MANAGER'S MEMORANDUM

Prepared for: **Naperville City Council**
By: City Manager's office
12/19/2024

A. MANAGER'S MEMORANDUM

Source:	Subject:	Action:
1. Brian Groth, Director - Electric Utility	IMEA December 2024 Executive and Full Board Meeting Summary	FYI

CITY OF NAPERVILLE
MEMORANDUM

DATE: December 19, 2024

TO: Doug Krieger, City Manager

FROM: Brian Groth, Director – Electric Utility

SUBJECT: IMEA December 2024 Executive and Full Board Meeting Summary

Purpose:
The purpose of this memo is to provide an update on the Illinois Municipal Electric Agency December Executive and Full Board Meetings that were held on December 11th and 12th, respectively

Discussion:
The City of Naperville entered into a contract to procure energy, capacity and ancillary services from the Illinois Municipal Electric Agency (IMEA) in 2007. IMEA is a not-for-profit agency comprised of 32 member communities across the State of Illinois. Each community has a representative on the IMEA Board of Directors, and the Board of Directors generally meets every other month at the IMEA offices in Springfield, Illinois. The Board of Directors receives reports from staff and votes on agency related matters. Meetings are open to the public and the schedule of meetings, board agendas and meeting minutes can be found on the IMEA website (www.IMEA.org)

The following is a brief summary of the IMEA executive and full board meetings that took place on December 11th and 12th respectively. Formal meeting minutes will be posted to the IMEA website after their review and approval by the board at the next regularly scheduled IMEA board meeting. Additional information about the City's relationship with IMEA can be found on the electric utility portion of the City's website.

IMEA Sustainability Plan Update:
In October 2024, the IMEA Board of Directors adopted its sustainability plan (attached) with a goal of net zero electric generation by 2050. Contained in this plan was a roadmap of how the agency aims to achieve its goal as well as outlining other sustainability initiatives the agency will undertake along the way. The plan also requires that agency staff report annually on the progress of the plan and hold member stakeholder meetings every three years.

Staff has been sharing these summaries as well as approved board minutes with the Naperville Public Utilities Advisory Board (PUAB) and will continue to share these summaries through the Manager's Memorandum process.

Agency staff reported on the plan as just over a year has passed since its adoption. Highlights are listed below:

1. Add 130MW of Solar Generation (Goal)
    1. IMEA has contracted for or built 177.5MW of solar generation that will come online by late 2026 or early 2027; on an energy basis, this will make the agency approximately 20% renewable at that time. A copy of the IMEA resource plan is attached.
2. IMEA will study feasibility and conduct a cost benefit analysis of battery storage technology installations in its member communities
    1. IMEA has met with over 10 battery storage developers and other utilities and is on track to release its RFP for battery storage in 2025 with the report being completed and presented to the full board of directors by the end of 2025.
3. Design and support energy conservation programs in support of the concept that the most sustainable watt is the watt not generated
    1. The IMEA board has extended its Energy Efficiency and EV rebate programs for three years.
    2. Staff and the IMEA board continue to work on an agency-wide Conservation Voltage Reduction program (which is fully deployed in Naperville) as well as the deployment of an Optimized Charging Operations Center (OCOC) to help control overall agency load.
4. Annual Updates to the Board of Directors and Creation of Member Stakeholder Process
    1. The agency is beginning to work with members on the framework for the stakeholder process which is scheduled to begin in 2026

Demand Response Programs:
IMEA offers a demand response program to large customers across its member communities that are willing to reduce energy during peak hours as determined by the agency. To fairly compensate customers that reduce load during these times, the IMEA Board of Directors voted to increase the compensation for those customers so that the credit received is in line with market capacity prices which have significantly increased in the last 6 months. The Naperville Electric Utility markets this program to its largest customers, as well as Springbrook Water treatment plant, and in the past has had as many as four customers participating.

IMEA REC Program:
For IMEA to legally claim its 11% renewable generation, that it owns or has contracted for, it must retire an equivalent amount of Renewable Energy Certificates (RECs). In 2020 the IMEA board of directors authorized the agency to arbitrage the RECs that it generates from its generation sources, and this year the agency was able to sell the RECs that it generated in Illinois, replacing those RECs with lower cost recs outside of Illinois saving the agency's ratepayers approximately $10.5 million or about 3.35% on their energy bills. For reference, IMEA is 11% renewable while the IPA, who procures energy on behalf of most ComEd customers across the state, is 6% renewable.

Electric Energy Efficiency Program:
Consistent with the recommendation of the IEMA Energy Efficiency and Conservation Committee (E2C2) which met earlier this year, the full IMEA board voted to continue the energy efficiency and conservation programs of the agency for an additional three years. This program provides rebates for programmable thermostats, air source heat pumps, AC unit replacement as well as commercial lighting and other energy efficiency upgrades. To date, this program has funded over 300 residential and 20 commercial grants for Electric Utility customers including some for the City itself (Springbrook pump and lighting upgrades). In 2025 the Agency will no longer provide free LED lightbulbs, instead providing smart switches which will allow customers to remotely switch off lighting and appliances. This change was made due to updated energy efficiency standards provided by the State of Illinois.

The EV rebate program, which provides up to $500 for the installation of an EV charger in a home or business, was also extended. To date, this program has funded over 120 residential EV charger installations across the City. The Electric Utility and Communications Departments will continue to promote all energy efficiency and EV programs across social media and other platforms.

Prairie State and Trimble County Generation Decommissioning Fund Planning:
Prairie State and Trimble County have completed decommissioning studies aimed at determining costs associated with returning both sites to greenfield status when the plants are retired. The Prairie State decommissioning report, completed by an outside consultant, considered the CEJA mandated 45% reduction in emissions in 2038 as well as the full retirement in 2045 and concluded that in 2045 dollars it is expected to cost $168M. IMEA is 15.17% owner of the project and thus would have an approximate share of $25.5M. The Trimble County report, completed by Trimble County staff, concluded that in 2050 dollars (expected but not declared retirement date) the total cost will be $90M for the entire site. IMEA is 12.12% owner of this project and thus would have an approximate share of $10.9M.

IMEA staff recommended that beginning in May of 2025 an additional .57 cents be added to the agency's MWH power cost to begin funding a restricted account which will be utilized for both plants' decommissioning costs. The goal of this rate adder is to completely recover the necessary decommissioning funds by 2035. This rate action was approved by the IMEA board of directors and will add approximately 48 cents per month to the average Naperville Electric residential power bill.

IMEA Transmission Line Ownership Opportunity:
A long-standing goal of the agency has been to begin investing in high voltage transmission opportunities to reduce the price risk of rising transmission costs to IMEA member communities. An opportunity has been identified by IMEA staff to partner with Ameren Transmission Company for partial ownership of a 23-mile 138kv transmission line that will be built between the IMEA communities of Peru and Princeton, Illinois.

IMEA would be responsible for partially funding this project (IMEA share expected between $13 and $17 million) and paying a portion of the ongoing maintenance of this line, in return the agency would receive revenue along with a rate of return as determined by FERC. A bond sale by the agency would fund the upfront capital requirements and ongoing revenue would be used to offset transmission costs for all member communities. It is expected that staff will continue to work with Ameren on details of this project and bring a full proposal with cost benefit analysis to a future board meeting where it will be voted on by the board of directors.

IMEA Generation Operations:
Staff provided an update on Prairie State, Trimble County, and member generation resources. All member generators have been tested and are ready to be called upon based upon market and agency needs this winter. Trimble county units are fully operational with unit 2 completing its planned outage ahead of the winter season. Parie State unit one is expected to complete its 10-day maintenance outage this coming weekend and unit two is currently out of service due to a generator issue that was identified as the unit came out of its scheduled maintenance. This unit is expected to be out for an additional 3 weeks as contractors work to correct the issue. IMEA monitors energy markets and utilizes the day ahead market as well as short-term energy contracts to fill energy gaps while units are offline for any reason.

Recommendation:
Please include this response to the City Council request in the Manager's Memorandum.

Sustainability: Transitioning to OUR Energy Future

2024

2050 Net-Zero Vision

The Illinois Municipal Electric Agency (IMEA) Board of Directors sets forth this organizational vision for reducing to net-zero our power supply carbon emissions delivered to our Member municipalities by 2050.

IMEA's Member communities are committed to working together in the coming years as the transitional journey progresses, while also holding paramount the Agency's mission of providing a reliable and affordable wholesale power supply to Members' residents.

ROADMAP FORWARD:

- Target reductions in greenhouse gases
- Increase our renewable generation resources to replace current resources
- Allow the flexibility needed to embrace changes in technology, such as battery storage
- Continue and expand energy efficiency program incentives to our communities and their residents
- Reduce resource capacity needs by accelerating our demand response options
- Advance electric vehicles and EV infrastructure

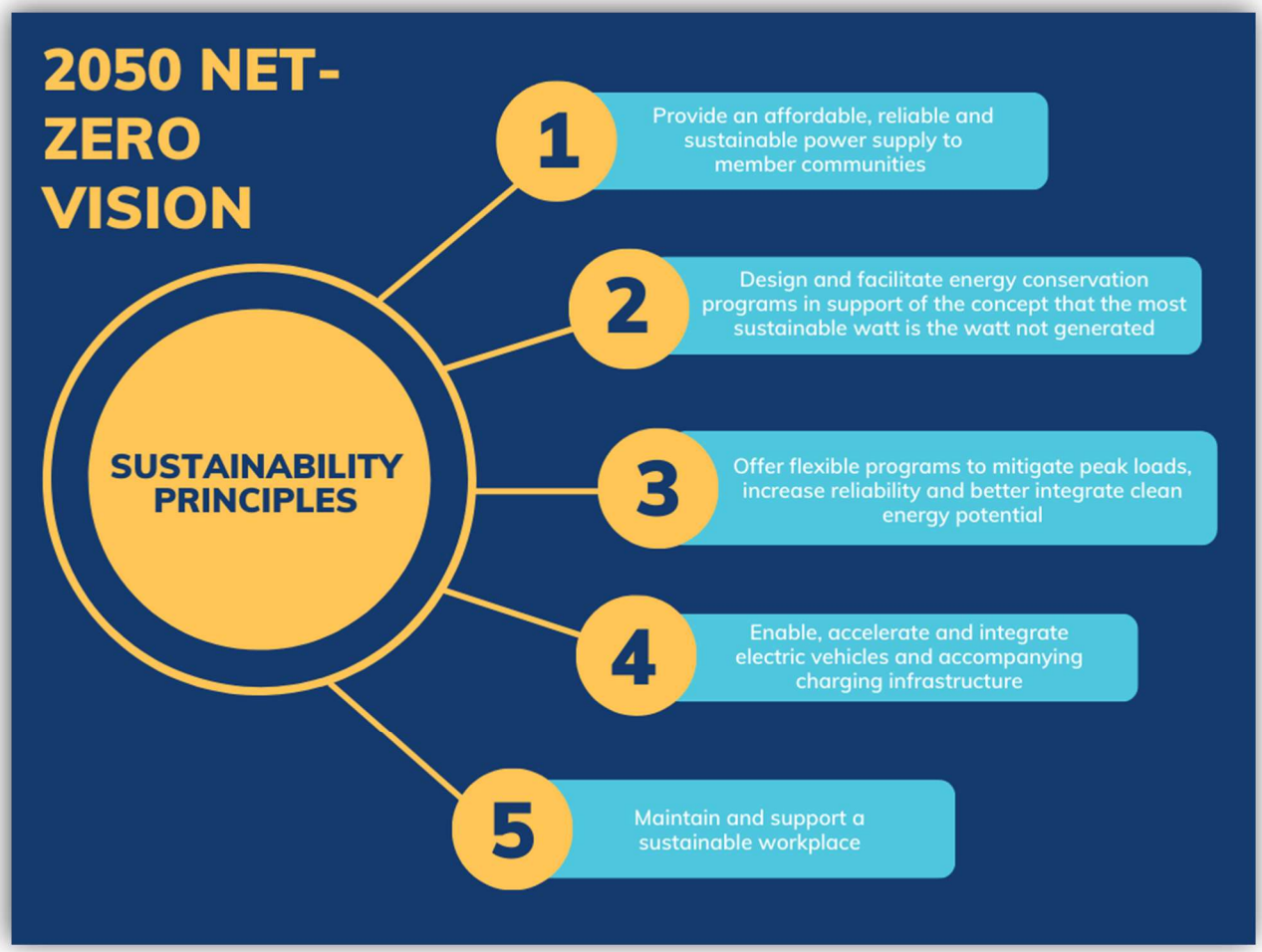
The Board acknowledges that to attain its 2050 vision of a net-zero portfolio, industry innovation, developments, commercialization, and implementation must occur. Examples include the development of dispatchable emission-free resources, increased availability of economic energy storage solutions or similar new technologies, transmission upgrades to deliver new renewable generation to residents, increased integration of distributed generation, and economic exit strategies or emission reduction technologies for existing fossil-fueled resources.

SUSTAINABILITY PRINCIPLES

As we transition to our net-zero vision, we will rely on a member-driven set of sustainability principles.
Illinois Municipal Electric Agency (IMEA) and its member communities are committed to the balance of being responsible governmental entities, employers and environmental stewards, while providing affordable and reliable electric power. The best way to achieve balance is through the consistent application of sustainability as a business practice.

IMEA defines sustainability as a business approach that creates long-term member value by embracing opportunities and managing risks derived from economic, environmental, and societal developments.

This document captures a snapshot of our current portfolio and future targets for the next three to four years. As conditions warrant, this document will be reviewed and updated to reflect progress and future strategies and targets.



1 Provide an affordable, reliable and sustainable power supply to member communities

IMEA's vision is to continue to work towards reducing to net-zero our wholesale power resource portfolio by 2050. Renewable energy is a larger portion of our portfolio than ever before, and we are not stopping there. Going forward, IMEA will use this vision to work in collaboration with our member communities to construct decisions around resource planning, portfolio optimization and emissions reductions. This is part of our overall strategy to diversify resources while balancing our public-service obligation to serve customers and member communities reliably and affordably.

IMEA efforts to combat climate change create many opportunities through innovative and transformative solutions. IMEA believes that our nation's power grid requires a combination of many types of generation sources to ensure reliability. Renewable resources play an increasingly important role in supplying our customers with the reliable and sustainable power supply we all depend on.

Overall, IMEA is transitioning our generation to a cleaner, more diverse portfolio in a responsible fashion. Electricity keeps our communities and businesses thriving, and IMEA will do its part to sustain the prosperity and quality-of-life that affordable, reliable electricity brings to member communities.

Leadership to Date: Building on the success of recent carbon-free milestones

IMEA has taken strides towards transforming our electricity portfolio with current renewable projects totaling 125 megawatts of aggregate solar and wind capacity at the end of 2023.

- **Investing in clean power:** IMEA has advanced carbon-free resources with 11% of our current energy coming from non-carbon emitting generation resources that include solar, wind, and municipally owned hydro.

IMEA Municipal Solar Program: Power agreements for nine solar arrays in our member communities of Altamont, Oglesby, Princeton, Marshall, Naperville, Rantoul (2 projects), Rock Falls, and St. Charles.

Wind: Wind-powered generation contracts with Lee-DeKalb Wind Farm and Green River Wind Farm in Lee and Whiteside counties.

Hydro: Two municipally owned hydro power plants in Peru and Rock Falls.

- **Accelerating Towards a Greener Future:** Along with increasing and adding new renewable generation resources, IMEA has recently reduced our reliance on coal generation, successfully negotiating an early contract exit to reduce our total reliance on coal by more than 40% from a capacity perspective. The reduction was nearly 24% from an energy perspective based on the 2021 level of energy production.
- **Balancing a Reliable Portfolio:** With today's technologies, a diverse electricity mix ensures that the lights come on around the clock when customers flip the switch. This is where our baseload resources currently play a role to help ensure a reliable electric grid. Our predictable, controllable, and economic base-load generation resources all include the best available state-of-the-art environmental controls, helping to minimize the environmental footprint of our portfolio.
- **Pursuing New and Emerging Technologies:** IMEA supports technological innovation necessary to shape the energy system of the future for a decarbonized economy. That is why IMEA participated in a Department of Energy Study on Carbon Capture at one of our coal-fueled facilities. That study was completed in 2022, and, coupled with changes in federal legislation, there is a potential that a third-party developer could pursue a future carbon capture project. As technologies evolve, IMEA will continue to support innovation and technological advancements that contribute to reducing overall emissions from the energy sector to achieve a stable electric grid that reliably delivers carbon-free energy.
- **Supporting Reliable Local Generation Back-up Resources:** Several of IMEA's member municipalities have local generation units within their communities as a fall back if the main grid has an issue. During extreme weather events or other emergencies, these resources deliver high system reliability to our members and end-use customers.
- **Providing Local Green Power Choices.** As we transition our resource portfolio towards a lower-carbon future, IMEA has created Green Power Choices, a renewable energy credits program to help municipal retail customers and member municipalities reach their individual environmental goals, in addition to the overall resource changes that IMEA will be completing.

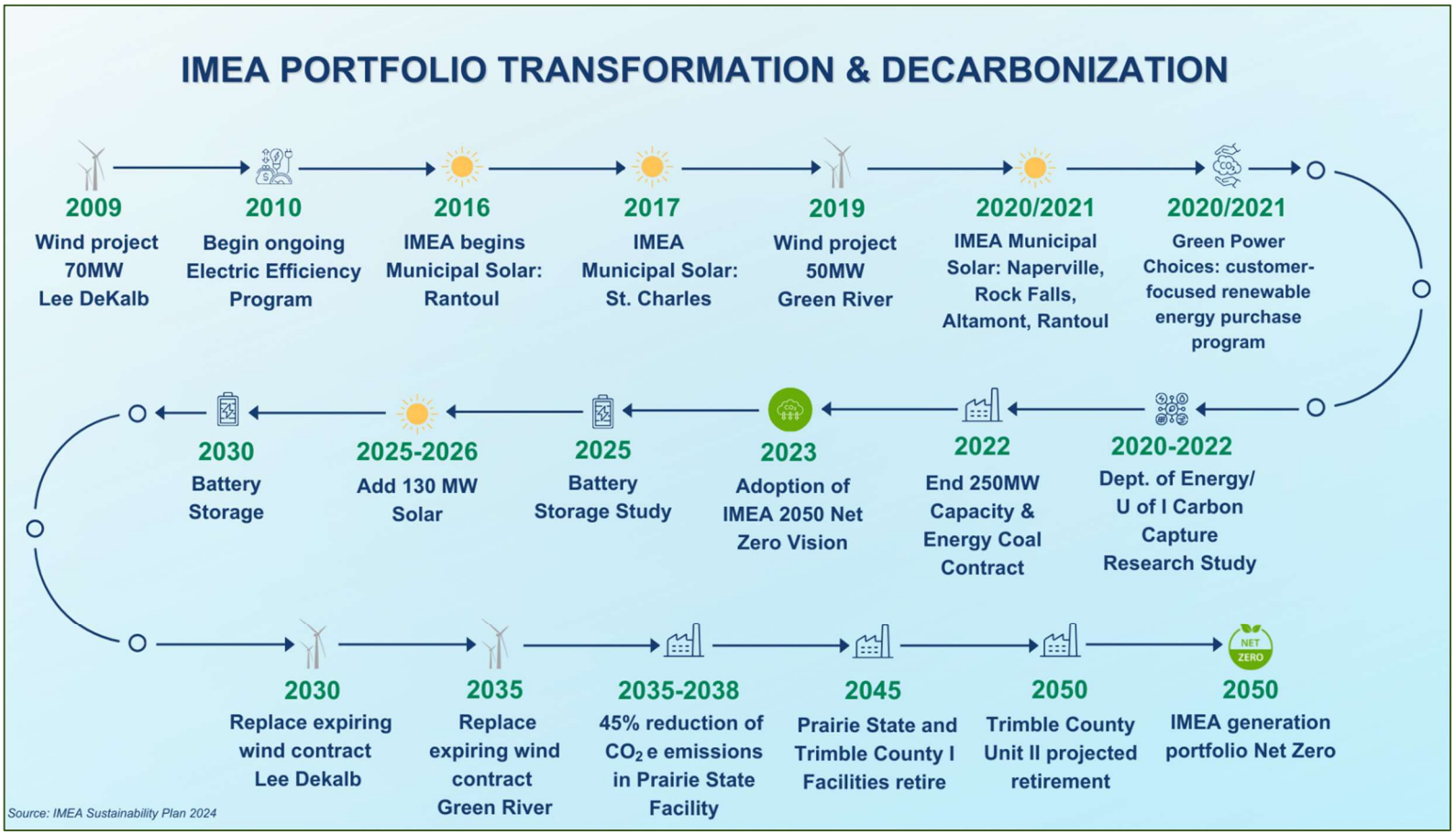
Future Targets & Strategies: Transitioning more of our portfolio to carbon-free generation resources.

- We **seek to add 130 megawatts** of solar as follows:
  - IMEA has **contracted to add 25 megawatts of utility-scale solar starting in 2025.** IMEA reached an agreement to purchase solar-generated electricity from the Big River Solar Farm located in White County, Illinois;
  - IMEA will pursue **adding 100 megawatts of new utility-scale solar** to our portfolio to be energized over the time frame of 2025-2026;
  - IMEA seeks to **add 5 megawatts of behind the meter solar projects to our IMEA Municipal Solar Program** in our member communities by 2025**.**

- By the end of 2025, IMEA will study the feasibility of **installing utility-scale behind-the-meter battery storage on member distribution systems.** If deemed economically feasible**,** implementation would occur no later than 2030.

- **IMEA commits to researching and exploring new and innovative technologies to reduce our current resource carbon footprint.** IMEA and our power resource partners will regularly review our options to cost effectively improve system efficiencies.

- **IMEA will utilize a member governing body stakeholder process on a three-year review cycle and update the sustainability plan.** On an annual basis, IMEA staff will report to the Board on the progress of the Sustainability Plan and provide any recommended revisions to the Board of Directors.



2 Design and facilitate energy conservation programs in support of the concept that the most sustainable watt is the watt not generated

IMEA recognizes that electricity not generated – because it is not needed – yields the greatest environmental benefit and is essential for improving system cost effectiveness, customer retention and business development.

Reducing electricity demand and usage through innovative conservation efforts and customer efficiency improvements offered to IMEA member communities results in conservation of natural resources and emissions reductions. Our energy efficiency program has provided significant reductions in greenhouse gas emissions by harnessing technology to use less energy and reduce reliance on fossil fuel generation.

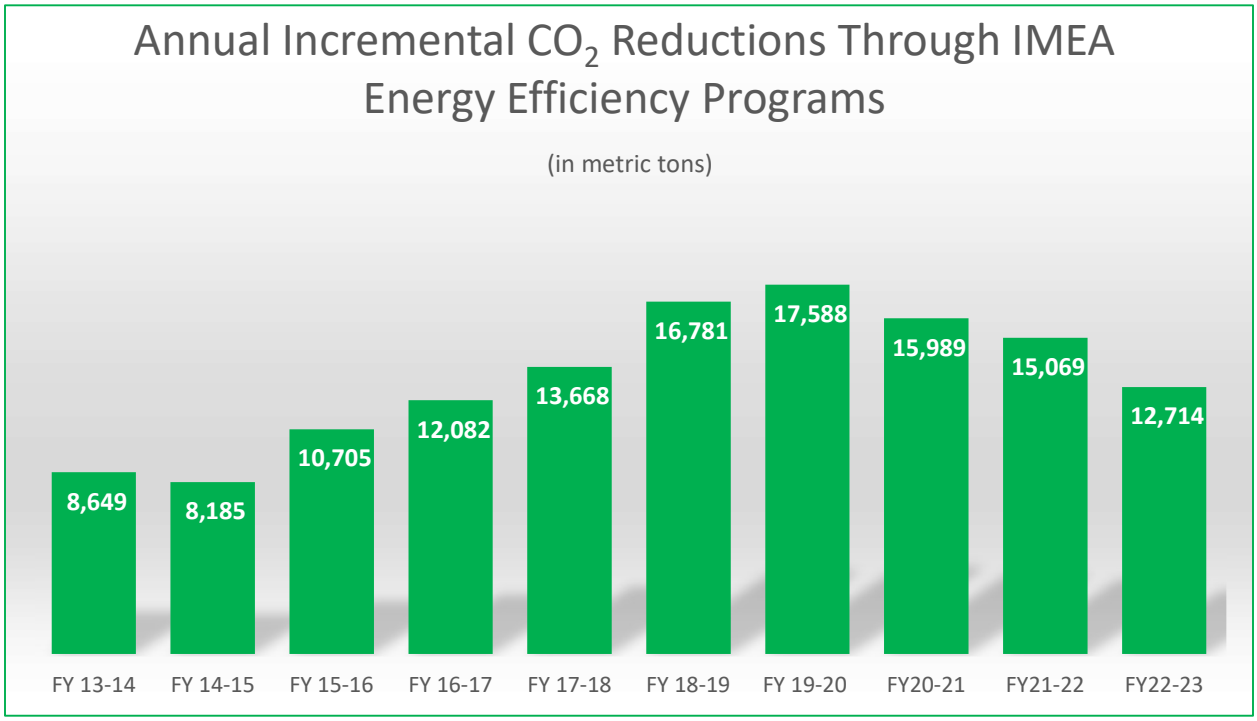
Leadership to Date

- IMEA has had a successful electric energy efficiency program in place since 2010.
- Since the beginning of the program, we have provided more than $11 million in direct customer incentives toward the installation of energy efficient technologies and the reduction of peak loads and energy consumption by IMEA members and their commercial and industrial electric customers.
    - More than 1,100 commercial/industrial electric efficiency projects have been completed.
- In FY2021-2022[1], our program resulted in more than 39 million kWh in deemed savings delivered to businesses.
- The agency estimates that IMEA-incentivized electric efficiency projects reduced carbon emissions by 15,069 metric tons in IMEA's fiscal year 2021-2022[2].
- We have given away more than 100,000 LED lightbulbs to our residents and commercial customers to encourage even more home-based and small business energy savings choices.
- IMEA offers and will continue to offer energy audits, infrared scanning services, technical assistance and usage analysis to our member communities and businesses.

[1] The last year for which there is complete data.
[2] The last year for which there is complete data.

Future Targets & Strategies

- IMEA recently expanded our electric efficiency program to allow municipal members to include new residential options. These options include incentivizing smart thermostats and the installation of higher efficiency central air conditioning and air source heat pumps. Thus far, we have incentivized nearly 1,700 thermostats. **We seek to encourage more members to offer these local options.**
- IMEA's board **will regularly review technology developments to determine whether new energy saving measures can be added** to our energy efficiency programs.
- By the end of 2025, **IMEA commits to explore a Conservation Voltage Reduction (CVR) program** to achieve energy and demand reductions for customers.
- As technology evolves, IMEA will continue to **review the potential of the appropriate additions and increased funding** for our energy efficiency program.



NOTE: As of 7/31/23, 91 out of 141 (65%) FY2022-23 projects were complete. Only completed projects are reflected in this chart.

3 Offer flexible programs to mitigate peak loads, increase reliability and better integrate clean energy potential

IMEA does our part by working to make power grids more efficient, environmentally friendly and reliable. IMEA supports flexible programs that give customers the opportunity to help manage electricity demand.

Demand response (DR) programs improve grid efficiency and reliability. They help create long-term grid stability by giving consumers the opportunity to voluntarily reduce or shift their electricity usage when called upon by the grid operator to relieve stress when the demand for electricity outpaces the grid's ability to supply it. This is typically during heat waves or harsh winter cold snaps. With these DR programs, the grid operator is essentially creating an electricity "resource" to be called on in times of need to ensure reliable supply. In the future, effective DR programs can ensure that additional power supply resources may not be required and current resources may operate less often.

Leadership to Date

- IMEA recently revamped its DR program for IMEA member commercial/industrial customers in the PJM (northern Illinois) regional transmission organization. This program ensures that customers can voluntarily reduce their electric usage during a peak period in a planned fashion in exchange for a financial incentive paid directly to the end-use customer through the municipal utility.

Future Targets & Strategies

- **Expand our current DR program by offering more options to commercial/industrial customers in the MISO (central and southern Illinois) regional transmission organization territory.** This will provide additional opportunities to reduce peak loads and avoid high-cost market purchases.
- Pursue federal grant opportunities to **deploy an Optimized Charging Operations Center** (OCOC) to complement the growing level of energy management sophistication within member utilities and the communities they serve. The OCOC would seek to develop a methodology to provide visibility into times of grid congestion and establish effective real-time consumer communications, **enabling informed customer consumption decisions**. The grant could also offer the opportunity for effective customer enrollment incentives to encourage end-use customer participation in the program.
- Explore **residential demand-side management measures**, potentially using the platform developed by the OCOC.

Enable, accelerate and integrate electric vehicles and accompanying charging infrastructure

The IMEA is working closely with our municipal partners to promote the use of EVs, reducing negative environmental impacts and helping customers save money.

Another arena to realize clean energy potential is with the increasing numbers of electric vehicles (EV). EVs produce fewer emissions that contribute to climate change and smog than do conventional vehicles. With newer options for EV infrastructure and integration, EV ownership will become more convenient and the numbers of EV owners will increase, subsequently yielding a reduction in total U.S. carbon emissions.

The Illinois Municipal Electric Agency has been working closely with our municipalities to expand our Electric Vehicle Charging Station Initiative. Through this program, we provide funds so that our member municipalities can offer incentives to install, own or lease electric vehicle charging infrastructure in a way that best serves their communities. Electric vehicles play an important role in reducing the carbon footprint, and we remain committed to helping our communities realize the benefits while working closely with local, state and national partners as the infrastructure and policies develop.

Leadership to Date

- In 2020, IMEA introduced its EV Charging Station Initiative. In one of our member municipalities alone, more than 100 retail customers have installed EV charging stations with the help of IMEA incentives.

Future Targets & Strategies

- In late 2021, the IMEA Board of Directors voted to significantly increase the scope and funding of the EV Charging Station Initiative. Over the ensuing three years, the Agency will make a total of $750,000 available for municipal members to:
  - ✓ Own or lease EV charging stations for public use,
  - ✓ Own or lease electric vehicles for city use, or
  - ✓ Incentivize retail customers to install EV charging stations.
- IMEA, through our affiliate Illinois Municipal Utilities Association (IMUA), is working to support the Illinois Department of Transportation (IDOT) National Electric Vehicle Infrastructure Formula Program (NEVI). This plan is required for the State to access Federal EV charging station grants. IMEA and IMUA will continue to **work with regulatory agencies to pursue funding opportunities to increase the number of EVs and charging infrastructure in our member communities.**
- IMEA, through our affiliate (IMUA), will **pursue federal grant opportunities to seek to implement a newly developed Optimized Charging Operations Center (OCOC) to establish an effective agency, and member-managed electric vehicle charging program.** This program could provide signals to Level 2 charging customers to **shift patterns of demand in ways that provide grid operations and stability benefits.** The grant may provide the opportunity for enrollment incentives and on-going rewards to participants with verified performance. If this grant opportunity becomes available, IMEA will target an implementation date of the program within 3 to 5 years.

5 Maintain and support a sustainable workplace

IMEA strives to be a leader in the region by making our facilities a model for other green businesses. We want to provide a workplace demonstrating our long-term commitment and vision to a sustainable culture.

Leading by Example

- The IMEA office building was the first commercial building built in the Springfield region to receive the United States Green Building Council's Silver Certification for Leadership in Energy and Environment Design (LEED) in 2008. Our building was constructed in an eco-friendly manner to achieve a top level of design and execution with energy efficiency and sustainability in mind.
- Our facility is heated and cooled with a 100% high efficiency geo-thermal heat pump system with no natural gas.
- IMEA invested in Low-E windows to reduce infrared and ultraviolet light.
- We updated our facility with all LED motion activated lighting.
- IMEA installed a 10 kilowatt solar array at our headquarters to reduce our environmental footprint.
- IMEA installed an electric vehicle charging station at our headquarters for employees, board members and visitors.
- IMEA will continue to convert our small fleet of vehicles to electric vehicles as it becomes cost effective and practical.

IMEA is committed to efforts to combat climate change and create a sustainable energy future by providing stable-priced, reliable and cleaner power that ensures our members and their residents a higher quality of life for future generations.

For further information about IMEA's programs, contact us at 217-789-4632 or visit our website at www.imea.org.

Illinois Municipal Electric Agency

Resource Planning to Meet IMEA's Sustainability Goals

October 2024

Resource Planning to Meet IMEA's Sustainability Goals

SEAT AT THE TABLE

Each member municipality is represented on the IMEA Board making resource decisions in open and public meetings. Decisions are based on resource and energy needs, load forecasts, capacity requirements, and environmental considerations.

POWER IN NUMBERS

Joint planning allows members to benefit from collective strength in numbers for increased buying power, lower costs, and increased efficiencies.

AFFORDABILITY

Ownership of generation and long-term resource contracts shield municipal systems from sudden and dramatic market swings, keeping residents' electric rates affordable and predictable.

Proven Success Powered by Planning for Today, Tomorrow, and Beyond

IMEA employs a full-time staff of highly experienced power industry professionals who analyze market conditions and resource availability with the aim of procuring affordable, reliable, and sustainable power to meet today's needs and to support our municipalities' futures. IMEA plans to meet projected peak demand and energy requirements of its municipalities in a cost-effective, reliable manner.

IMEA Resource Planning

Highlights

Short-Term Immediate Future (2025-2030)

- IMEA's existing and contracted low-cost resources have been adequately planned for. Thus, they are largely already in place for this time frame. This planning foundation allows IMEA to maximize the value of existing generating assets and ensure continued reliable and affordable energy, while also continuing to diversify the portfolio with renewable resources as new sources are needed. In order to pursue utility scale solar, which IMEA is currently negotiating a 20-year 150MW contract, it was necessary for the IMEA to secure a certain threshold of needed load beyond the year 2035, this was done via an extension of members' wholesale power supply contracts with the agency.

Mid-Future (Early 2030s)

- This time frame provides an increased range of options. IMEA has all the resources it needs to reliably serve members needs in the short-term, but several existing generation resource terms expire in this mid-future time frame. Therefore, it is critical to begin preparing as quickly as possible to better establish a full strategy for transitioning to carbon-free resources by continuing to increase renewables, add battery storage, and ensure IMEA is able to meet customer loads reliably, affordably and sustainably. IMEA is in the midst of extending power supply agreements with its member municipalities, currently scheduled to expire in the year 2035. Finalizing these member contract extensions is necessary to ensure the agency's future resource planning matches members' load requirements. IMEA needs to know how much power to supply beyond 2035 in order to fully begin planning for this mid-future time frame. This protects the IMEA membership by ensuring IMEA is not needlessly securing excess resources that may not be necessary beyond the year 2035. Future planning cycles will allow for analyzing multiple options, modifying and adjusting these resource decisions with the IMEA Board of Director's review and approval.

Latter Half of Planning Period (2035 – 2050)

- This latter planning time frame includes more available options with the ability to adjust to changes in state and federal policy and changes in dynamic energy market conditions. There may also be more opportunities to benefit from enhanced clean energy technologies that are developing. Therefore, this latter-half timeframe includes uncertainty around planning factors, particularly including whether all members extend contracts beyond year 2035. It is important to monitor technology improvements and breakthroughs that may substantially influence the energy transition so that IMEA members can benefit from new proven technologies. Long-range planning allows for multiple planning cycle opportunities to check and adjust the plan based upon the best overall available resources, cost of resource options, and market conditions with the IMEA Board of Director's review and approval.

IMEA Resource Planning

Key Assumptions

- All members extend contracts to 2055
- Big River contract (25MW solar) extends to 2050
  - Contingent on 667MW of member contract extensions
- Historic load growth assumed
- Prairie State and Trimble County potentially subject to US EPA compliance dates (2032/2039)
- Prairie State and Trimble County MWH based on historical
- Prairie State CEJA reductions are implemented and retires in 2045
- Trimble County 1 retires in 2045, Trimble County 2 retires in 2050
- Member generation MWH normally called upon only during extreme grid operations or volatile market prices
- Future resources will be purchased or acquired to meet member load obligations over time
- Energy Efficiency and Demand Response program impact included in member load projections (anticipated continued reduction of electricity demand and usage through energy efficiency and demand response programs)

IMEA Resource Planning

Nameplate vs. Accredited Capacity

- PJM and MISO, as the Regional Transmission Organizations (RTOs), impose capacity obligations on utilities. The amount of capacity obligation a utility must meet is based on a utility's peak load, plus reserves determined by the RTO. This capacity obligation is satisfied with qualified generating resources.
- RTO's do not base the value of a resource on its nameplate capacity. Instead, they value it based on their calculated Accredited Capacity (for example PJM calls it Effective Load Carrying Capability (ELCC) and MISO calls it Direct Loss of Load (DLOL)). RTOs determine accreditation values based upon the resource performance and availability during the most critical hours of system need.
- This chart shows the difference between the nameplate value of IMEA's resources versus the projected accredited capacity value. The next slide shows the projected accredited value of all resources in PJM. These accredited resource values are relevant for planning purposes to ensure IMEA's portfolio meets all requirements. These charts demonstrate how the discounted value of intermittent resources becomes critical over time.
- As utilities transition their portfolios into the future and increase intermittent resources, they will need to purchase a greater number of nameplate MWs than peak load to meet capacity obligations.

Nameplate vs Projected Accredited Capacity

Projected PY25/26*	Nameplate Capacity (MW)	Summer Accredited Capacity (MW)
Prairie State	246	224
Trimble County	153	145
Member Generation**	296	290
Wind	120	30
Solar	33	16
Hydro**	10	10
Bilateral Purchases	100	100
Total	957	815

Totals may not sum due to rounding
Accreditation in PJM and MISO are different,
PJM's is ELCC, MISO's is DLOL
*Final accreditation values are subject to the determination of each RTO prior to the delivery year.
**Behind The Meter resources get a higher accreditation based on the current RTO rules that allow for adjustments (losses and reserves).

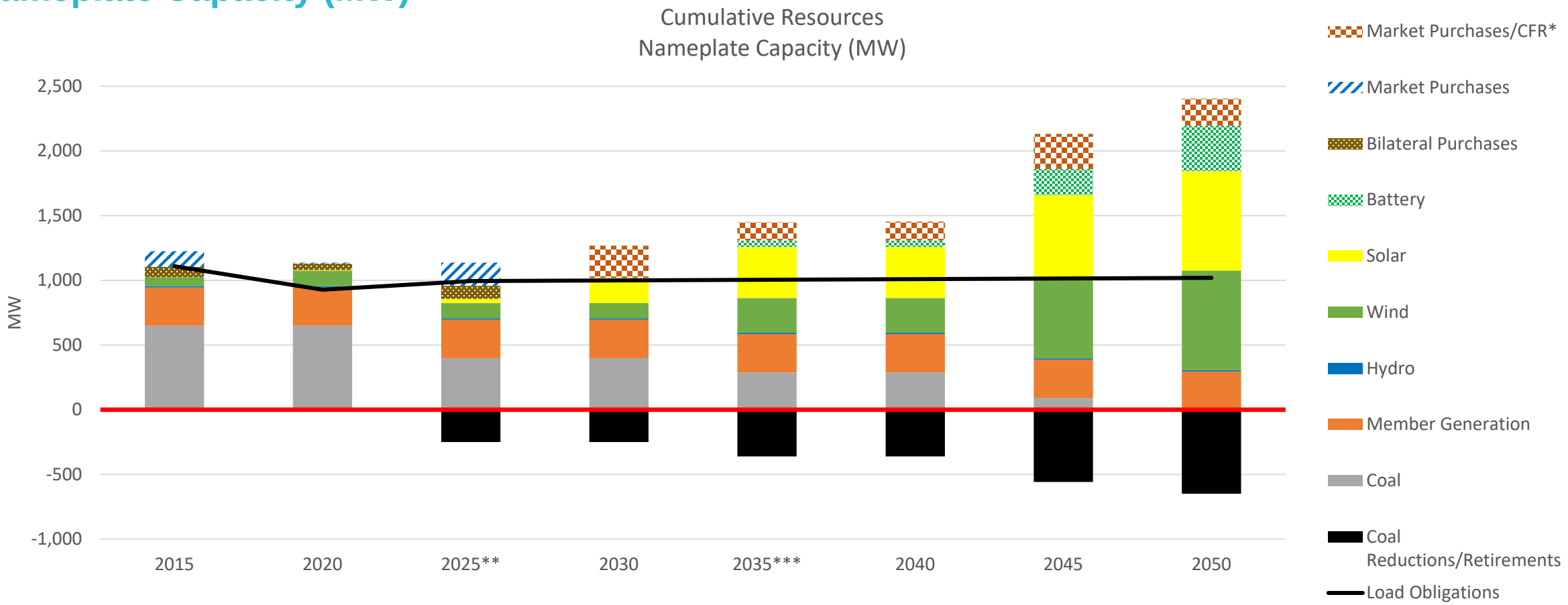
IMEA Resource Planning

Preliminary ELCC Class Ratings – DY 26/27 through DY 34/35

ELCC Class	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Onshore Wind	35%	33%	28%	25%	23%	21%	19%	17%	15%
Offshore Wind	61%	56%	47%	44%	38%	37%	33%	27%	20%
Fixed-Tilt Solar	7%	6%	5%	5%	4%	4%	4%	4%	3%
Tracking Solar	11%	8%	7%	7%	6%	5%	5%	5%	4%
Landfill Intermittent	54%	55%	55%	56%	56%	56%	56%	56%	54%
Hydro Intermittent	38%	40%	37%	37%	37%	37%	39%	38%	38%
4-hr Storage	56%	52%	55%	51%	49%	42%	42%	40%	38%
6-hr Storage	64%	61%	65%	61%	61%	54%	54%	53%	52%
8-hr Storage	67%	64%	67%	64%	65%	60%	60%	60%	60%
10-hr Storage	76%	73%	75%	72%	73%	68%	69%	70%	70%
Demand Resource	70%	66%	65%	63%	60%	56%	55%	53%	51%
Nuclear	95%	95%	95%	96%	95%	96%	96%	94%	93%
Coal	84%	84%	84%	85%	85%	86%	86%	83%	79%
Gas Combined Cycle	79%	80%	81%	83%	83%	85%	85%	84%	82%
Gas Combustion Turbine	61%	63%	66%	68%	70%	71%	74%	76%	78%
Gas Combustion Turbine Dual Fuel	79%	79%	80%	80%	81%	82%	83%	83%	83%
Diesel Utility	92%	92%	92%	92%	92%	93%	93%	93%	92%
Steam	74%	73%	74%	75%	74%	75%	76%	74%	73%

IMEA Resource Planning

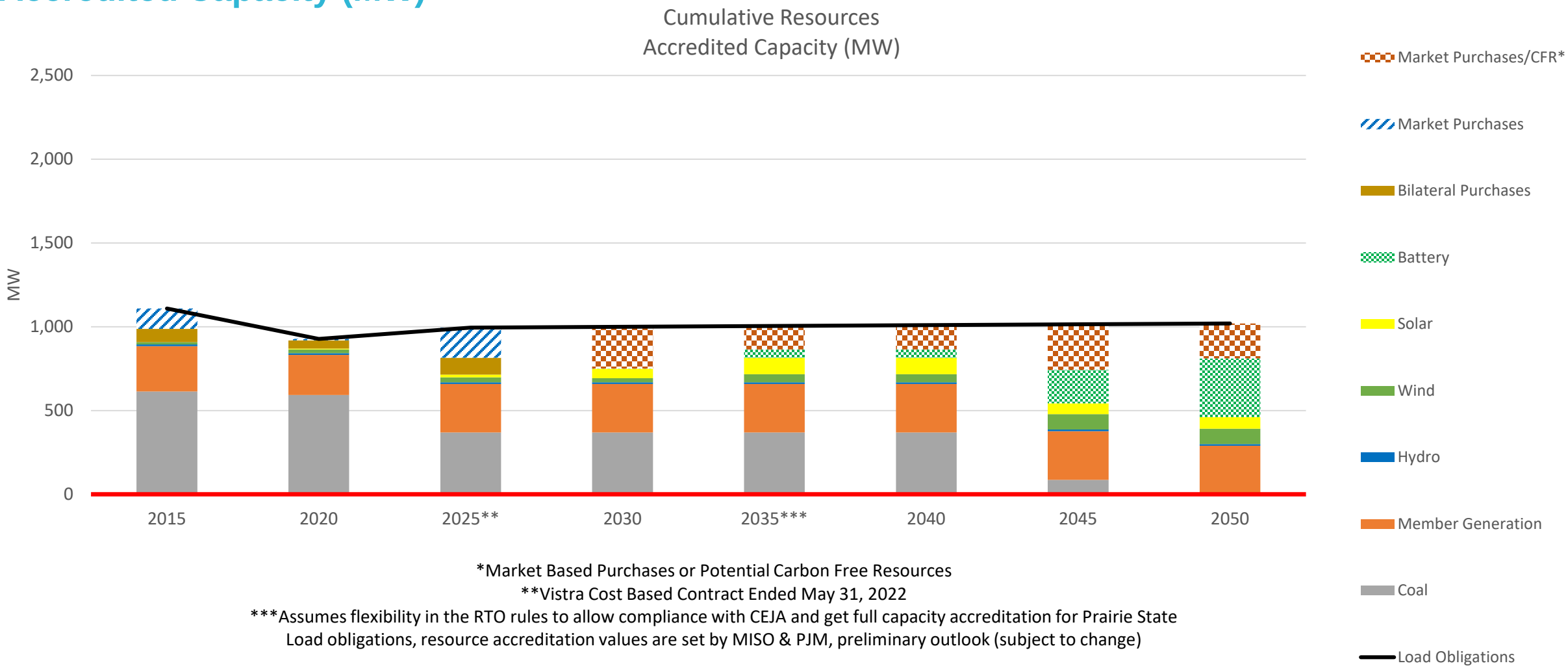
Nameplate Capacity (MW)



*Market Purchases or Potential Carbon Free Resources
**Vistra Cost-Based Coal Contract Ended May 31, 2022
***2035 Coal Nameplate Reduction is Equivalent Representation Per CEJA
Resource Plan will be impacted based on future load obligation, resource availability and cost, technology, and other factors.

IMEA Resource Planning

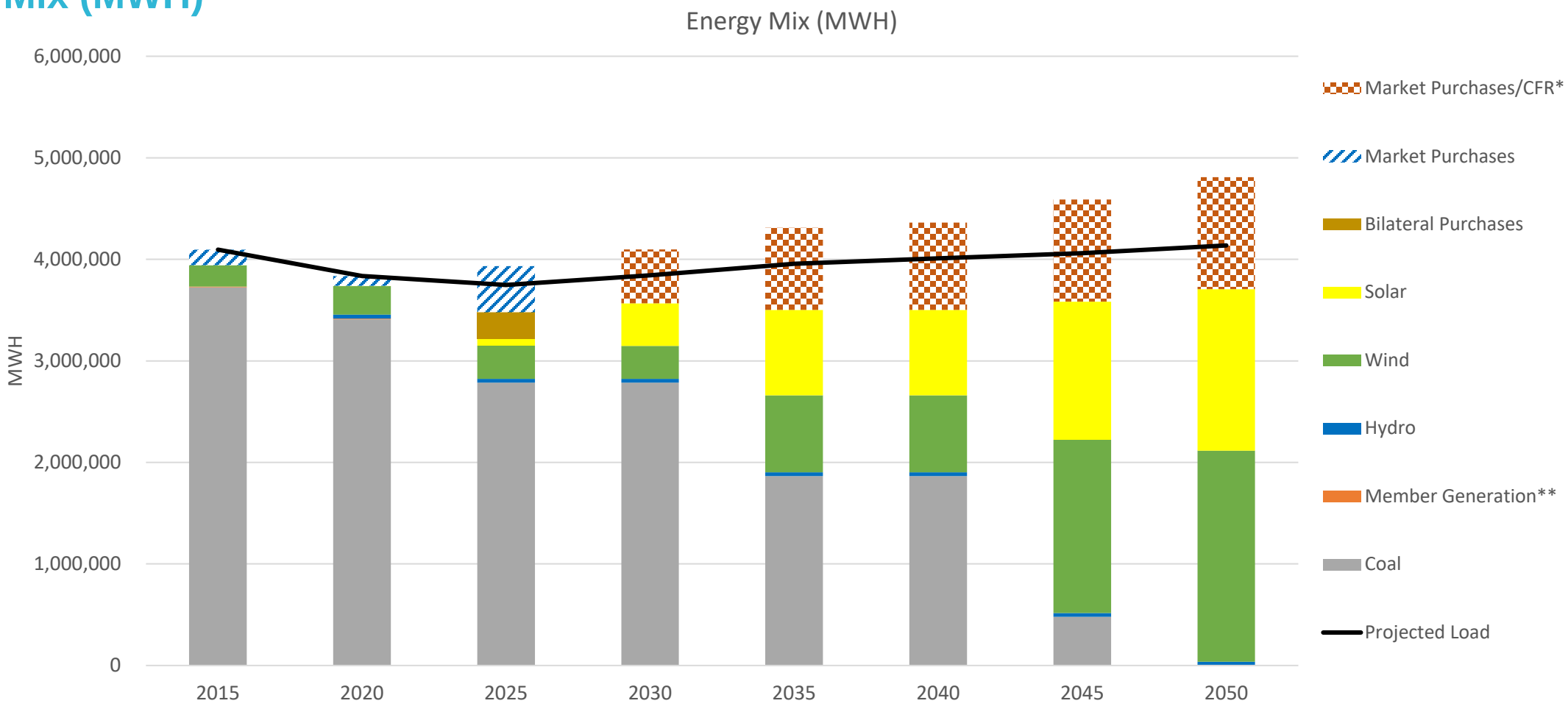
Accredited Capacity (MW)



*Market Based Purchases or Potential Carbon Free Resources
**Vistra Cost Based Contract Ended May 31, 2022
***Assumes flexibility in the RTO rules to allow compliance with CEJA and get full capacity accreditation for Prairie State
Load obligations, resource accreditation values are set by MISO & PJM, preliminary outlook (subject to change)

IMEA Resource Planning

Energy Mix (MWH)



*Market Based Purchases or Potential Carbon Free Resources
**Member Generation is normally less than 1%
Note: Battery charging/discharging actions reducing market exposure