

**Illinois EE Stakeholder Advisory Group
Large Group SAG Meeting**

Tuesday, April 16, 2024
9:00 am – 12:00 pm
Teleconference

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Meeting Materials

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- [DarkSky Chicago EE Idea Presentation: The Effective Use of Outdoor Lighting for EE](#)
- [Mendota Group EE Idea Presentation: Market Access Program Design](#)
- [RMI and the Advanced Building Construction Collaborative EE Idea Presentation: Scalable Building Retrofits](#)
- [Joint Stakeholder EE Idea Presentation: Braiding and Leveraging Inflation Reduction Act \(IRA\) Rebates with Existing Programs](#)
- [Joint Stakeholder EE Idea Presentation: Residential Market Rate Weatherization](#)
- [Elevate EE Idea Presentation: Home EE Electrification](#)

Attendees

Name	Company or Organization
Celia Johnson	SAG Facilitator (Celia Johnson Consulting)
Jorge Medina Zambrano	SAG Meeting Support (Inova Energy Group)
AJ Young	U.S. Greenlink
Abigail Miner	IL Attorney General's Office
Amy Jewel	Elevate
Andrew Cottrell	ScottMadden
Andrew Gorecki	Franklin Energy
Andrey Gribovich	DNV
Andy Vaughn	Leidos
Andy Wahrer	Primera Engineering
Arvind Singh	DNV
Becca McNish	DNV

Name	Company or Organization
Brian Kirchman	ComEd
Cassidy Kraimer	Community Investment Corp.
Cheryl Watson	Equitable Resilience & Sustainability LLC
Chris Neme	Energy Futures Group, representing NRDC
Chris Vaughn	Nicor Gas
Darren McRoy	Walker-Miller Energy Services
David Brightwell	ICC Staff
David Sagara	Mendota Group
Denise Munoz	ComEd
Elizabeth Applegate	AEG
Elizabeth Horne	ICC Staff
Eljona Fiorita	CLEAResult
Erin Daughton	ComEd
Eva Rosenbloom	RMI
Fernando Morales	Ameren
Grey Staples	Mendota Group
Hilary Snover	CLEAResult
Jackie Montesdeoca	Elevate
Jarred Nordhus	Peoples Gas & North Shore Gas
Jean Gibson	Peoples Gas & North Shore Gas
Jeff Carroll	DNV
Jeff Ihnen	Michael's Energy
Jennifer Pearson	CEDA
Jim Fay	ComEd
John Carroll	Ameren Illinois
John DeRosa	Illinois EPA
Jonathan Skarzynski	Nicor Gas
Josh Sharon	ComEd
Julie Hollensbe	ComEd
Karen Lussion	National Consumer Law Center
Kari McCue	Nicor Gas
Kari Ross	NRDC
Kathryn Brewer	CLEAResult
Keely Hughes	JPI Group
Keith Cronin	VEIC (IL-TRM Administrator)
Ken Parker	Community Investment Corp.
Ken Walczak	DarkSky International
Kim Swan	ComEd
Kristen Kalaman	Resource Innovations
LaJuana Garrett	Nicor Gas
LaShelle Newland	Resource Innovations
Lance Escue	Ameren Illinois

Name	Company or Organization
Linda Zabors	Energy Infrastructure Partners
Lucas Toffoli	RMI
Lynda Powers	Resource Innovations
Maria Onesto Moran	Green Home Experts
Mary Johnson	Resource Innovations
Matt Armstrong	Ameren Illinois
Maura Mooney	RMI
MeLena Hessel	Elevate
Melissa Helphingstine	Primera Engineering
Michael Brandt	Elevate
Mike Chimack	Energy Sciences
Mike King	Nicor Gas
Mitch Peret	Honeywell
Molly Graham	MEEA
Nate Baer	Staples Energy
Nick Moshage	Walker-Miller Energy Services
Nick Warnecke	Ameren Illinois
Nicole Popejoy	IL Association of Community Action Agencies
Nikki Pacific	Ameren Illinois
Omayra Garcia	Peoples Gas & North Shore Gas
Pat Justis	Ameren Illinois
Pauravi Shah	ComEd
Philip Halliburton	ComEd
Philip Mosenthal	Optimal Energy, representing IL AG and NCLC
Rick Tonielli	ComEd
Randy Opdyke	Nicor Gas
Rashaan Keeton	Center for Energy & Environment
Ronna Abshure	ICC
Salina Colon	CEDA
Sam Dent	VEIC (IL-TRM Administrator)
Sara Castleberry	Resource Innovations
Seth Craigo-Snell	SCS Analytics
Shannon Hackett	Primera Engineering
Shivana Shrestha	Walker-Miller Energy Services
Steven LaBarge	ComEd
Thomas Ketchum	South Suburban Action Conference
Tamika J. Cole	Walker-Miller Energy Services
tara cunningham	Rinnai
Ted Weaver	First Tracks Consulting, representing Nicor Gas
Thomas Drea	Ameren Illinois
Tina Grebner	Ameren Illinois
Victoria Nielsen	ScottMadden

Name	Company or Organization
Wade Morehead	Morehead Energy
Zachary Froio	AEG

Meeting Notes

Follow-up items indicated **in red**.

Opening and Introductions

Purpose of April 16th SAG Meeting:

- For stakeholders to present Energy Efficiency Ideas for Illinois utilities to consider in developing their 2026-2029 EE Plans.
- The April 16 meeting is focused on residential and business ideas. Download the Energy Efficiency Ideas Tracker for a summary of all EE Idea submittals.

[SAG Facilitator Introduction: April EE Idea Meetings](#)

Dark Sky EE Idea

Efficient and Effective Use of Outdoor Lighting (EE Idea tracker rows 40-42)

Ken Walczk, DarkSky Chicago

- Focused on the preservation of the night when it comes to the environment.
- Whereas the adoption of Solid-State Lighting (SSL) technology and controls has provided energy reduction, in practice, the habits of our uses and applications of light at night is reducing – or even in some cases eliminating – those gains.
- 5 principles of Responsible Outdoor Lighting
- From 2011 to 2022 light emissions increased by 10% per year, which infers a substantial growth in light emissions correlated to an increase in energy use.
- Tsao and Waide study referenced showcasing energy use per GDP showing a consistent trend of 0.72% of GDP in energy use per country.
- As light gets more efficient, we are using more energy instead of less derived from the energy efficiency upgrades being implemented.
- Showcased study done in Indianapolis demonstrates how light use varies depending on land use (commercial, residential, etc.). Commercial properties only covered 7% of the land but contributed to 20.5% of all light emissions.
- The largest single emitter is Residential land although it composes more than 50% of zoned land.
- Incentives and Rebates for SSL retrofits and Controls have been helpful, but they miss the root of the largest potential EE gains.
- 5 principles of responsible outdoor lighting
 - Useful
 - Habits are typically followed when implementing lighting, without regard with objective usefulness. Usefulness of each lighting application needs to be evaluated objectively and consider any habitual errors.
 - Targeted
 - Glare, or light trespass, is fundamentally a targeting error.
 - Light spill translates into wasted energy from street lighting.
 - Low light levels

- The TRM uses a wattage-based lighting standard when it should be a lumens-based lighting standard.
- Excessive light is not only wasteful, but it could be dangerous when regarding pedestrian and driver safety.
- Controlled
 - Parking lots guilty of not using controlled directors for lighting and not using curfew guidelines in order to prevent any wasted energy light - timing related.
- Color
 - Guidance available for potential energy efficiency gains if applied in a way that was understood for more than environmental benefits.

Karen Lusson – Can you summarize how this would be developed into a program? Would this apply to commercial, residential, and other?

Ken Walczk – The gap is that there are standards that are not understood correctly, and this brings many opportunities for outreach in order to educate about better and more effective lighting. The education and awareness program is the main focus of the idea for the time being.

Mendota Group EE Idea

Market Access Program Design (EE Idea tracker row 62)

David Sagara, Mendota Group

- MN-based management consulting firm formed in 2006, specializing in utility, government, and tribal distributed energy resource programs.
- Mostly distributed energy resources historically mainly working with utilities.
- Working to evolve into a program implementer role going into GRID (Grid Responsive Incentive Design)
- The Mendota Group proposes, as a pilot or full offering, in Ameren, ComEd, Nicor Gas, and/or Peoples Gas and Northshore Gas service territories, a program targeted primarily at commercial customers that is based on a "market access" program design.
- Although the utilities have very robust existing EE portfolios, such an approach can complement existing offerings and expand energy savings opportunities.
- Open to all
 - Trade allies
 - Customers
 - Contractors mainly who participate in the program.
 - Typically, these programs are not open to all in order to maximize efficiency.
- Non-prescriptive
 - Programs typically have deemed measures.
 - Non-prescriptive measures allows contractors to implement mixes of measures that work better
- Meter-based
 - Instead of having deemed values or baselines based on code, that measuring is done at the meter
 - This is done because you can capture more savings and customers can get larger incentives.
- Grid Value-Based Compensation

- Pay for performance-based approach aligned with the value that the savings produce.
- The program is designed in that the payment is based upon the value of the energy and the amount that is paid can be adjusted in alignment with the value.
- Rationale → problems that the program design seeks to address:
 - Insufficient rebates/incentives to motivate participation in traditional EE programs.
 - ComEd EE Portfolio Overview: “Reminder: Big Picture EE Challenges ... we are looking out at a horizon of annual and cumulative goals that are increasingly difficult to achieve”
 - Lack of participation by trade allies and customers in utility EE programs
 - The more attractive the program the more people that participate.
 - More contractors expand the trade ally network and is more valuable for the implementation perspective as well as economic growth overall.
 - Limited measures in deemed programs.
 - The MAP allows any combination of measures to be done in a project so long as they are scoped in the meter after contractor-customer discussion.
 - Custom program complexities
 - Projects are needed to be justified for too long. This new program reduces the complexity of analysis.
 - Simpler to understand for the customer and for the participating aggregator contractors.
- ” Stranded” savings associated with measures beyond useful lives but waiting for burnout due to little incentives to change them preemptively.
- Limited connection between payments (compensation) and performance (savings)

Sara Castleberry (via chat) - Is this limited to Option C analysis?

David Sagara – Yes, although not strictly true. Really related to whole meter analysis. Methodology doesn’t specify sub-metering so it could be an option to measure more effectively. 5% is the minimum savings goal for any given project. Contractors should have a volume of projects which aggregate savings.

David Sagara – This analysis is really difficult to measure and the true goal is the direct savings at the meter. All efforts combine for overall savings.

Chris Neme – How do you address the challenge of estimating energy savings accurately for customers who regularly replace equipment, such as lighting, as part of their normal replacement cycle, especially when billing data might reflect usage with outdated equipment?

David Sagara – Average savings are calculated starting at the first year and then multiplied by useful life over the expected life of the measures implemented.

Chris Neme – There is difficulty calculating effective measures due to variation in equipment expected life and how old equipment is being replaced, skewing analysis due to large changes initially vs. long-term savings.

Ted Weaver – Traditional programs should all address these issues. If the

incentives are too low and peak values are not being calculated correctly, then this should be addressed. Could you explain what measures are being installed and are these measures fundamentally different? Or different delivery?

David Sagara – Normal programs (i.e. lighting, etc) are being implemented but also new ones.

Ted Weaver – Who is taking the performance risk?

David Sagara – Aggregators are the main operators of the program and it's up to the contractors to decide how they structure the proposal to the program. The customer may sometimes be at risk depending on the contractor's offer. Aggregators sometimes provide financing for the projects as well.

- Issues:
 - Insufficient rebates and incentives
 - Lack of participation
 - Limited measures
 - Custom program complexities
 - Stranded savings
 - Limited compensation connection
- Market Access Program Solution
 - Combination of using avoided costs as basis for incentives and paying for measured savings increases incentive levels.
 - Easier participation (rules, systems, and service) & higher incentive drive uptake
 - No limitations – allows for innovative concepts
 - Pop-based NMEC reduces customer complexity
 - Paying based on as-is baseline allows for replacement of stranded assets
 - Incentives directly tied to grid value
- Population-based NMEC is not the easiest concept to explain to the market and does present some implementation challenges.
- Modeled vs. Measured: Utilities have spent decades teaching market participants that “savings” are not what the meter says, but that they are based on deemed or calculated values. Now we are saying, no, savings are based on amounts measured at the meter.
- Measured vs. Metered: But it's not the metered value because the metered savings serve as the primary estimate and then adjustments are applied to determine the true measured savings.
- Monitoring Period: Persuading aggregators to participate when they receive incentives over 12 months (rather than at project completion) can be difficult.
- Pay for Performance: Explaining to contractors that their incentives will be based on the site/customer's performance can also be challenging.
- One or more IL utilities design and implement a market access program targeted at commercial customers for the 2026-2029 program cycle
- Payments to aggregators are based on metered savings using population-based NMEC normalized performance
- Design can incorporate equity considerations, to include a minimum percentage of savings within disadvantaged communities and active involvement of small, diverse contractors and customers who otherwise do not actively participate in utility programs.

- Although the Mendota Group is not proposing a residential program, a utility market access model program can complement the Inflation Reduction Act Home Efficiency Rebates Program's "measured" savings approach.

Chris Neme (via chat) - You noted that incentives are higher. Can you say something about how much this costs per first year kWh? One of the issues is that this needs to be delivered within the context of the utilities' goals and their spending caps.

David Sagara – It is part of the program design. Secondary programs are being designed to avoid the cost curve. How much of that value do you pay? Typically, the utility decides that.

Chris Neme – If utilities offered this with a payment that is equal to average C&I Kwh would all of the suggested participation savings happen? Or would the calculated savings decrease?

David Sagara – The program's payment structure would offer attractive rates, which would incentivize participation despite potential adjustments. While the full impact of design elements on attractiveness is not fully determined, anecdotal evidence suggests positive responses from customers, even those initially hesitant to participate in energy efficiency programs.

RMI and the Advanced Building Construction Collaborative EE Idea

Industrialized Decarbonization Retrofits (EE Idea tracker row 61)

Lucas Toffoli, RMI

- Catastrophic climate change in the horizon and buildings sector is responsible for almost 40% of global GHG emissions.
- Most US buildings are inefficient and direct emitters millions will need retrofits.
- Not focused on new construction even though there is a risk there too.
- Unfavorable construction industry trends are a rag on markets ability to adapt.
- Around 90% of US homes need a retrofit to become zero-carbon aligned.
 - A large portion includes envelope retrofits.
- Innovation is essential to retrofit needs given that current capacity trends for industry (workforce, technology, etc.) are on a downward trajectory. Additional capacity is needed to meet needs.
- ABC (Advanced building construction)
 - Increased thermal
 - Air quality
 - Resilience
 - Reduced maintenance
 - Electricity system benefits
 - Reduced emissions
- IC industrialized construction methods
 - Higher productivity and faster delivery
 - Reduced disruptions
 - Reduced waste
 - Enhanced precision
- ABC Collaborative core activities foster, inform, and accelerate an ABC ecosystem.

- RMI's REALIZE initiative has been at the forefront of advanced retrofits in the U.S.
 - Various programs implemented since 2016 to work on these concepts.
- 87% of existing homes in Illinois may need an envelope retrofit.
- 23% of IL residential building stock needs an envelope and equipment upgrade.
- Benefits of Industrialized Retrofits
 - Eliminate occupant displacement
 - Overall project speed
 - Health outcomes
 - Improved comfort and passive survivability
 - Reduced grid impact
 - Follow-on effects of reduced loads
 - Quality and durability
 - Cost compression opportunity
- Sundance Co-op example
 - Panels prefabricated off-site and shipped to location.
 - Able for small scale structures to work.
 - Small capital requirements for builders and aggregators to implement.
- Low-rise multifamily: Corona del Rey example
 - California is increasingly concerned with envelope tightness and resiliency.
 - Fairly minimally intrusive with panels hung on rails and occupant disruption was minimized.
- Fedderlite and Revitalite panel systems were used (graph with detail shown)

Eva Rosenbloom – Sundance Case study can be found here - <https://advancedbuildingconstruction.org/resources-for-innovators/case-studies/>

Chris Neme – Can this strategy be cost-effective? What is the average cost or savings per apartment?

Lucas Toffoli – Compared to regular retrofit that achieves the same level of performance this approach is at least cost-competitive.

Eva Rosenblum - Fairweather Case Study - with costing - here- <https://rmi.org/our-work/buildings/realize/realize-ma/1000-apartment-challenge-realize-massachusetts/> Tenant disruption minimization is the main takeaway regarding how useful these pre-fab retrofit efforts are and where most of the savings are generated.

Lucas Toffoli – Overall savings and cost-effectiveness are at least comparable to current methods and as the market develops these will increase.

- Mid-rise multifamily: new HVAC
 - VRF distributed through new module spacing and improving timeframes and reducing disruption to tenants.
 - Utilizing new cavity space for distribution
- Implementation
 - ABC Collaborative is not an implementation partner but can provide:
 - Advice and consultation
 - Facilitation
 - Industry network and teaming

Ted Weaver – How do the windows line up with inside windows?

Lucas Toffoli – Typically building scans are done so digitized measurements are created in order to align windows correctly.

Ted Weaver – All of this can be done in a day?

Lucas Toffoli – Yes, it can be done in a day. On-site work typically ranges between 1-2 days.

Chris Neme (via chat) – The Fairweather case study says about \$53k per apartment for the building envelop measures - which were huge improvements (roof from R-15 to R-16, walls from R-4 to R-30, windows for U-0.36 to U-0.12 and what looks like very substantial reductions in air leakage).

Eva Rosenblum – That is envelope only - \$138k includes the envelope + all associated mechanical systems.

Chris Neme (via chat): I'm surprised that the HVAC systems cost \$85k per apartment (\$138k total minus \$53k for envelope). Why is that? Seems crazy expensive for HVAC.

Eva Rosenblum - It's because of the new centralized system. I would be happy to talk offline about more details - erosenbloom@rmi.org

Cheryl Watson – Can this be for single family or multifamily?

Eva Rosenblum – Mainly MF or attached SF.

Ted Weaver – Is multifamily the sweet spot?

Lucas Toffoli – I have not seen this applied to NYC high-rise level but typically 6 story buildings being implemented currently. Midrise 3-4 stories is the sweet spot.

Ted Weaver – Can these all be customized to any building? Is there a specific footprint needed?

Lucas Toffoli – Yes, multiple buildings will generate economies of scale, but it can be customized to any building.

Cheryl Watson – For my bungalow replacing 80-year wood frame windows took 3 days installing 9 windows, and trim work. Are you excluding any wood framing and aluminum outdoor trim. Would you be replicating the original character of the house with this approach?

Lucas Toffoli – Not a good fit for truly historic craftsmanship on homes. General character can be customized slightly but it would be new cladding.

Programmatic decarbonization of MA

- Building market capacity with technical solutions and innovation
- Create a favorable landscape for retrofits through policies and funding opportunities.

- Streamline the process to address administrative burdens.
- Use stakeholder engagement to implement whole retrofits in buildings.
 - Leverage coordinated, integrated partnerships across agencies and municipalities.
- Prioritize and publicize strong customer value propositions for climate solutions.
- Integrate climate solutions into existing programs, missions, and services.
- Prioritize LMI households, EJ communities, and equity.
- Support complementary actions outside the state.

Joint Stakeholder EE Ideas

Strong commitments to leveraging Inflation Reduction Act funding, especially HOMES/HEERA rebates, to maximize reach of utility programs and the number of customers served (EE Idea tracker row 6)

Karen Lusson, National Consumer Law Center

Braiding and leveraging IRA rebates with existing programs

- Leverage stacking of offerings
- Encouraging IL EPA to implement a "one-stop-shop" approach to implementation of various rebate and tax credit programs, helping customers to leverage the stacking of these offerings with other state, federal, and utility funding streams for whole home retrofits, including at a minimum, pre-weatherization repairs, weatherization, as well as electrification.
- Key would be to seamlessly wrap existing programs into current programs both single family and multifamily.
- Important to define struggling households and communities in order to best-serve them and direct programs to their benefit.
- The Homes Energy Performance based Whole House rebates provide rebates for:
 - Energy efficiency retrofits from 2000 to 4000 for individual households and up to \$400,000 for multifamily buildings.
 - Up to 2000 for retrofits, reducing energy use by 20% or more, and up to \$4,000 for retrofits saving 35% or more (\$4000-\$8000 for low-income households below 80% AMI).
 - States can increase maximum rebates for low-income households up to 100% of project costs under the home statute and DOE guidance. States can ask the Department of Energy for permission for the homes rebate to cover up to 100% of project costs for low- or moderate-income households.
- High Efficiency Electric Home Rebate Act (HEEHRA) or Home Electrification and Appliance Rebates (HEAR), includes provides direct rebates for low- and moderate-income households.
- For low-income households, HEEHRA/HEAR covers new, efficient electric appliances, providing rebates of up to \$14,000, covering:
 - Energy Star electric heat pump installation for space heating and cooling, up to a cap of \$8,000;
 - Energy Star electric heat pump water heater, up to \$1,750;
 - Energy Star electric stove, cooktop, range or oven or Energy Star electric heat pump clothes dryer, up to \$840, and
 - Up to \$4,000 for an upgraded breaker box, \$2,500 for upgraded electrical wiring, and \$1,600 for insulation, ventilation, and sealing.

- For moderate-income households, the same rebates are available to cover 50% of the costs.
- DOE estimates the program will allow roughly one million low- and moderate-income households to go electric nationally.
- While those amounts won't cover full cost of electrification, these amounts will stretch the utility dollars destined for electrification.
- Existing commitment that low-income households never be asked to finance these programs should be adhered to and emphasized.
- Best practice leveraging:
 - Maximize investment in low-income homes so that families are not asked to finance measures
 - Sequencing matters: Ensure electrification measures are right-sized by investing in weatherization measures first.
 - Ensure communication and data sharing among parties and partners.
- When rebates become available during the 2026-2029 EE Plan period, utilities will play an active role in marketing the rebate programs and the state's one-stop shop to its customers to both ease and increase participation in the utilities' EE programs through Company and/or trade ally outreach and marketing channels, such as e-mail, social media, or in- person events.
- Utilities should encourage IL EPA to prioritize treatment of low-income households and ensuring zero cost retrofits by allocating more than the federally required 50% set-asides for low-income customers, as well as considering an additional set-aside for low-income multifamily buildings.

Best practice implementation strategies:

- Encourage the state to make rebates accessible by using categorical eligibility and self-attestation for income verification, if such eligibility verification is required.
 - To facilitate the state use of categorical eligibility, DOE has prepared a detailed list of programs that are approved for categorical eligibility for the states' rebate programs
- Support the state in developing a plan for contractor outreach and training as part of its state plan. Utilities should also provide education and outreach to currently approved company contractors to ensure they are aware of all opportunities available to customers.
- Coordinate with various state agencies, non-profits, and housing providers who were/will be awarded funds through the following funding sources:
 - HOMES and HEEHRA Rebates
 - Green Housing Gas Reduction Fund
 - Climate Pollution Reduction Grant
 - Green and Resilient Retrofit Programs
 - Energy Efficiency Home Improvement Tax Credit (25C)
 - New Energy Efficiency Home Tax Credit for New Construction

Ted Weaver – The IRA includes Low-Income but its broader than that. Are the stakeholders saying that the utilities should not use the market rate provisions?

Chris Neme – The focus of this proposal is on leveraging two programs and even adding other IRA offerings to complement actions even more.

Karen Lusson – HOMES program defines LMI as up to 80% AMI. HEEHRA is

less than 150% AMI.

Chris Neme – When utilities begin to leverage these funds, there need to be a conversation about attribution.

Ted Weaver – Is the recommendation for 100% incentives for low-income or moderate-income as well?

Chris Neme – To the extent there are rebates for the moderate income group, there should be a maximization of rebates, but definitely more focused on 80% AMI and low-income group to make it 100% incentive in that area.

Karen Lusson – Directing rebate funds to areas where the market falls short, particularly low-income households, defined as those at or below 80% AMI, according to Illinois energy efficiency program eligibility criteria is a priority. This aligns with the guidance from the Department of Energy to prioritize rebates in underserved markets.

Ted Weaver – There will be a challenge operating these programs without running afoul of attribution rules or facing uncertainty due to delayed guidance. There will be a need for flexibility and creativity in adapting to the evolving situation.

Karen Lusson – Important for the utilities to maintain communication with the IL EPA during the development of the rebate program plan. This will support the rollout of these programs in a manner that benefits both the state and the customers.

Celia Johnson – When IL EPA presented to SAG in March, they mentioned bidding out for an administrator for the project, which needs to be determined before further discussions about attribution. Will keep everyone updated on these developments.

Cheryl Watson – How will consumers know what programs are in their area when launched? What type of community engagement will be done about which program is better for whom?

Karen Lusson - The IL EPA will play a significant role in informing consumers about the rebate programs. Specific requirements outlined in the guidance, such as marketing, stakeholder engagement, and community planning, which utilities will likely be involved in to ensure a successful rollout.

Celia Johnson – IL EPA will be offering public sessions at some point about the programs. Will follow-up with IL EPA to share more information with SAG when it's available.

Matt Armstrong – Is the term "One Stop Shop" being used in the proposal in the same way it is outlined in the Policy Manual? Or is there a different understanding?

Karen Lusson – It is a concept that is not tied to the multifamily program but more about accessibility and making increasing reach on availability of EE measures from all programs in one platform or site to make it easier for customers to implement.

For gas or dual fuel utilities, start (if not already in place) or significantly ramp up residential market rate weatherization program savings (EE Idea tracker row 11)

Kari Ross, NRDC and Chris Neme, Energy Futures Group, representing NRDC

- Residential market rate programs should be ramped up quickly.
- There is a large opportunity across the building stock which in the stakeholders' view has been largely underserved.
- Growth in low income has been noted, but non-low-income buildings have been historically underserved.
- Acknowledges weatherization may entail higher costs per unit of first-year savings compared to equipment rebates but underscores its significance for meeting gas utility savings goals.

Karen Lusson – The proposal is not meant to take dollars from weatherization, correct?

Chris Neme – Correct. Efforts can be ramped up without any need to modify spending levels. Might require shifting of resources including market rate incentives, but it is overall achievable depending on spending cap. This is not about shifting or reducing low-income weatherization.

Cheryl Watson – How does this relate to customers with past bills and upcoming savings? It has been seen and done successfully with water bills for other low-income households.

Chris Neme – This particular proposal is targeted to non-low-income households. It wouldn't make sense for this suggestion in particular, but it could be valuable for the low-income households for other programs.

Karen Lusson (via chat) Here's a link to NCLC's "IRA Home Energy Rebates — State Program Design Recommendations: A Resource for Advocates"
https://www.nclc.org/wp-content/uploads/2024/03/202403_Issue-Brief_IRA-Home-Energy-Rebates-1.pdf

Randy Opdyke – These are measures that save gas and electricity. Why is there a specific focus on only gas utilities?

Chris Neme – Initially proposed for gas utilities because the vast majority of savings would be on the gas side. Because there are some cooling benefits, even though smaller, it would be reasonable to suggest that electric utilities contribute to the programs commensurate with the savings produced on the gas side.

Elevate EE Idea

Home EE Electrification (EE Idea tracker rows 43-44)

Jackie Montesdeoca, Elevate

- Power Monitoring and Equipment Service, “Clean and Check”
 - Incentives (or R&D pilot) for power monitoring post-retrofit performance of electrified appliances for homes that have recently participated in an electrification program retrofit.
 - Provide twice a year “clean and check” service contracts for heat pumps for customers that have participated in an electrification program free of cost for at least 3 years after the initial installation.
- Power monitoring and equipment service ‘clean and check’
 - This is specifically relevant for existing Income Qualified Residential Programs.
 - Benefits would be possible for market rate.
 - Could be relevant for any utilities incentivizing heat pumps. Primarily Electric Utilities – ComEd, Ameren
 - Could be coordinated with diverse workforce development (heat pump equipment annual service contracts) and bring in more contractors into the space.
- Power monitoring
 - Installation of devices to support energy savings activities.
 - Emporia equipment example relevant to tracking real time performance and identification of high-usage issues to provide real time support.
 - Opportunity to add "lockouts" on thermostats and improved analysis. With real time data these setpoints can be optimized per site.
- Equipment servicing – ‘clean and check’
 - Every 6 – 12 months.
 - Filter cleaning, condensate pump cleaning, condensate drain trap cleaning and a check of all auxiliary equipment.
 - Outdoor equipment should be checked by a professional.
 - Could be performed by installing contractor or a different firm. (workforce opportunity) \
 - Opportunity to influence customer behavior and operational education (thermostat settings, comfort, filter cleaning seasonally)
- Rationale
 - When filters become dirty this results in a pressure drop due to friction.
 - Friction loss has an exponential effect on power required and affects expected design airflows, temperature differences and ultimately the efficient delivery of the conditioned air.
 - Clean, well-maintained equipment generally operates more as the design intended (more efficiently) and generally preserves or increases the expected serviceable life span of the equipment.
 - It likely is one of the most cost-effective activities that can be done after a new heat pump is installed and throughout its lifespan.
 - Note that a “clean and check” service visit is separate than post 1 to 3-year warranty from installing contractor.

Sara Castleberry – (via chat) What are the data storage and retrieval terms for the logging device proposed? Who owns that data? Are there guidelines or training around the cleaning and testing?

Jackie Montesdeoca – Unsure about who owns the data. There were various contractors that worked in the projects with the construction

team. Costs based on subscription depending on how much monitoring is needed which is up to the engineer setting up the tracking devices.

Chris Neme – The 5-10% savings is associated with the maintenance effort or the use of the metering device that allows for optimization of electrification controls?

Jackie Montesdeoca – Possibly both, but more geared towards the optimization of electrification set-ups vs a personalized and customized use of the equipment.

Chris Neme – If those devices are installed when electrification measures were being installed, how much does that add to cost of electrification project?

Jackie Montesdeoca – Closer to 1k but it depends on the contract economy.

Karen Lusson (via chat) – Comment re: data question: the customer would have to sign an agreement that the data can be shared with the utility and its implementers. Ultimately, the customer has privacy expectations and control over usage data under law.

Karen Lusson – One of the common requests from low-income communities is that the maintenance for electric air source heat pumps is important that people understand that to the extent that these programs could cover that is highly valuable. Do you know how much that equipment costs?

Jackie Montesdeoca – The device itself is a couple hundred dollars but the installation costs move it up to 1k. Proposed ideas could make this more cost-efficient.

- Operations and maintenance benefits
 - Savings from operational benefits including cost savings which could be 5-10% or more.
 - This will enhance customer experience and improve satisfaction of heat pumps and electrification packages
 - The main objectives of the proposed monitoring, evaluation, and clean and checks, is to protect consumers from higher than necessary electric bills after electrifying their home, and to support the successful adoption of heat pump technology in Illinois.
- Equitable program design
 - In the event there are systemic issues that lead to significant inefficiencies in technology use, it is critical that those be caught and corrected.
 - Customers who are often experiencing energy burden, should not experience an increase in bills due improper operations that can be avoided.
 - Providing this monitoring, support, and evaluation is therefore a key component of equitable program design.

Cassidy Kraimer – Does the building owner have to have the expertise or who would make those adjustments and how often?

Jackie Montesdeoca – Monitoring has been done in multi and single family. Currently leaning on engineering staff to make the changes. The program is being refined to enable multifamily building owners to manage the equipment themselves going forward with some training.

Cheryl Watson – Is this monitoring done on retrofitted homes or just heat pump homes?

Jackie Montesdeoca – Only done on homes where full electrification has been done. There are customers that are close to being cost neutral so there is an emphasis on retrofitted homes.

Andrey Gribovich – How much of this setpoint adjustments can be encompassed with training on the installation phase to prevent maintenance issues?

Jackie Montesdeoca – There have been some best practices incorporated from previous implementations and some modifications on equipment to reduce maintenance and increase savings without needing constant engineering modifications.

Chris Neme (via chat) - I really like the idea of adding the metering/monitoring device, particularly in the next several years as we learn more. I had a device like this installed in my own home 10+ years ago and learned a lot from it. I would hope that we could get the cost down, but worth it at least in the near term even if not. An additional 10% savings (and reduced stress for individual customers that have unique issues) is worth it - not just for the customer, but also for the utility.

Follow-up items on Elevate EE Idea:

- 1. Elevate will follow-up on whether there are any guidelines or training regarding cleaning and testing**
- 2. Elevate will follow-up on data storage and retrieval terms for the logging device proposed, including who owns the data**

Closing and Next Steps

- Additional “Energy Efficiency Idea” SAG meeting scheduled on Wed. April 17
- **Tuesday, April 30th Deadline:** Eligible non-financially interested stakeholders who want to participate in EE Plan negotiations will notify SAG Facilitator (Celia@CeliaJohnsonConsulting.com)