

The KyMEA All Requirements Project

*Proposed Arrangements for
the Supply of All Requirements Service
Commencing May 1, 2019*

*Working Together through KyMEA
- the Members' Interlocal Power Agency*

July 18, 2016

Today's Discussion

Objective

Understanding of Main Provisions and Implications of the Proposed All Requirements Power Sales Contracts between Members and KyMEA

Topics

1. Introductions and Background
2. The Proposed All Requirements Power Supply Contract
3. Proposed Arrangements pertaining to Existing Member Resources
4. Management and Operation of KyMEA
5. KyMEA's Initial Power Supply Portfolio

Each KyMEA AR Member is Being Asked to Approve the Proposed All Requirements Power Sales Contract

Members - The Electric Systems Comprising KyMEA

(Alphabetical Listing)

1	Barbourville Utility Commission
2	City of Bardwell
3	Benham Power Board
4	Corbin City Utilities Commission
5	City of Falmouth
6	Frankfort Plant Board
7	City of Madisonville
8	Owensboro Municipal Utilities
9	City of Paris
10	City of Providence

Note: Currently, the All Requirements (AR) Members include all KyMEA Members other than OMU. OMU may become an All Requirements Member at a later date. Other municipal electric systems in Kentucky have expressed an interest in considering KyMEA Membership.

Introductions: Advisors



John Painter
Fred Haddad Jr.
Bob Davis



Brown Thornton



Tom Trauger
Margaret McGoldrick



Rubin & Hays
ATTORNEYS AT LAW

Charlie Musson



Michael Mace

Service to Retail Customers involves Three Business Areas

– Only the Power Supply Area is Changing May 1, 2019



* Examples of percentages of total charges to retail customers. Not specific to any KyMEA Member.

Historical



** KU followed by AMP for Paris and Benham, KU for all other AR Members

Beginning May 2019



The Members Targeted Key Benefits

-- in Deciding to Form KyMEA

Obtain more cost effective, reliable, and environmentally responsible power supply resources
--- beginning May 1, 2019.

As compared to purchasing wholesale service from KU or other Providers beyond May 2019

- More Affordable Electric Service for Members' Customers
- Much Greater Role for Members in Power Supply Decisions

The Members' Goals can be Realized because Working Together through KyMEA is Expected to have Significant Benefits

Economies of Scale

- Planning
- Contracting
- Administering Programs
- Use of Power Supply Resources

Customer Focused Decisions by KyMEA's Board

- Resource Plans
- Renewables
- Rates and Charges

Critical Mass

KyMEA will be large enough to:

- Attract significant market opportunities
- Effectively plan future resources
- Evaluate and manage Risks

KyMEA has Focused on Two Key Areas

-- since Formation in September 2015

1. Develop All Requirements Power Sales Contracts

Agreements under which Members would obtain All Requirements service through KyMEA beginning May 1, 2019

2. Assemble Key Resources/ Make related Transmission Service Filings

Identify and contract for key components of a power supply portfolio of resources to serve the KyMEA AR Members beginning May 1, 2019

The Proposed All Requirements Contract

Overview

Provides for All Requirements Power Supply for All AR Members

- Beginning May 1, 2019
- Working Together through KyMEA

Balances Individual and Collective Member Interests

For the Benefit of the Members' Customers

Establishes a Framework for Beneficial Use of Member Resources

- SEPA
- Paris Diesels
- Other

Intended to be Long-lasting Arrangement

- Evergreen Term
- Appropriate 5 year Member Exit Option

The All Requirements Contract

Summary of 7 Key Provisions

1. Provides for KyMEA to Sell and Member to Buy All Requirements Power Supply

- All power and energy needed to service retail and municipal loads of the Member
- And perform other related services requested by its Members and determined feasible and appropriate by KyMEA's Board
- Member commits to take and pay for the power at rates established by the Agency Board of Directors

2. Charges to each Member are determined under a rate schedule approved by the AR Members and the KyMEA Board

- Allows fair and reasonable allocation of benefits and costs to the Members
- Payment due 15 days after invoice
- Member covenants to set retail rates and charges sufficient to meet all obligations of its electric system, including obligations to KyMEA

3. Term of Contract is Evergreen

- Member can terminate on at least 5 years' notice effective on May 31 of a year
- Member must retain continuing obligations after termination for any difference between cost and value of the resources procured to meet canceling Member's loads.

The All Requirements Contract

Summary of 7 Key Provisions (Continued)

4. All key decisions are made by the AR Project Committee of AR Members' Representatives, subject to Approval by the full KyMEA Board

- Power Supply Contracts, rate design and rate levels, and other key policies and procedures
- One Vote per Member; a decision can be rescinded but not made based on a weighted voting process

5. Member Resources are Provided For

- Member has the option to contract with KyMEA for KyMEA to use the Member-Owned Resource as part of the power supply portfolio or market the resource on the Member's behalf
- Credits are provided based on the net value obtained by KyMEA from the resource
- Applies to SEPA, Paris diesels, future resources, direct load control
- Coordination regarding net metering programs
- Provides an avenue for Members to individually develop community solar and other renewable projects if they desire --- as an alternative to doing so collectively through KyMEA

6. No adverse impact on the Member's ability to issue debt

- Member covenants not to incur obligations that are superior to Member's obligation to KyMEA

7. Provides Limited Authorization for KyMEA to issue debt

- Authorizes financing consistent with Prudent Utility Practice to meet liquidity needs and working capital requirements of the All Requirements Project
- Member would not be responsible for Bonds for a Power Supply Resource without the written approval of the Member's Governing Body

The All Requirements Contract

Also addresses the following topics

8. Default

- in the event of failure to pay or perform, or inability to meet financial obligations

9. Dispute Resolution

10. Covenants of the Parties

- Related to performance of contract obligations

11. Future Generation Resource Projects

- In which not all Members Participate (or participation shares are fixed)

12. Other Authorities provided to or by KyMEA

- Member authorizes KyMEA to act as its agent to perform power supply and transmission functions
- Agency authorizes its President and designees to perform the Agency's responsibilities and support AR Project activities, consistent with Board policies

Key Priorities will Impact the Setting of KyMEA's All Requirements Rates

1. Equitable allocation of KyMEA's costs

- Among the AR Members
- Relative to KU formula rates

2. Rate adequacy and stability

- Timely base rate adjustments
- Fuel or purchased power adjustment clause
 - Allows base rate components to change less often
 - Passes through highly variable costs
 - Controls working capital requirements

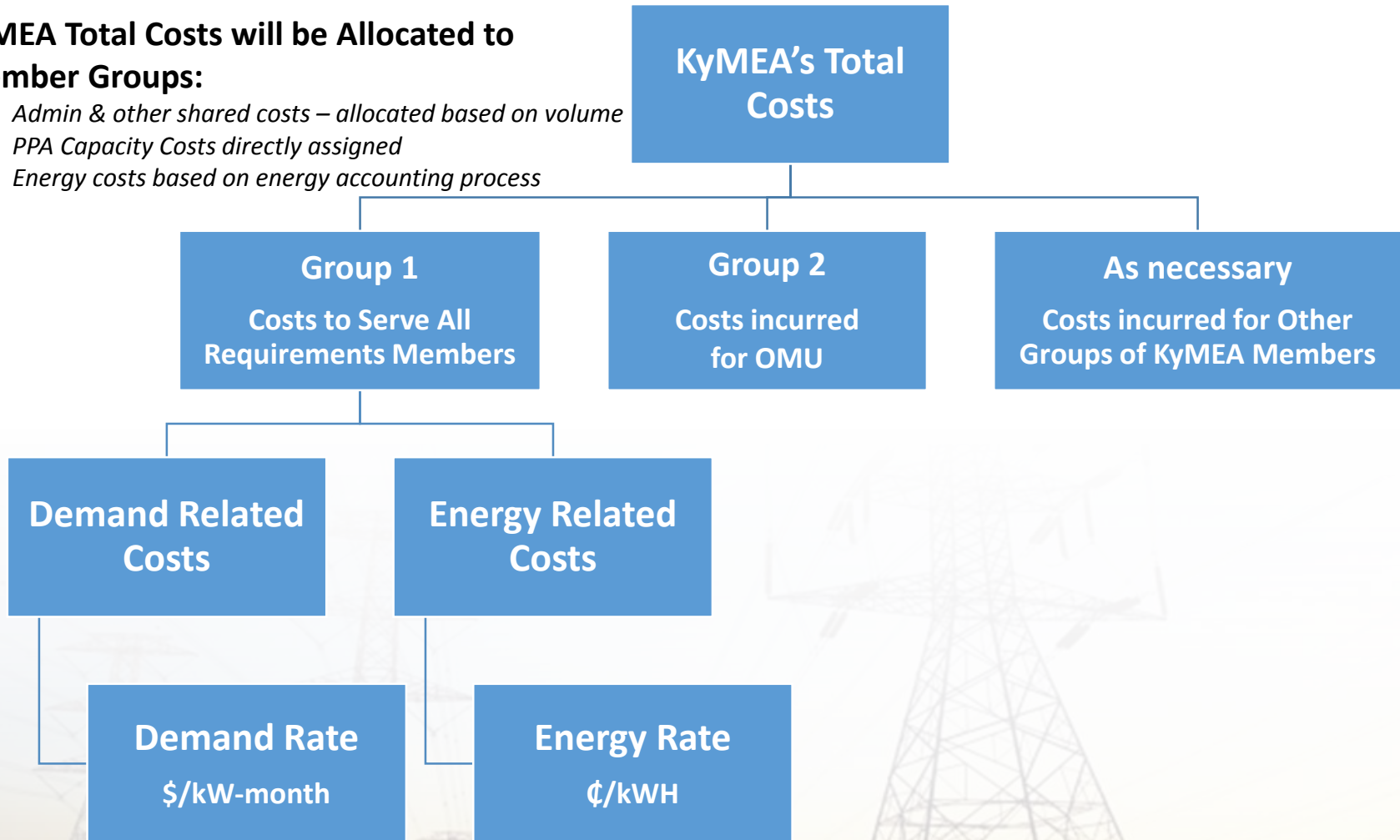
3. Providing a multi-year rate planning horizon for the Members

Fair, Well Established Processes

will be Used by KyMEA's Board to Set All Requirements Rates

KyMEA Total Costs will be Allocated to Member Groups:

1. Admin & other shared costs – allocated based on volume
2. PPA Capacity Costs directly assigned
3. Energy costs based on energy accounting process



KyMEA's All Requirements Charges to Members

- Similar in Form to Current Wholesale Charges from KU,
but Components 1 through 3 are Projected to be Lower in the Future than KU Charges

4 Main Components of Monthly Charges

Component		Billing Units		Rate
1. Demand Charge	=	Monthly Member Peak Demand (kW)	times	\$/kW-mo.
2. Energy Charge	=	Monthly Energy (kWh)	times	¢/kWh
3. Fuel or Purchased Power Adjustment	=	Monthly Energy (kWh)	times	¢/kWh
4. Transmission LGE/KU Sched 1 and 10	=	Monthly Member Demand at Time of Trans. System Peak (kW)	times	\$/kW-mo.

The All Requirements Contract Provides for Each Member to Maximize Benefits from Its Member-Owned Resources

(Currently, applies to SEPA and Paris Diesels. In the future, could also include Member-owned renewable, direct load control, and other resources.)

At Member's Option:

1. KyMEA will Contract to Use and Provide Value-Based Credits to Member



Credit to Member

Based on
**100% of the Value
Realized by KyMEA**

2. KyMEA will Contract to Market Output on Behalf of Member



Credit to Member

Based on
**100 % of Net
Revenue Received**

3. Member can Market Output through Another Party

Example of Option 1 – Members’ Credits based on 100% of Value to KyMEA of Using SEPA and Paris’ Diesel Generation

1. Contract with KyMEA will Provide Stability for Members

- Term of up to 10 years – 5/2019 through 5/2029
- Expected to be extended as planning extends beyond 2029

2. Contract will Specify Up Front the Credits from KyMEA for Resource Capacity

Determined based on capacity costs projected to be avoided by KyMEA -- For alternative sources of peaking capacity

- For 1st 3 years , \$3.85/kW-mo. of dependable capacity
- Then escalating at CPI
- For SEPA, plus 15% to allow for costs of reserves avoided by KyMEA

3. Contract will Specify How to Determine Future Credits from KyMEA for Resource Energy

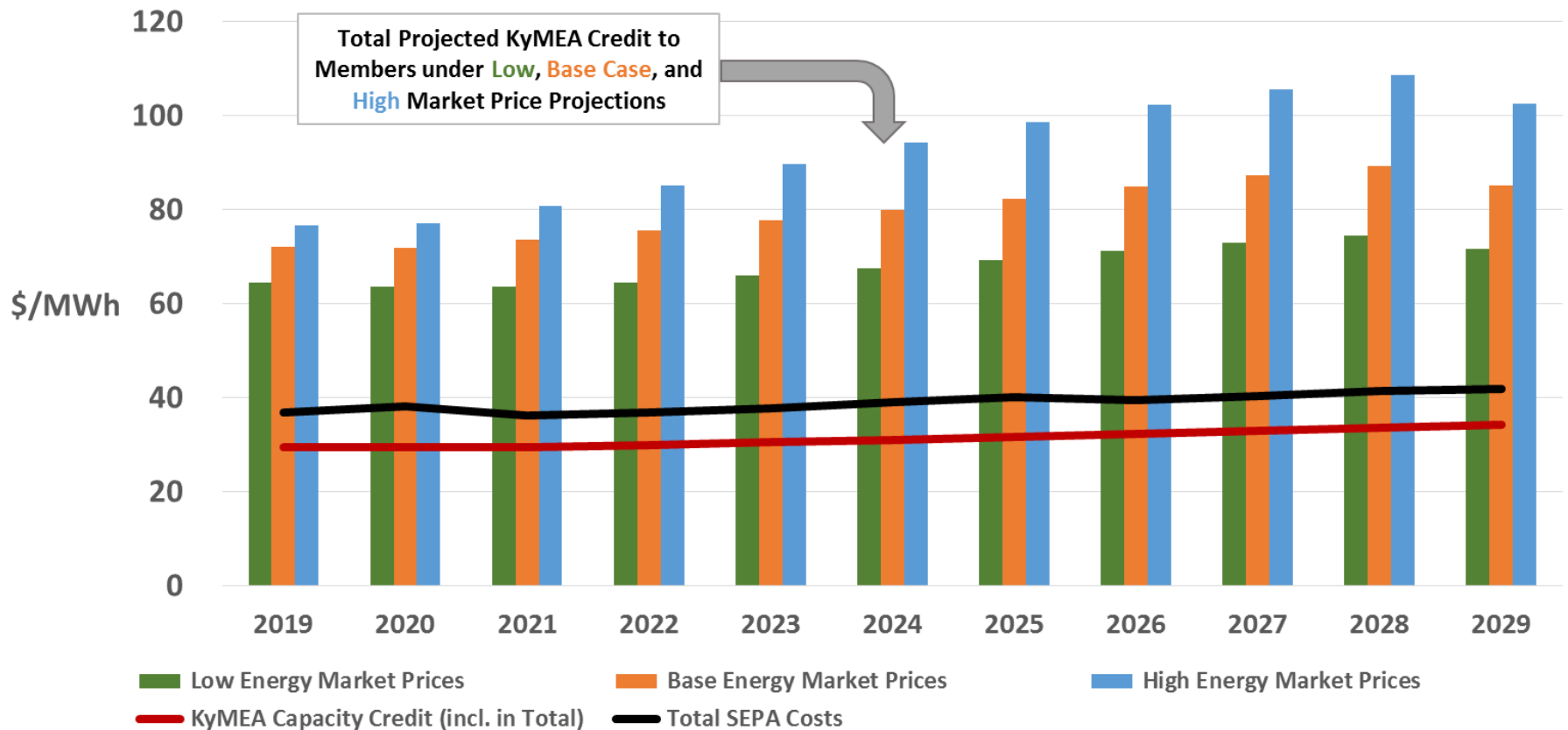
Will be determined based on actual value of energy to KyMEA in each hour

- Net cost avoided by KyMEA for alternative energy sources, or
- Actual net revenue realized by selling output to others.

Under Option 1: Total KyMEA Credits are Projected to Result in Significant Net Benefit to all Members that have SEPA

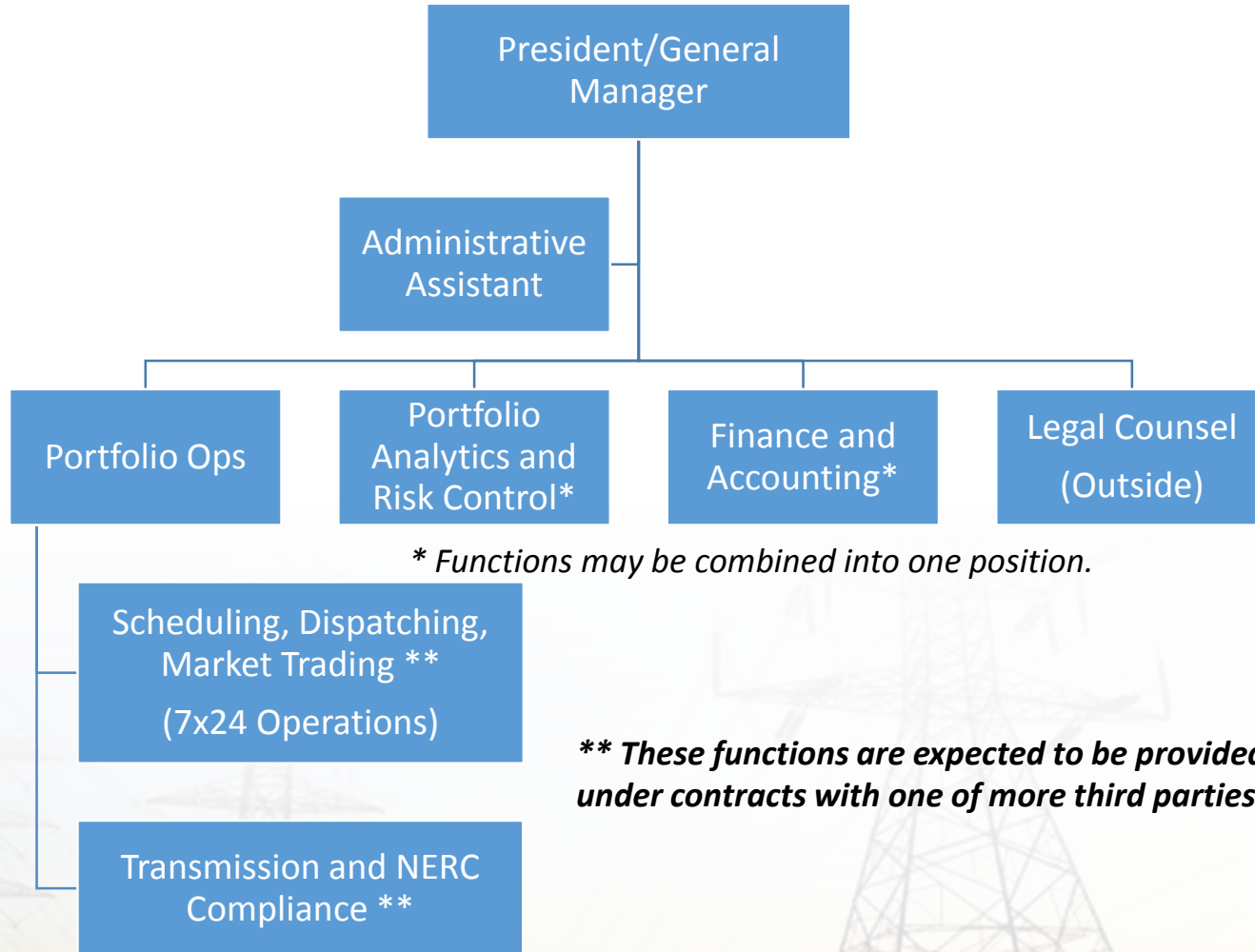
-- KyMEA Fixed Capacity Credits Alone Would Cover Most Projected SEPA Costs

Projected Credits for SEPA Capacity and Energy from KyMEA
versus Projected Costs of SEPA
\$/MWh of SEPA Entitlement



The Management and Operations Plan for KyMEA Calls for a Lean Power Supply Organization

-- Additional Organizational Planning is Scheduled for 2017



The All Requirements Portfolio

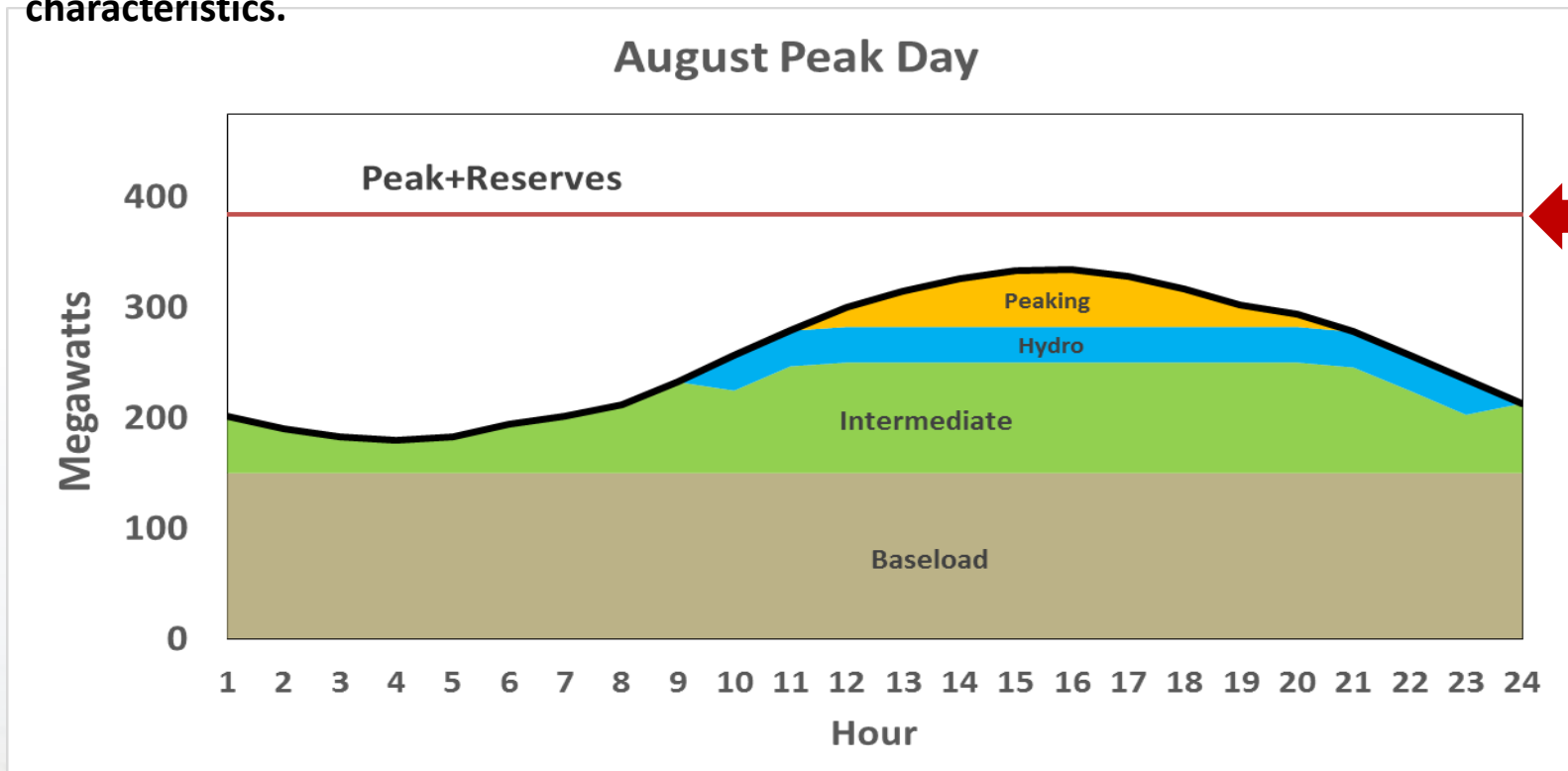
Topics

1. Goals
2. Process
3. Initial Key Resources
4. Flexibility to Adapt
5. Projected Cost of Power Supply
6. Competitiveness of Power Supply Portfolio

Why a Portfolio of Different Types of Resources?

Why are Conventional Resources Important?

Even on Peak Days, load varies significantly over the hours of the day. Renewables do not reliably provide energy at the times demanded by customers. Economic supply requires use of multiple conventional and renewable resources --- each with different operating economics and characteristics.



Resource Capacity Required for Regional Reliability

Annual Minimum Loads are Typically 25-30% of Annual Peak Loads & Combining Loads of Multiple Systems Benefits from Load Diversity.

Key Objective 1

Competitive and More Affordable Future Cost of Electric Service *

Coal and Natural
Gas Resources
Less Coal, More
Flexibility than KU

Each Resource
Must be
Competitive

Competitive
Advantage
More Affordable
Power Supply

**** Although costs are projected to inflate in the future, KyMEA's goal is to have more competitive wholesale power costs, lessening upward pressure on rates to retail customers.***

Key Objective 2

Balancing Renewables and Conventional Resources *

Maintain flexibility in the portfolio for renewables and for adjusting resources to accommodate energy conservation and demand response programs

Develop Cost Effective Reliable Portfolio of Conventional Resources

Support Board and Member Interest in Developing Renewables, Conservation, and Demand Response Programs

Continuously Adjust Portfolio over Time

** KyMEA's portfolio is projected to initially derive approximately 10% of its capacity and 4% of its energy from zero-emission hydroelectric resources. Also, the KyMEA Board approved a study to be conducted this year of renewable resource options that could implemented by May 2019.*

Process – Two RFPs – Identified 4 Resources

Negotiation of Power Purchase Agreements (PPAs) with Highest Evaluated Proposers

September 2015 RFP

- Coal: 10 Year Purchase from Big Rivers ⁽¹⁾
- Coal: 3 Year Purchase from Dynegy ⁽¹⁾
- Natural Gas: 10 Purchase from HenderSun Proposed Combined Cycle Unit ⁽²⁾

April 2016 RFP

- Natural Gas: 10 Year Purchase from Paducah's Combustion Turbines for Peaking Capacity ⁽¹⁾

(1) Under Contract. Transactions begin June 1, 2019

(2) Contract being negotiated. Transaction anticipated to begin June 1, 2022.

Process – Very Thorough Evaluation of All Responses to the RFPs and All Options Presented by Those Responses

Quantitative Assessment

- Individual Proposals
- Portfolios

Qualitative Assessment

- Price/Cost Uncertainties
- Numerous Other Factors

**Most
Advantageous
Proposals**

Qualitative Considerations

(Not listed in order of priority)

1. Certainty or uncertainty of key proposal factors, such as uncertainty as to whether a resource on which a proposal was based would remain in service throughout the term of the transaction
2. Point of delivery and related uncertainties regarding transmission availability and costs, congestion, and losses
3. Price certainty (e.g., extent to which proposer was willing to fix the price of capacity)
4. Clean Power Plan (CPP) cost exposure
5. Resource availability guarantees
6. Flexibility as to transaction term and amounts of capacity to be purchased
7. Uncertainties caused by proposal provisions related to determination of energy entitlement
8. Day ahead and intra-day energy scheduling flexibility
9. Fuel supply related considerations
10. Creditworthiness considerations

The PPAs Provide Significant Flexibility

-- as to Amount of Capacity to be Purchased

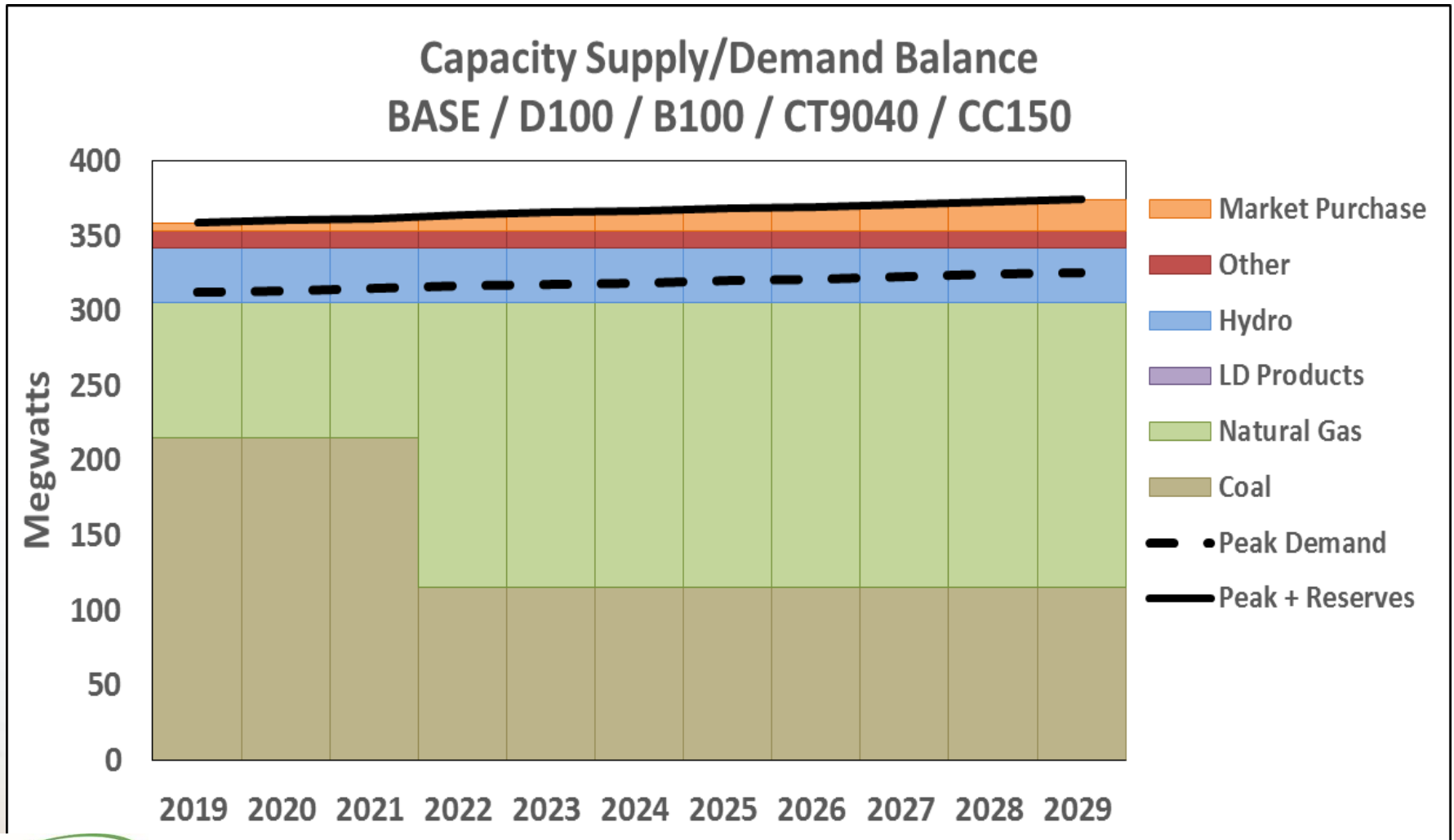
Proposal	Initial Capacity Nomination	June 2019 thru May 2022	June 2022 Thru May 2029	Option to Extend Contract beyond 2029
Big Rivers 10 Year ^{(1) (2)}	100 MW	Initial Nomination	May add up to 50 MW - with notice by 1/1/2018	At KyMEA's Option
Dynegy 3 Year	100 MW	May add up to 67 MW - with notice by 1/1/2017	NA	NA
Paducah 10 Year ^{(1) (2)}	90 MW	Initial Nomination	May reduce initial nomination to as low as 30 MW - upon 3 years' notice	At KyMEA's Option
HenderSun 10 Year	50 to 150 MW - for AR Members ⁽³⁾	NA	To be negotiated	To be negotiated

(1) Adjustment may be made at KyMEA's option depending on load of Members that execute All Requirements Contracts. At KyMEA's Option, KyMEA May reduce the initial nomination if some AR Members do not participate.

(2) Term extendable at KyMEA's option.

(3) OMU may purchase additional capacity from HenderSun directly or through KyMEA.

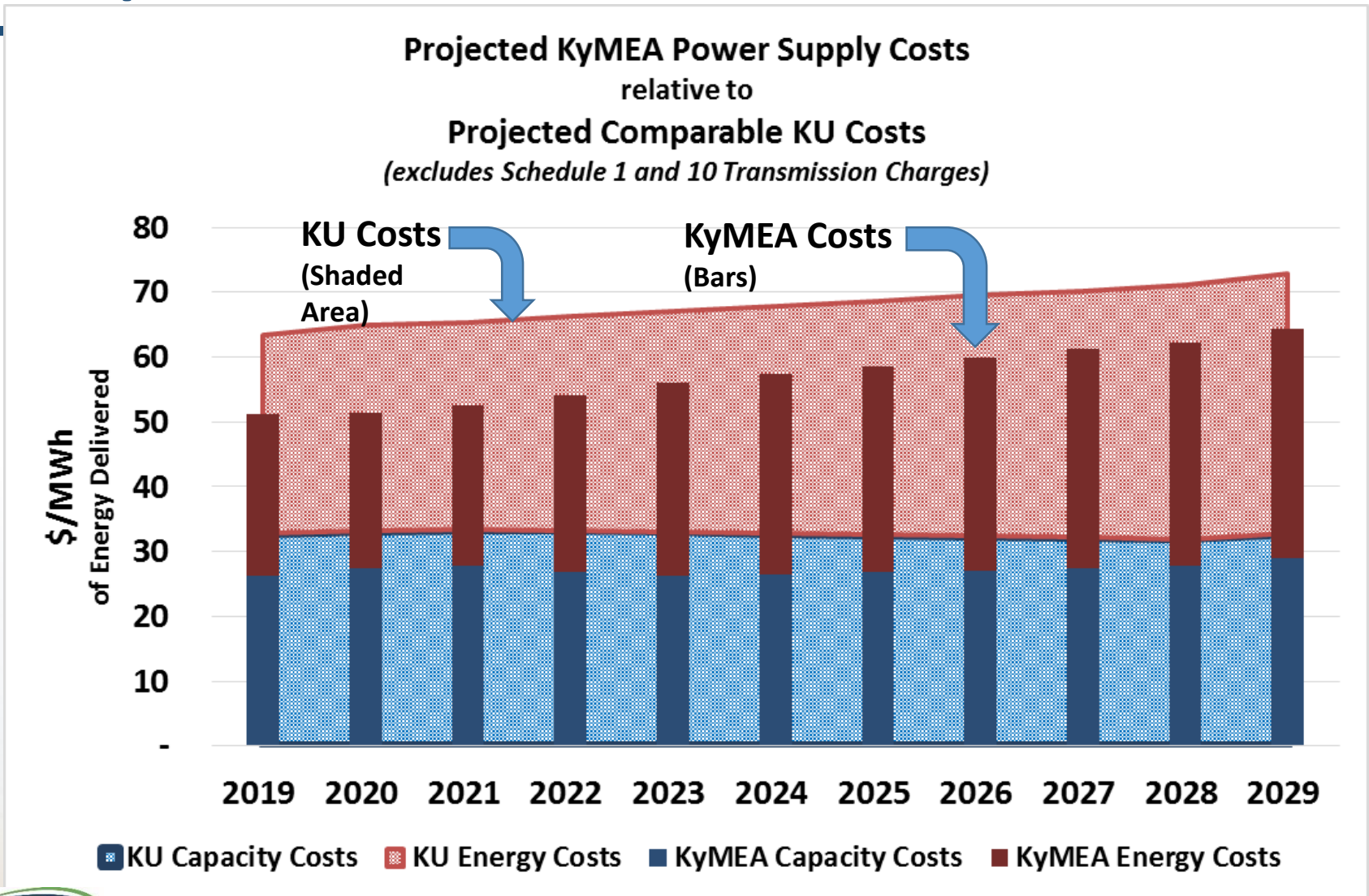
Illustration of Base Case KyMEA All Requirements Power Supply Portfolio



Benefits of the Proposed Portfolio Structure – Provides Significant Flexibility to Adapt to Future Scenarios

- 1. Demand Costs**
- 2. Energy Costs**
- 3. MISO Costs**
- 4. Implementing Necessary Transmission Arrangements**
- 5. Counterparty Risks**
- 6. Members' Loads turn out higher or lower than Forecast – Use of Renewables**
- 7. OMU Desires AR Service before the end of the 2020s**
- 8. HenderSun Project does not proceed**
- 9. Avoids Uncertainties that Impact Market Based AR Purchases**

KyMEA's Power Supply Costs are Projected to be Competitive with KU – One Scenario

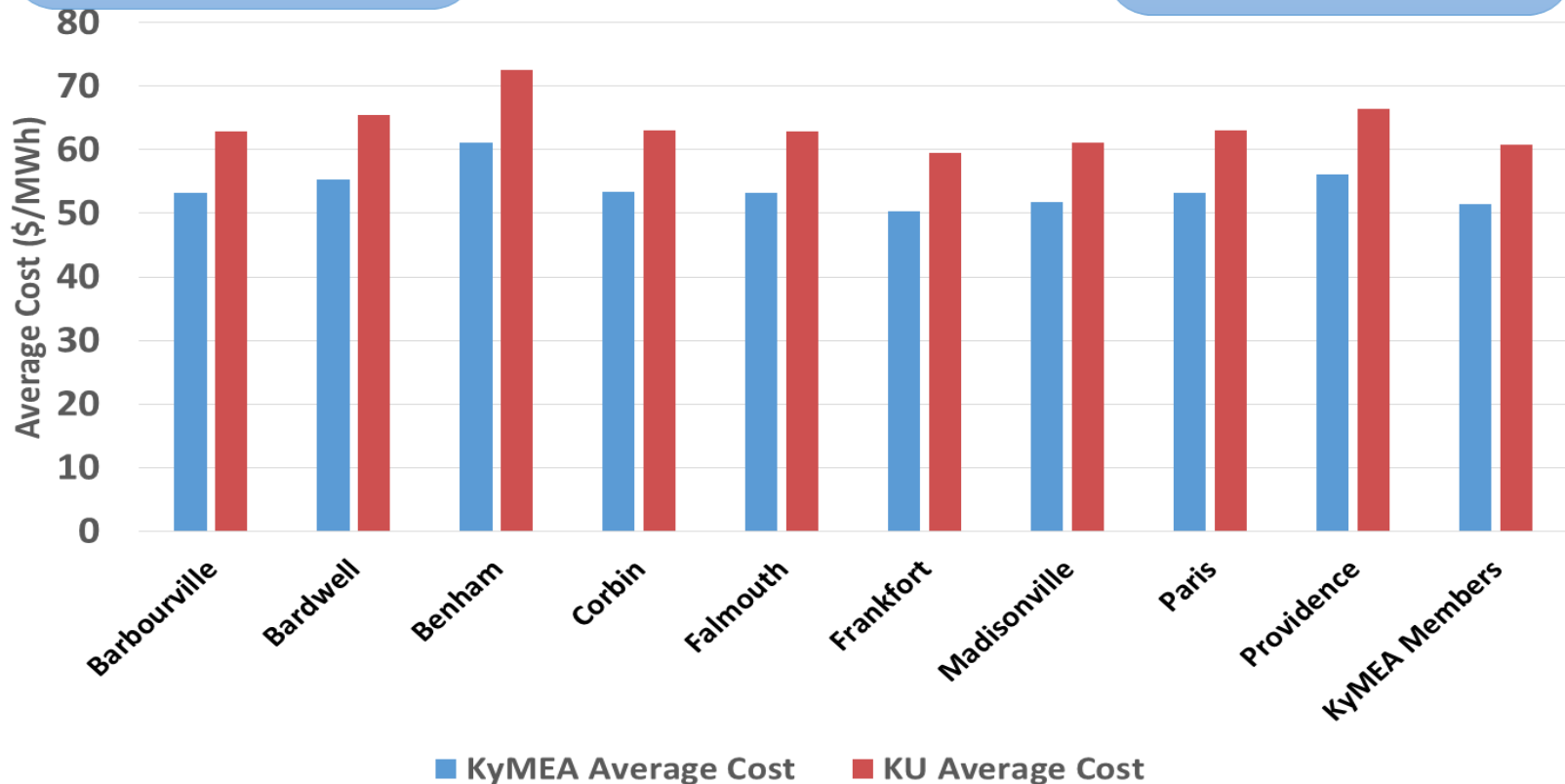


The KyMEA Members are Projected to Share Proportionately in the Projected Competitive Advantage relative to KU – One Scenario

Average costs vary for Members because of differences in the monthly amount of energy each Member uses relative to peak demand, on average over the year.

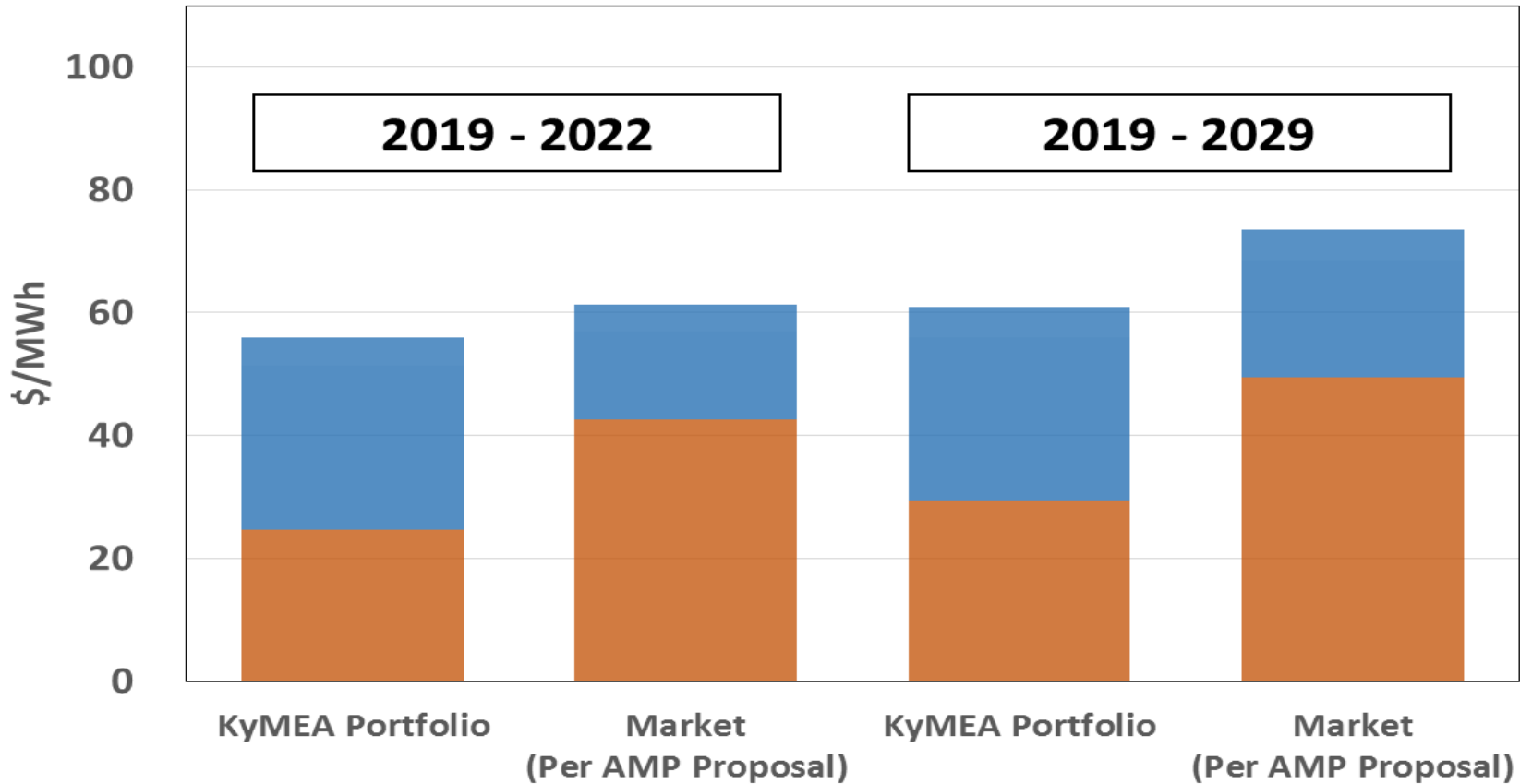
Example: Projected Average Costs of Delivered Wholesale Power KyMEA vs. KU
(excludes Schedule 1 and 10 Trans. Charges)

All KyMEA Members are projected to have a substantial and proportionate competitive advantage, as compared to KU, under the proposed KyMEA Arrangement.



KyMEA's Power Supply Costs are Projected to be Competitive with Market Purchases – Short and Long Term – One Scenario

Comparison of Preferred and AR Portfolios NPV Avg Cost
Base Fuel/Market, No Econ Purchases, No CO2 Costs



Includes Schedule 1 and 10 charges under the LGE/KU OATT

■ Energy Costs

■ Fixed/Other Costs

Conclusions Regarding KyMEA's Initial Long-Term Power Supply Portfolio – nFront Consulting

- 1. Planned resources are reasonably related to the projected capacity and energy requirements of KyMEA's All Requirements Members and provide flexibility for KyMEA to:**
 - ✓ Adapt the amount of capacity purchased if future loads are higher or lower than now forecast;
 - ✓ Incorporate renewable resources as the KyMEA Board and Members determine; and
 - ✓ Adjust for lower demands and energy requirements resulting from lower than forecast load growth, and/or conservation efforts implemented by customers, Members, and KyMEA.

Conclusions Regarding KyMEA's Initial Long-Term Power Supply Portfolio – nFront Consulting

2. The portfolio is structured to allow KyMEA to :

- ✓ Remain competitive with KU under a wide range of future conditions over the period at least through 2029;
- ✓ Extend certain resources beyond 2029 under favorable terms , which will enhance KyMEA's opportunities to remain competitive beyond 2029;
- ✓ Be successful under a wide range of CO₂ related environmental policies and fuel price scenarios;
- ✓ Benefit the Members by making purchases of energy from the MISO or PJM markets or providers on the LGE/KU system (e.g., OMU); and
 - during periods when the price of energy from those sources is lower than the cost of obtaining energy from the capacity resources in the portfolio.
- ✓ Effectively manage uncertainties and risks to maintain competitiveness with KU

Overall Conclusions: The Proposed AR Project Offers Significant Advantages

Power Supply Costs are Projected to be More Affordable

>> Relative to Projected Costs of Market Purchases and KU

Members will have More Control Over Decisions

Regarding Renewables and Other Power Supply Resources

Favorable Situation for KyMEA Members

Provides More Stable, Predictable Benefits

from Member-Owned Resources

Consistent with Members' Goals in Setting up KyMEA –

Working Together to Better Serve their Customers