

November 19, 2015

A Special Board meeting of the Electric and Water Plant Board of the City of Frankfort, Kentucky, was held at Farmers Banks and Capital Trust, located at 125 W. Main Street, 4<sup>th</sup> Floor, Frankfort, Kentucky, on Thursday, November 19, 2015 at 6:00 p.m.

**ATTENDANCE:**

Ralph Ludwig, Board Chair  
Anna Marie Pavlik Rosen, Board Member  
Walt Baldwin, Board Member  
Herbbie Bannister, General Manager  
Vent Foster, Chief Electrical Engineer/Asst. GM Operations  
Hance Price, Staff Attorney/Asst. GM Administration  
Glenn Waldrop, Public Information Officer  
David Pike, FPB Media Services  
Gary Grider, FPB Media Services  
Seth Littrell, State Journal Reporter

**AGENDA**

The Agenda for the Board Meeting was received and entered into the Minute Book as follows:

**NOVEMBER 19, 2015 BOARD MEETING AGENDA**

**Informational Item:** FPB will be hosting a public meeting to discuss the process of our change in energy provider. This information sharing meeting will include FPB Staff and its team of consultants. A Q&A with the audience will follow the meeting.

**BOARD ACTION**

Mr. Ludwig noted that this was not a typical board meeting and that there was not a typical meeting Agenda however, he noted that there was a quorum of Board members present. For the record he noted that along with himself, Member Walt Baldwin and Member Anna Marie Rosen were present at the meeting.

Mr. Ludwig noted that the purpose of the meeting was to award the public the opportunity to become informed and ask questions with regard to a new supplier of electric power for Frankfort.

Mr. Ludwig turned the meeting over to Staff.

Mr. Glenn Waldrop noted that the meeting would playback on FPB TV Wednesday, November 25, 2015 at 8:00 p.m. as well as additional times thereafter. He advised that there would be a question and answer session after the consultants completed their presentations.



Mr. Vent Foster introduced the consultants and noted their backgrounds, education and experience.

- Fred Haddad, Licensed Professional Engineer – nFront Consulting, LLC
- John Painter, Licensed Professional Engineer – nFront Consulting, LLC
- Brown Thornton, Licensed Professional Engineer – NewGen Strategies & Solutions
- Tom Trauger, Attorney – Spiegel McDiarmid

The consultants presented a power point presentation which is incorporated in these minutes.

The floor was opened for questions and the consultants addressed and answered the questions and concerns presented.

The meeting adjourned.

  
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**ATTEST:**

***Work Session***

# Frankfort's Power Supply Future

An Overview of Frankfort's Efforts to Improve its  
Power Supply Program

-- for the Benefit of the Community

November 2015



11/18/2015 v2

# Today's Discussion

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**Objective** -- Achieve understanding of Frankfort's current efforts to improve its power supply program

## Topics

1. Frankfort's Power Supply Situation – Before and After May 1, 2019
2. Historical Perspective – Recognizing the Opportunity for Change
3. Kentucky Municipal Energy Agency - KyMEA
  - Expected benefits to Members
  - Formation and Organization
4. Progress on Power Supply Planning

# Introduction: KyMEA Current Membership

(Alphabetical Listing)

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- 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: Other municipal electric systems are, or have expressed interest in, considering membership in KyMEA.

# Introductions: Consultants and Advisors

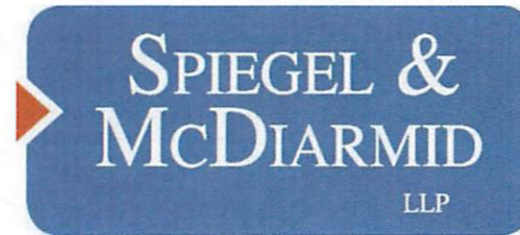
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John Painter  
Fred Haddad Jr.  
Bob Davis



Brown Thornton



Tom Trauger



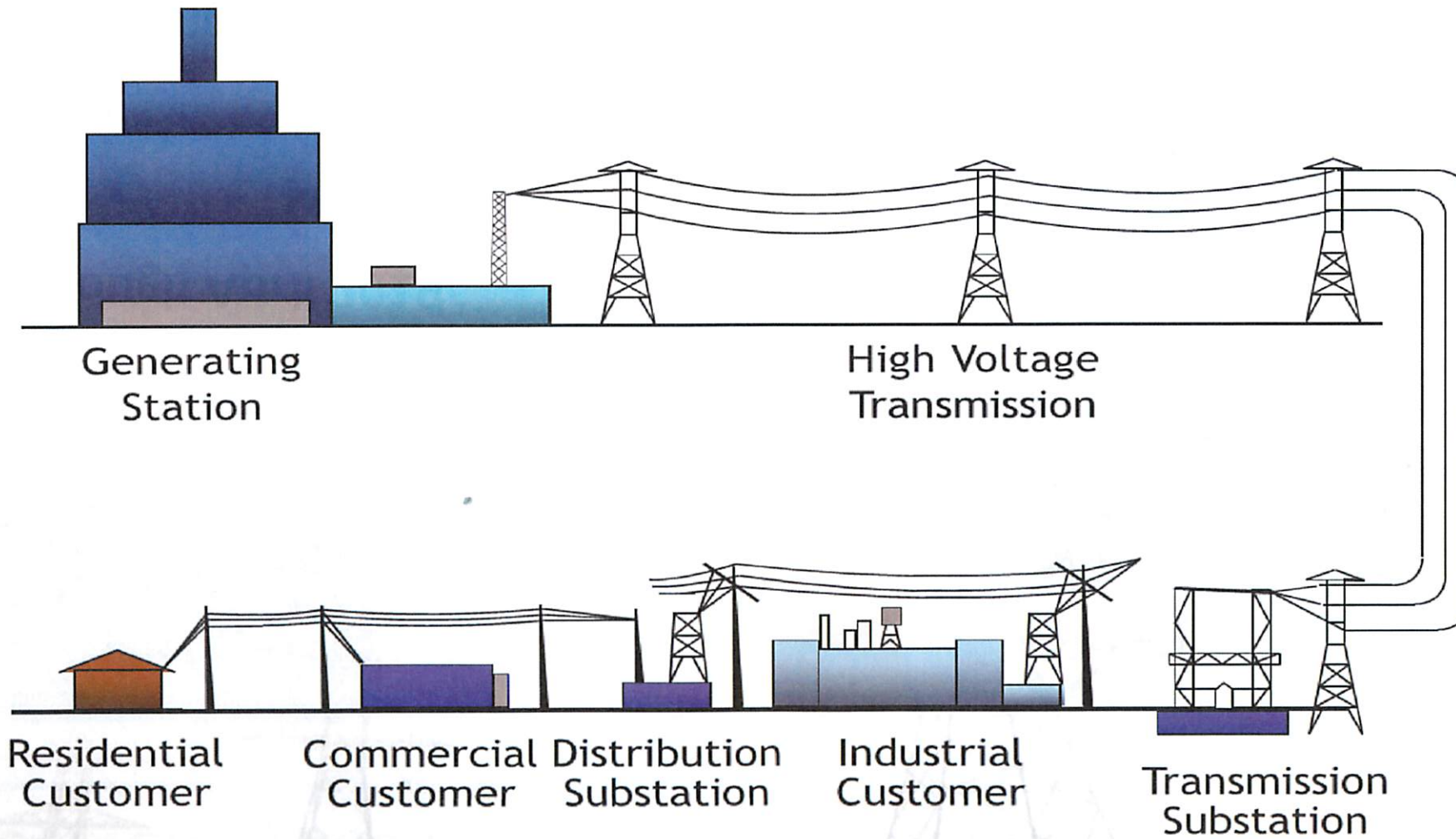
**Rubin & Hays**  
ATTORNEYS AT LAW

Charlie Musson

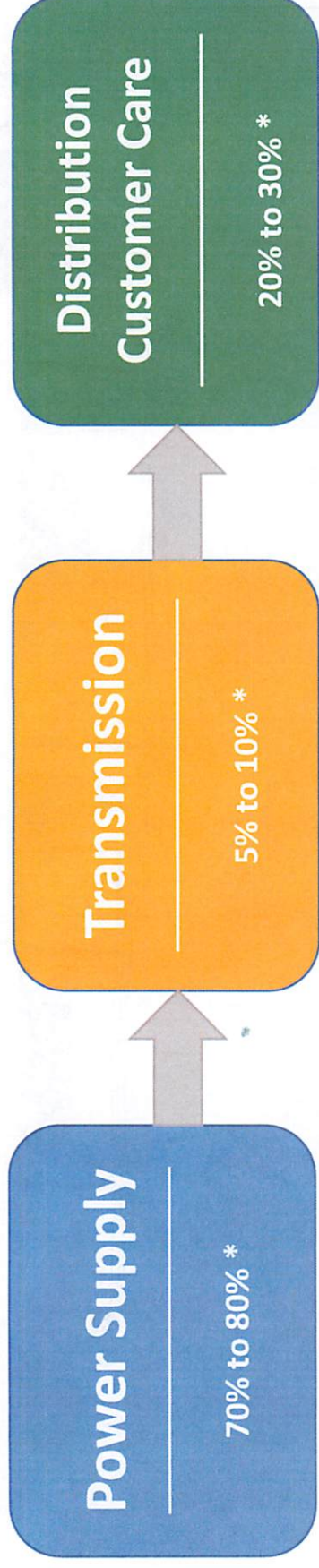


Michael Mace

# Power Supply System in the US



# Meeting the Electrical Needs of the Community Served by the Frankfort Plant Board



\* Typical percentages of total charges to retail customers. Not specific to Frankfort.

**Through April 2019**

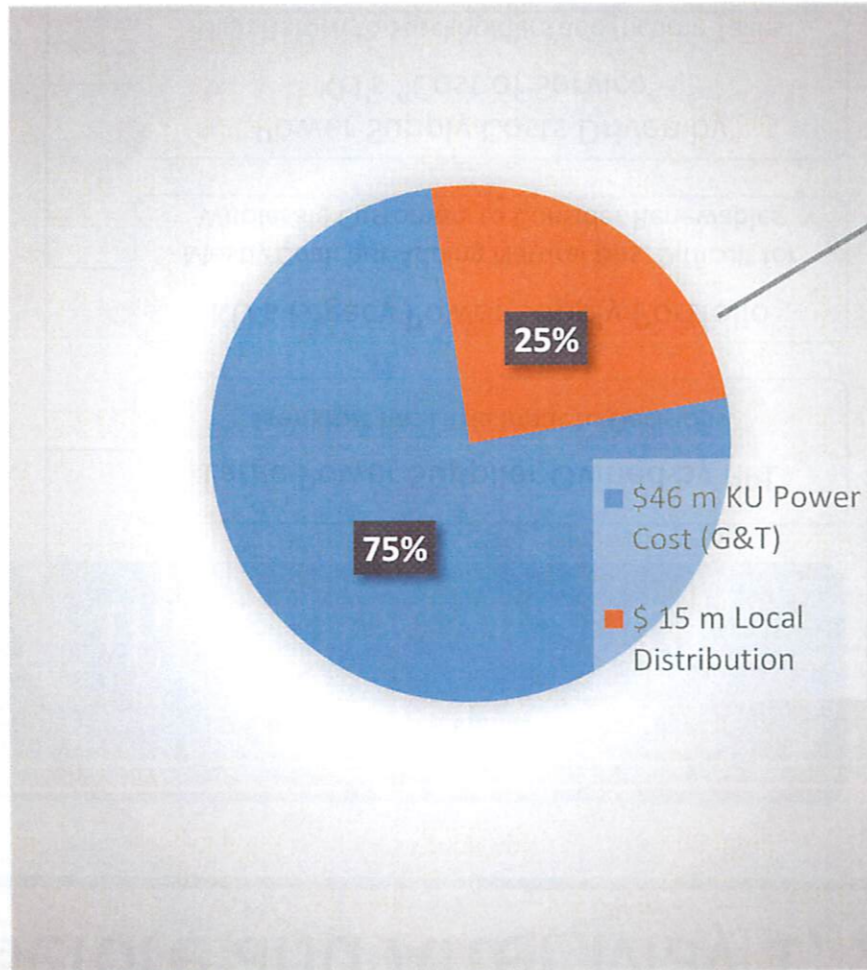


**Beginning May 2019**





# Power Supply is a Major Portion of the Costs Frankfort Recovers through Charges to Customers



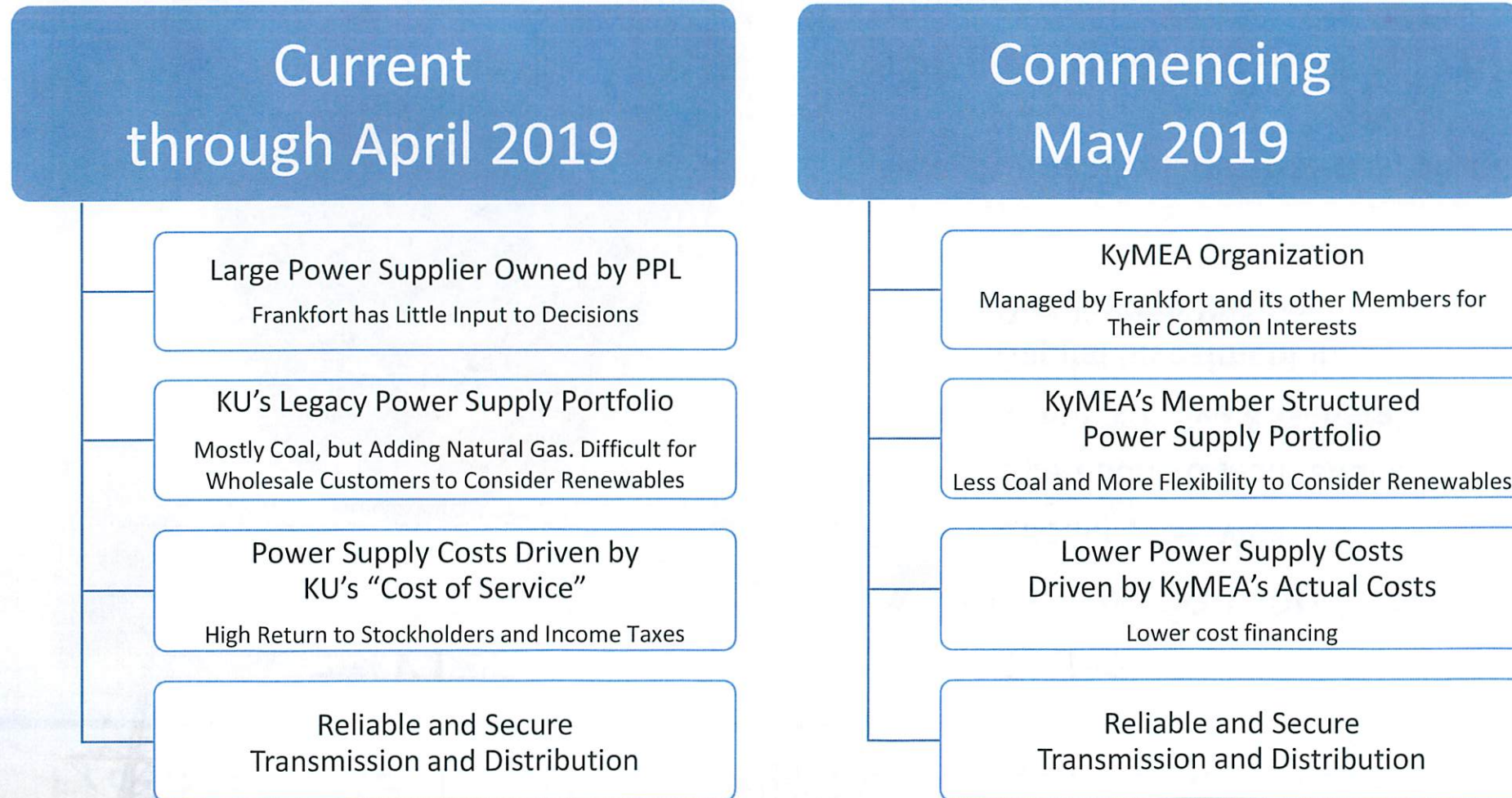
## Local Distribution Costs

- Customer Service
- Operations & Maintenance
- Administrative & General
- Capital Investment in Distribution System

For a typical residential customer:

FPB Local Distribution	\$ 27
<u>Power Supply/Trans.</u>	<u>\$ 78</u>
Total Electric Bill	\$105

# Contrasting the Power Supply Situation Before and After May 1, 2019



# Key Objectives - KyMEA Power Supply Portfolio

Features	Objectives and Benefits
<b>Cost of Power</b>	<b>Competitive with KU</b> <ul style="list-style-type: none"><li>➤ Lower costs of power supply - Very important to Frankfort's customers and economy</li><li>➤ Maintain competitiveness under a wide range of future conditions<ul style="list-style-type: none"><li>▪ More favorable mix – coal v. natural gas</li><li>▪ Lower exposure to Clean Power Plan</li><li>▪ More flexibility to adapt to future changes</li><li>▪ Diverse portfolio</li></ul></li></ul>
<b>Portfolio Composition and Control</b>	<b>Achieve Diversity/Flexibility - Fuel/Resources/Contract Length</b> <ul style="list-style-type: none"><li>➤ Achieve economies of scale</li><li>➤ Similar mix of coal and natural gas fueled resources - to allow fuel switching flexibility</li><li>➤ Competitive cost individual resources</li><li>➤ Build in renewables as appropriate</li><li>➤ Include short term resources – flexibility to expand renewables and reduce resources if future loads are less than now projected</li><li>➤ Include longer-term resources - target having key baseload/intermediate resources available for 10 years -- with options to extend if possible</li></ul>

# Key Objectives - KyMEA Power Supply Portfolio - Continued

Features	Objectives and Benefits
<b>Reserves/Reliability</b>	<b>Secure power supply</b> <ul style="list-style-type: none"> <li>➤ Adequate capacity resources to serve annual peak loads and provide reserves</li> <li>➤ Reserve capacity equal to planning level used in the LGE/KU area</li> <li>➤ Appropriate firm transmission rights</li> <li>➤ Resources to manage load following costs</li> </ul>
<b>Effective Use of Capacity Resources</b>	<b>Achieve Benefits of Resource Pooling</b> by jointly Dispatching of all KyMEA Members' resources against combined loads to achieve: <ul style="list-style-type: none"> <li>➤ Lower reserve capacity costs</li> <li>➤ Lower combined cost of energy</li> <li>➤ Economies of scale benefits</li> </ul>
<b>KyMEA Management and Admin Costs</b>	<b>Manage Effectively, Achieve Economies of Scale and Appropriately Share Costs</b> <ul style="list-style-type: none"> <li>➤ Achieve highest value for the amount spent on administrative and management functions</li> </ul>

# Key Objectives – Balancing Renewables and Conventional Resources

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

Continuously Adjust  
Portfolio over Time

# Renewable Power Options Being Implemented in the US

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Solar  
Photovoltaic

Wind

Biomass

Landfill Gas

Hydro

# Options for Renewables

- Improving and Becoming More Practical

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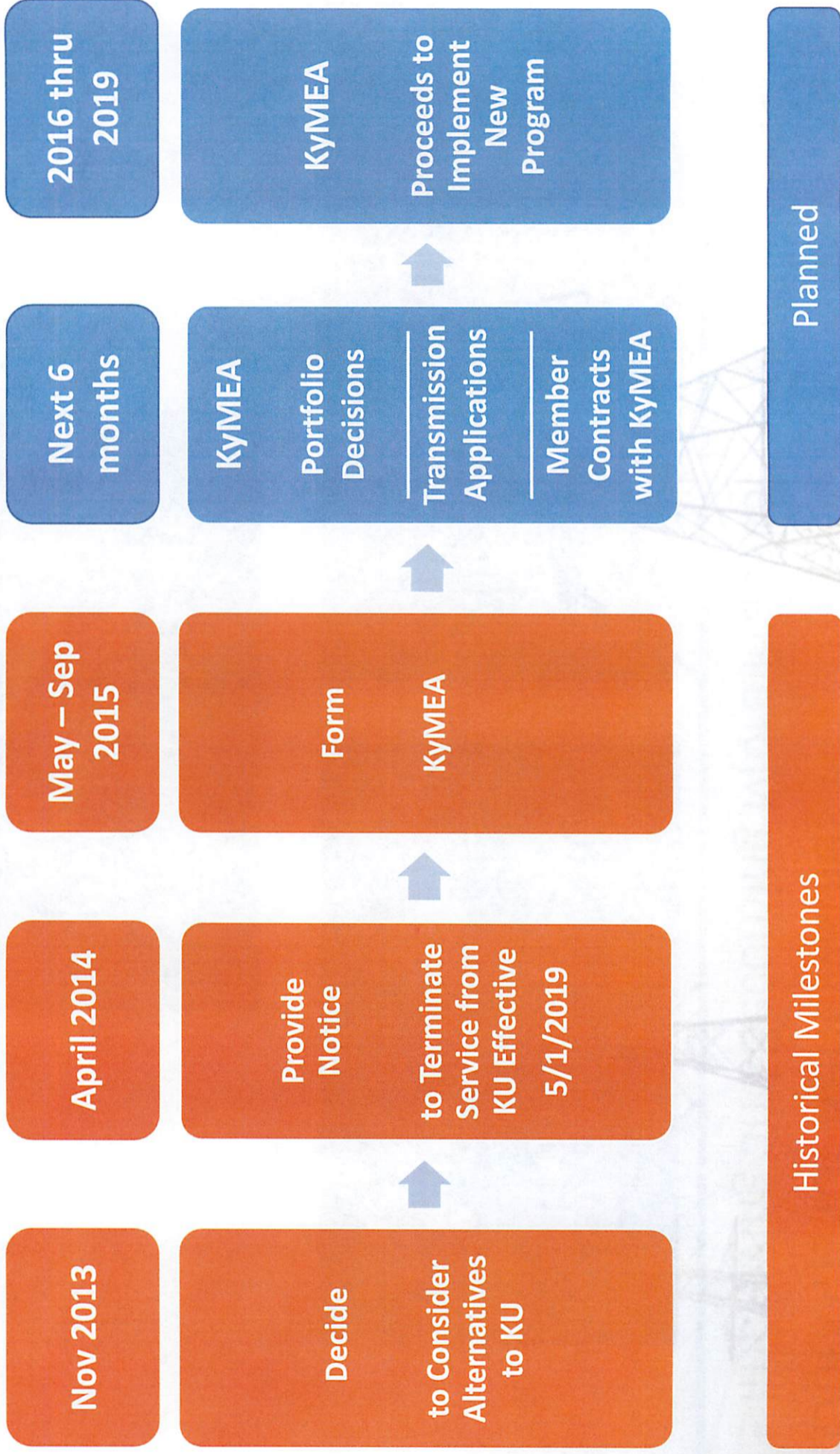
Technological  
Advancement

Declining Installed  
Costs

Effort to Create  
Storage Options

for Dealing with “As Available”  
Nature of Wind and Solar

# Power Supply Program Changes Effective May 2019 - A Series of Decisions and Actions





# Issues with KU

Drivers of the November 2013 Decision to Consider Power Supply Alternatives

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## Higher Charges from KU

Historical and Projected Increases

**Adverse Changes  
in the Relationship**  
Resulting in Higher Uncertainty,  
More Risk, and Adversarial  
Relationship

# Charges by KU were Increasing and Expected to Continue to Increase

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Higher  
Charges  
from KU

Historical Increases in All Requirements Rates  
-- Over 30% increase from 2007 thru 2013

Expectation of Future Rates Increases

# Results of Initial Option Screening Process

Proposals were solicited from at least 7 wholesale power suppliers

Indicative proposals/expressions of Interest received from 6 parties  
JAAs, COOPs, Munis, and other Market Participants

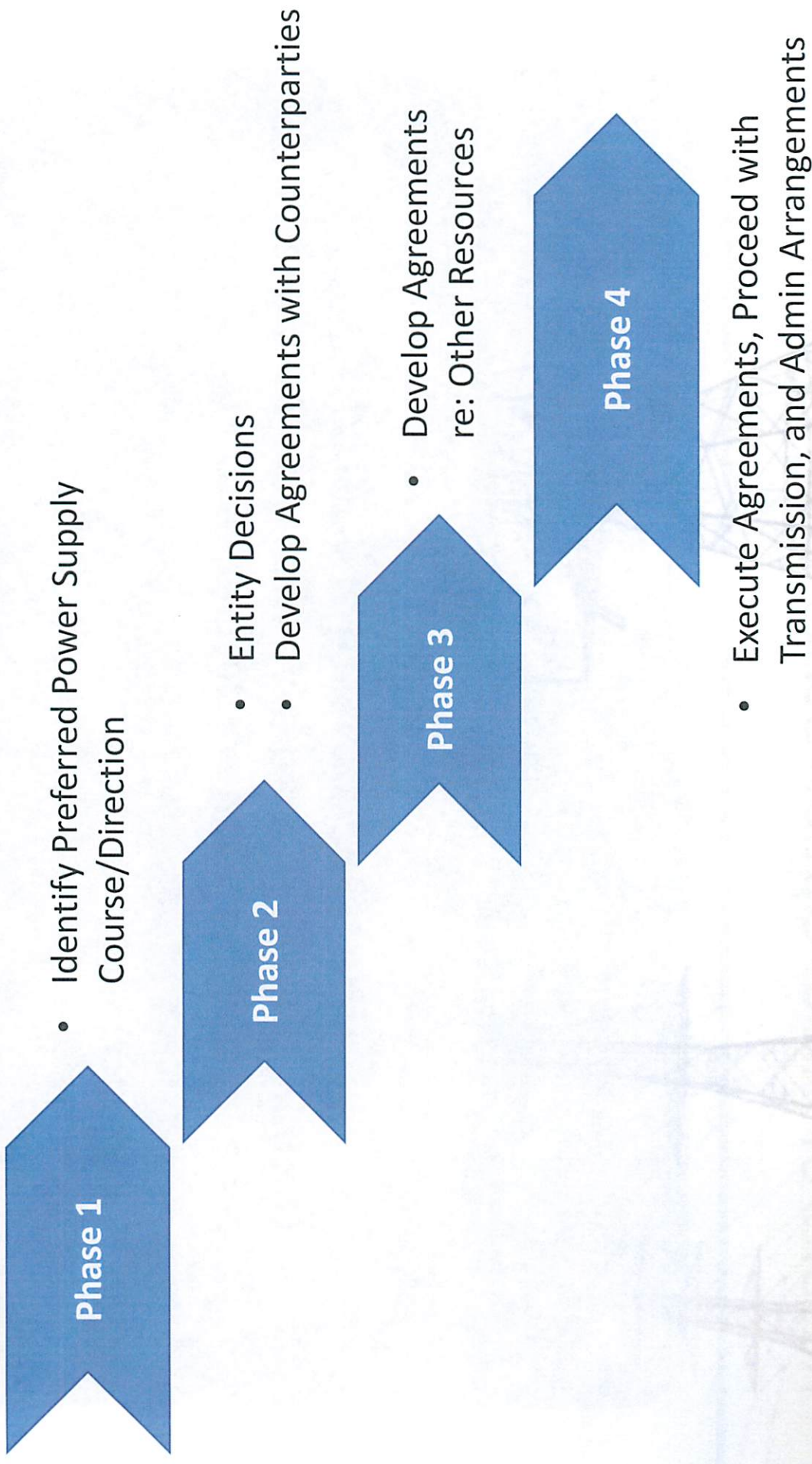
***Initial Decision - April 2014***  
***Options appeared available that may be more attractive than continuing with KU***

Analyses indicated multiple opportunities existed for a favorable power supply relative to continuing a long-term arrangement with KU

Municipal group decided to focus primarily on the most promising alternatives

# Action Plan Established in Summer 2014

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# The Bottom Line - Key Reasons to Form KyMEA

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## 1. Effective Transition

To the new power supply program  
needed beginning in  
May 2019

## 2. Economies of Scale

Acting together will be  
far more cost effective than  
acting individually

## 3. Greater Control

The members of KyMEA will exercise significantly greater control over their power supply program than existed as a wholesale customer of KU and than would exist under other alternatives.

# KyMEA - Joint Action Agency Benefits

## Economies of Scale

Many Joint Action Groups Exist in Other States  
to Realize Benefits  
in All Aspects of Power Supply

Planning  
Implementation  
Management  
Administration  
Participating in the  
Political Process

Purchasing and Selling  
Power  
Promoting Renewables  
and Energy Efficiency  
Owning and Operating  
Generation Assets  
Transmission  
Arrangements

Sales to Members under  
Project Specific  
and  
Full or Partial  
Requirements Contracts

# KyMEA Central Purposes

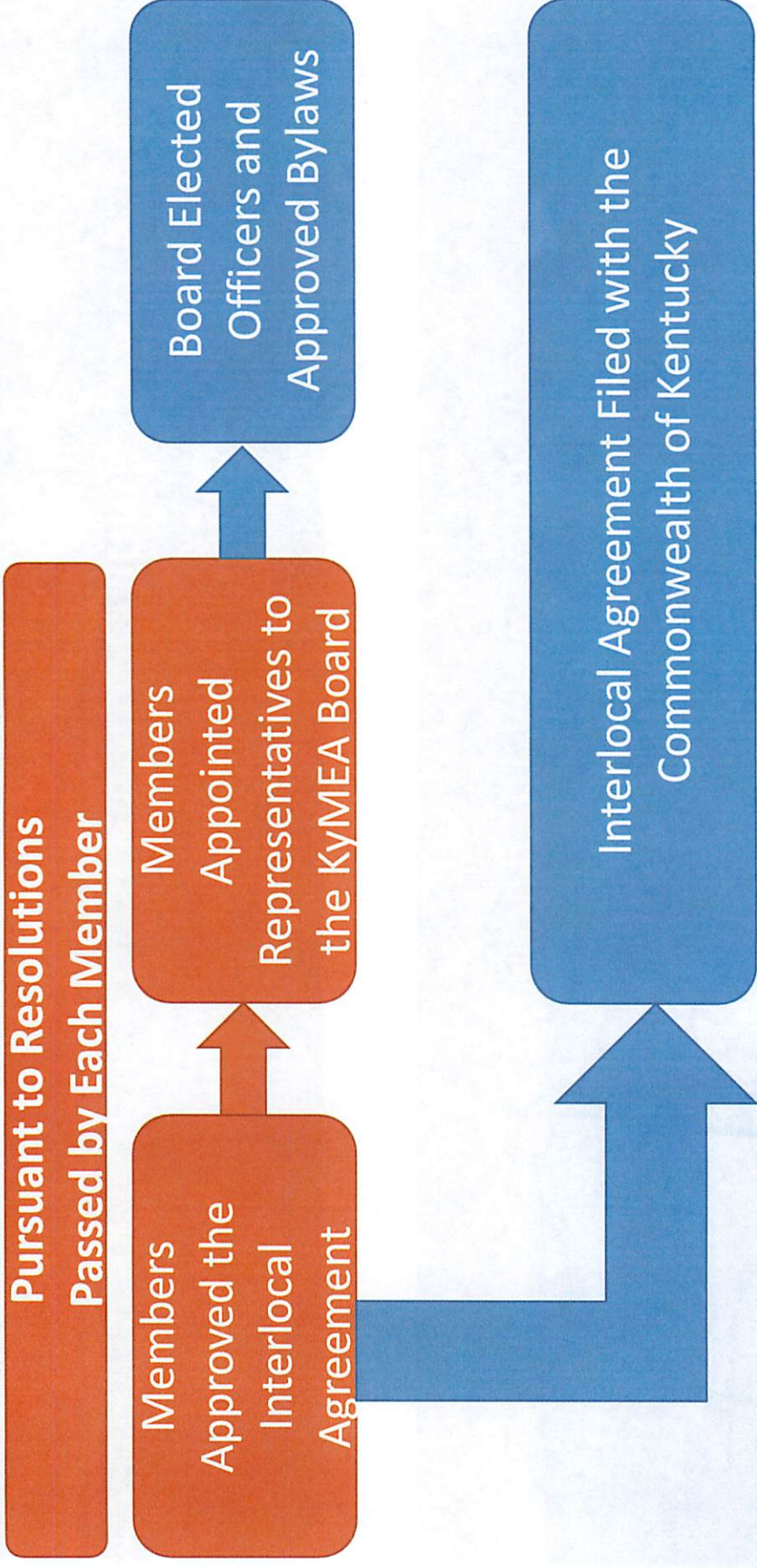
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To allow the 10 Member Municipal systems to obtain cost effective resources to replace service from KU beginning in May 2019.

To allow all Member Municipal systems to benefit from economies of scale in planning, purchasing, selling, and operating power supply resources.

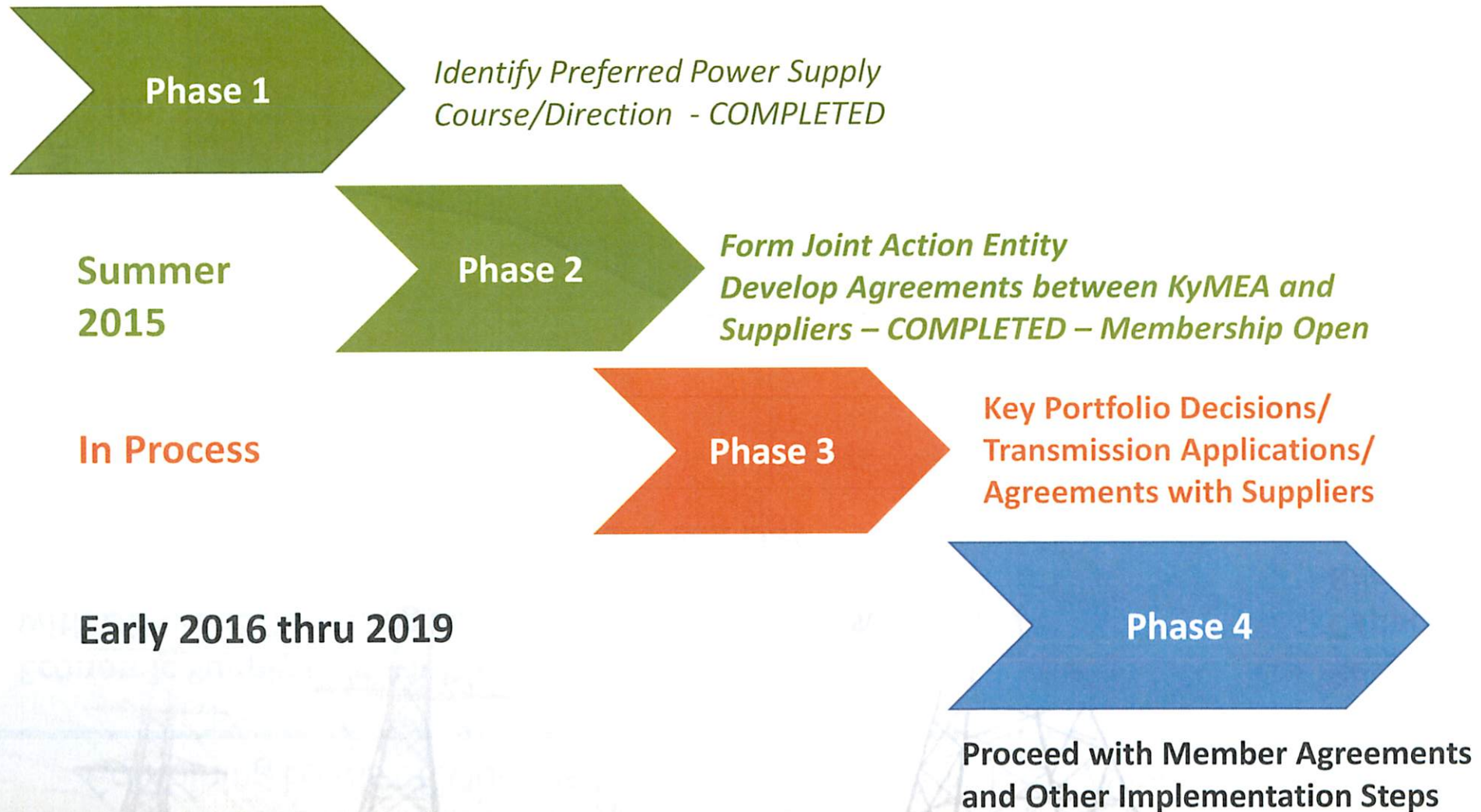
# Formation of KyMEA

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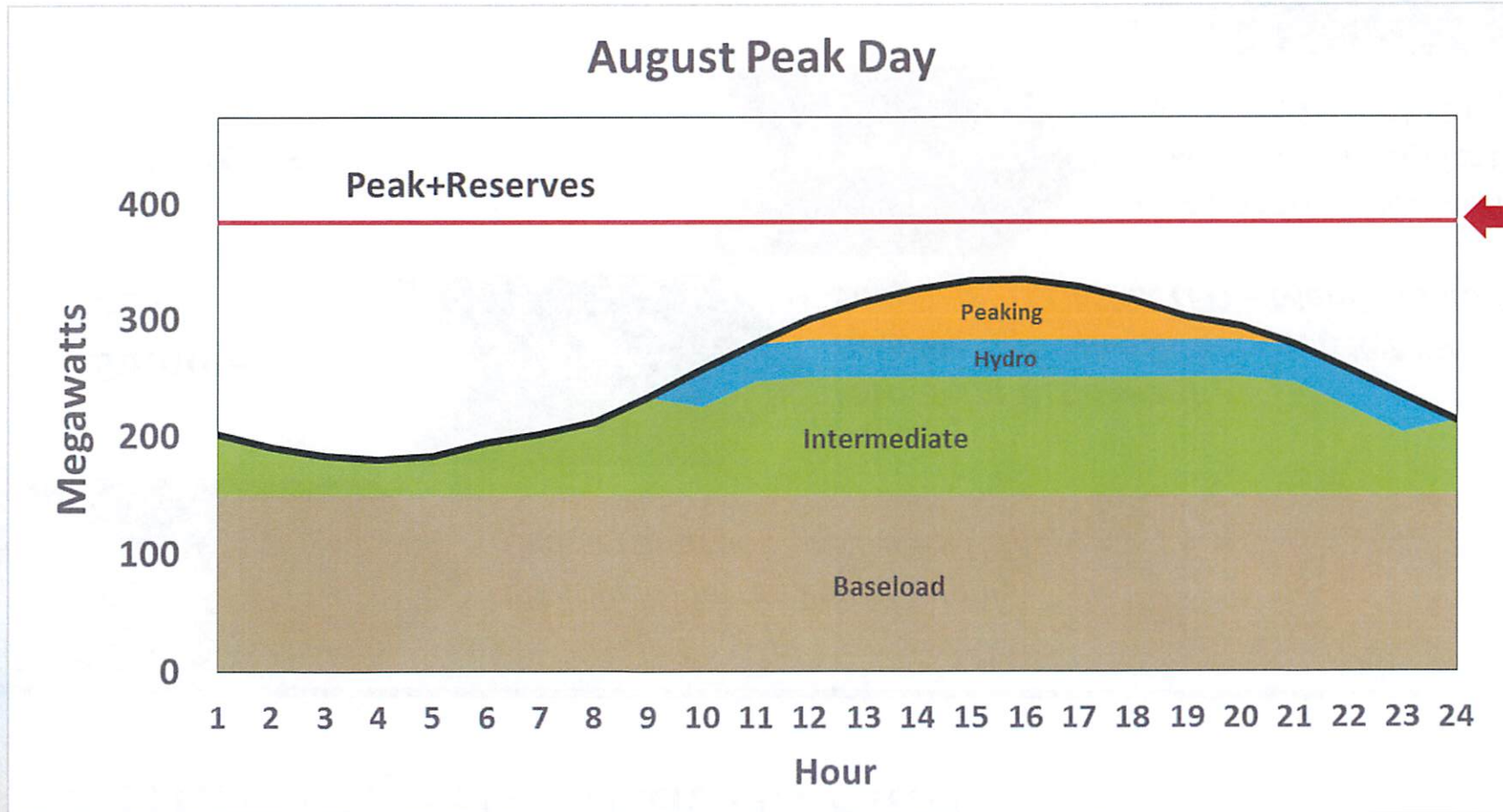
# Current Implementation Plan



# Even on Peak Days, Load Varies Significantly

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

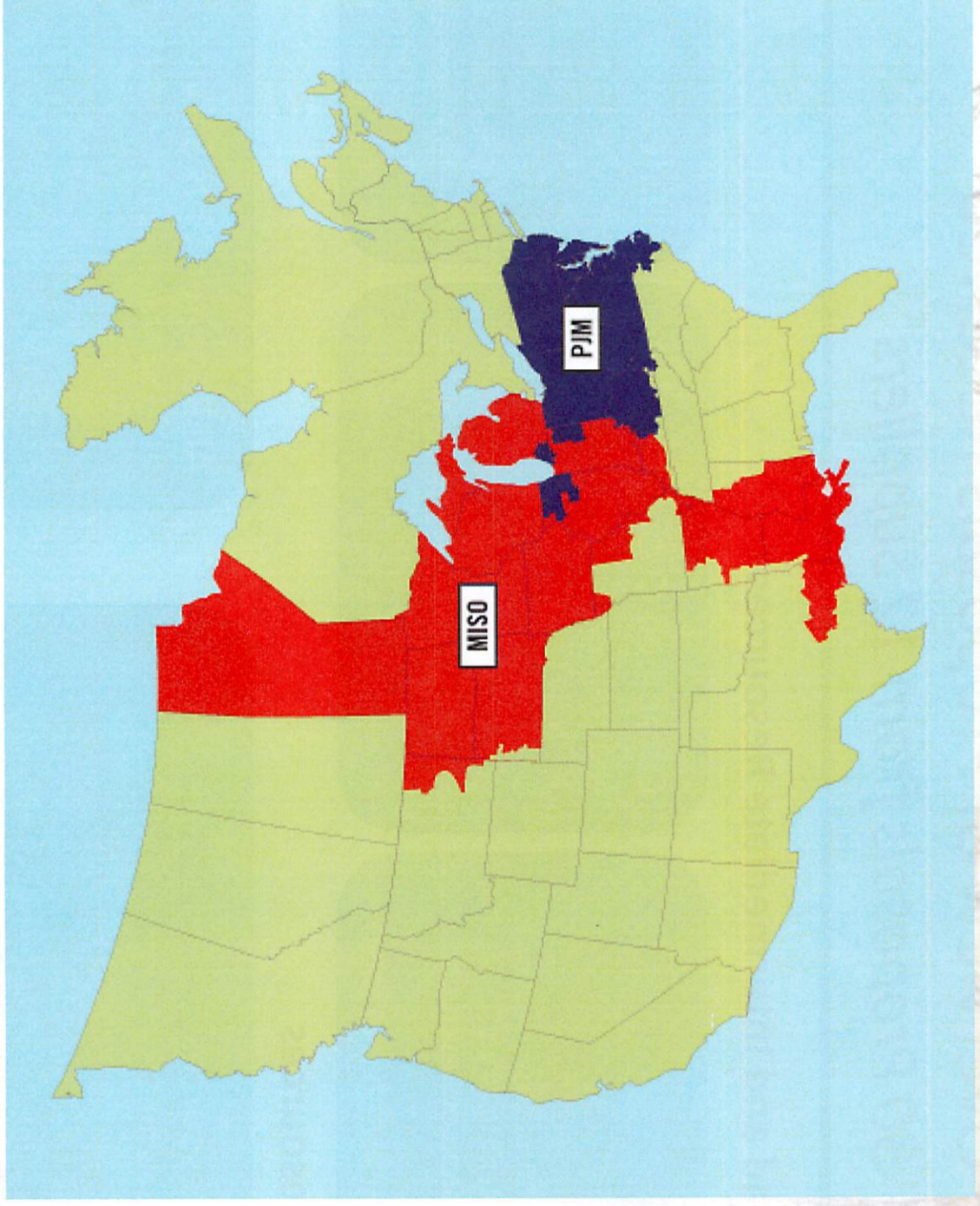
Economic Supply uses Multiple Resources with Different Operating Economics and Characteristics



Resource Capacity Required for Reliability

# The MISO and PJM RTOs surround the LGE/KU System

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# RFP – Overview of Proposals Received

## 30 Proposals from 12 Suppliers

### Base Load and Intermediate Resources

#### Coal

- 6 Proposals
- Terms Offered:
  - 3, 10, or 10 with option to extend to 20 yrs.
- Unit, System or Reserved Power
- Del. Point - LGE/KU or MISO

#### Combined Cycle – Efficient

#### Natural Gas Fueled Resource

- New Large Plant
- 2 CTs on 1 HRSG
- Del. Point - MISO
- Terms Offered: 10 – 20 yrs.

#### LD (Cost of cover)

- 7x24 Strips
- 5x16 Strips
- Energy Only – Must take
- Price fixed over term
- 10 Proposals
- Terms Offered: 3 to 10 years
- Del. Point - MISO or PJM

### Other Resources

#### Peaking Resources

- 3 Proposals for CTs
- Duct Firing in Combined Cycle Unit
- Heat Rate Call Option LD
- Hydro Peaking Resource (Letter of Interest)
- Del. Point - LGE/KU, MISO, or PJM

#### All Requirements Service

- Load Matching LD for AR Members (3 or 10 years)
  - Del. Point - MISO
- 110 MW Cost-based (May 2019 thru Dec 2021)

# Illustration of Potential KyMEA All Requirements Power Supply Portfolio

