	TVA LTP
1. Termination Notice	5 Years	20 Years
2. Base Rate Charge	n/a	3.1% Decrease
3. Acquire Renewables	n/a	Up to 5% of MLGW energy needs
4. Additional Benefits (can be fully realized via LTP)	1. $100M for Community Revitalization Programs 2. Additional $8.5M Home Energy Uplift Program	

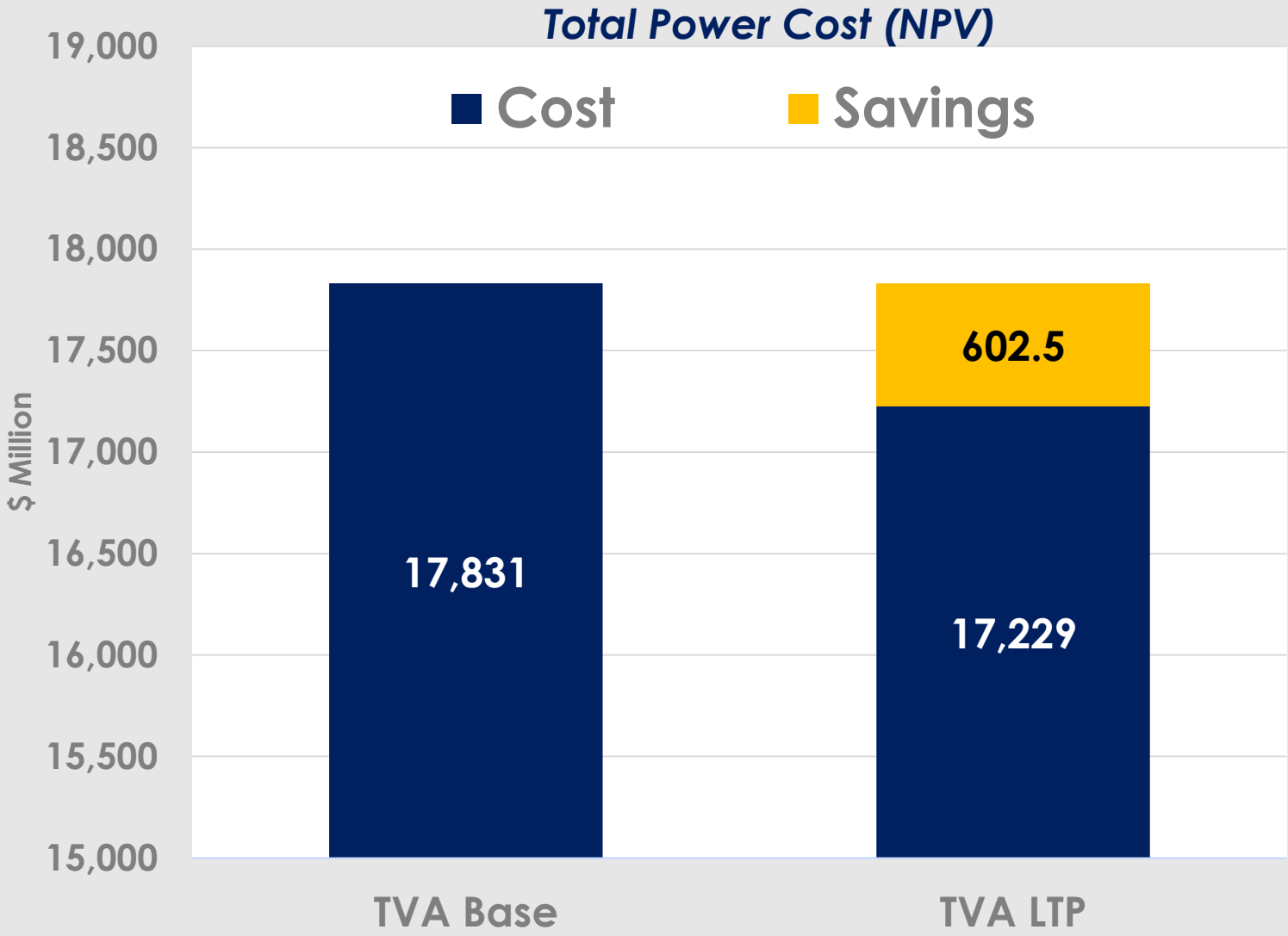
SAVINGS UNDER TVA LTP (2023 – 2027)

- If MLGW executes TVA LTP, it would receive immediate 3.1% base rate reduction and can also pursue 5% Carve Out
- LTP option provides approximately $152M (Nominal$) in power supply cost savings from 2023 – 2027



LTP Savings (2023 – 2047)

- Assuming LTP benefits begin in January 2023, MLGW would save approximately $944M (Nominal$) / $603M (NPV$) over 25-year period
- For first 5 years, average MLGW residential customer would save approximately $32/year on their electric utility bill



RFP Conclusions

RFP Conclusions

- Numerous changes in the electric industry (and nationwide) since MLGW's IRP was completed in 2020.
- Using real-world, current cost information for new transmission facilities, new thermal generation, and new renewable resources, the cost of the power supply alternatives are more expensive than TVA.
- TVA's LTP proposal is the most cost-effective power supply arrangement. MLGW can achieve immediate savings by executing the LTP.

Recommendation & Next Steps

MLGW Management Recommendation

That the Board of Light, Gas and Water Commissioners award the Tennessee Valley Authority (TVA) Contract No. 12321 Request for Proposals – Electric Power Supply Renewables and Other Alternative Resources.

- TVA's Long-Term Partnership Proposal (LTPP) demonstrates the greatest value and least risk for MLGW customers when compared to all other RFP alternatives.

- The LTPP includes flexibility allowing MLGW to deploy a range of technologies including solar generation to support local renewable and sustainability goals.

- The LTPP also provides the opportunity for enhanced direct involvement in TVA planning and decision making.

That the Board of Light, Gas and Water Commissioners reject all proposals received for Contract No. 12317 Power Supply – Transmission and Contract No. 12320 Power Supply-Thermal.

Resolutions reflecting these recommendations will be submitted for consideration on the Board's Agenda at an upcoming regular meeting.

Next Steps

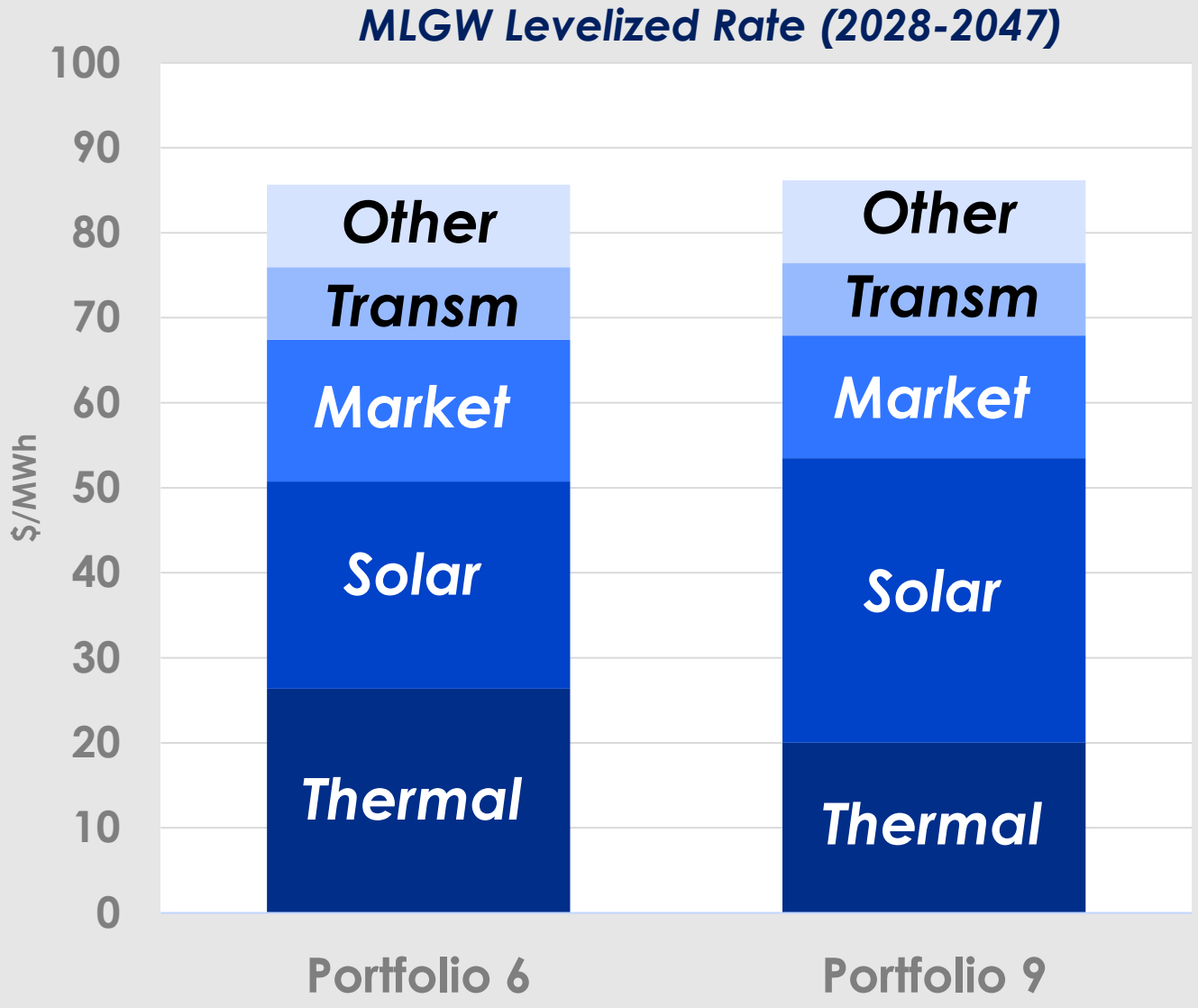
- Public comments welcomed via:
  - Email: PowerSupply@mlgw.org
  - Future MLGW Board Meetings (at Board's discretion, but not less than 30-day period)
- To view the vendors' submitted proposals:
  - mlgw.com/powersupplyinfo
- MLGW will ask the Board to approve a resolution in support of the recommendation at a later date this year.
- If Board approves, a subsequent request for Memphis City Council approval will follow.

Appendix

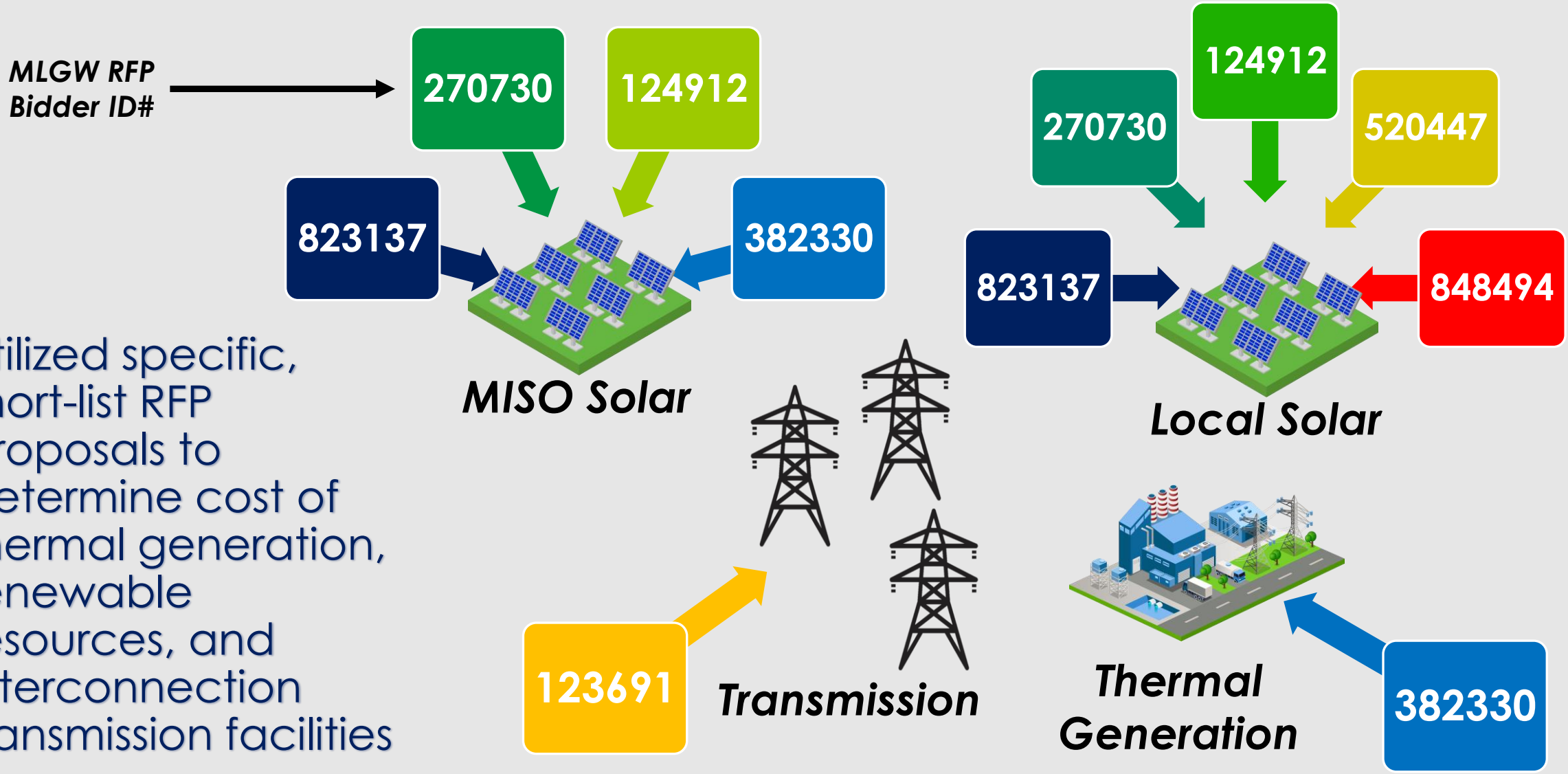
Questions??

Calculating MLGW's Portfolio Cost

- MLGW's three RFPs provide real-world cost information for thermal generation, renewable resources, and transmission facilities
- In addition to the cost of the RFP transmission facilities and generation resources, MLGW has to include costs associated with market capacity / energy purchases, ancillary expenses, and lost PILOT benefits to determine MLGW's total power cost,



Using RFP Proposals to Evaluate Portfolios



- Utilized specific, short-list RFP proposals to determine cost of thermal generation, renewable resources, and interconnection transmission facilities

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