# Illinois Energy Efficiency Stakeholder Advisory Group Large Group Meeting Tuesday, May 12, 2020 10:30 am - 4:30 pm

**Teleconference Meetings** 

# **Attendee List and Meeting Notes**

#### Meeting Materials - Tuesday, May 12 Meeting

- May 12 Meeting Page
- EE Ideas Proposed for Residential Portfolios:
  - o NRDC Presentation: Residential Program Ideas
    - o Environmental Law & Policy Center Presentation: Advanced Power Strips
    - o Indoor Climate Research & Training Presentations:
      - <u>Duel Fuel Heat Pumps</u>
      - Solar Powered Split System Heat Pumps
    - o Citizens Utility Board Presentation: On-Bill Financing
    - <u>Elevate Energy and New Ecology Presentation: Remote Monitoring and</u> <u>Optimization Services</u>
    - o Google Presentation: Virtually Assisted Self Installations
- EE Ideas Proposed for Business Portfolios:
  - o U.S. EPA ENERGY STAR: EE Ideas Presentation
  - o Elevate Energy Presentation: Business EE Ideas
  - NRDC Presentation: C&I Program Ideas (and cross-cutting ideas)
  - o ExxonMobil Presentation: Energy Efficient Hydraulic Oil and Gear Oil
  - Skill Demand Presentation: Advanced Powerstrips for Medium/Large Commercial Customers – Plug Load Energy Management
- EE Ideas Proposed for Implementation and Administration of Programs:
  - Elevate Energy Presentation: Implementation and Administration EE Ideas
    - o Citizens Utility Board Presentation: Administration EE Ideas

#### Tuesday, May 12 Meeting Attendees (by webinar)

Celia Johnson, SAG Facilitator Greg Ehrendreich, Midwest Energy Efficiency Alliance (MEEA) - Meeting Support Laura Agapay-Read, Guidehouse Dean Alonistiotis, Metropolitan Water Reclamation District Jennifer Alvarado, Franklin Energy Matt Armstrong, Ameren Illinois Jean Ascoli, ComEd Tyler Barron, Environmental Law & Policy Center Emma Baumgart, Elevate Energy Bob Baumgartner, Leidos Brady Bedeker, ComEd Kathia Benitez, Franklin Energy Jordan Berman-Cutler, ComEd Shonda Biddle, Walker-Miller Energy Services Nathan Bohne, Energy Resources Center, UIC Janice Boman, Skill Demand Brett Bridgeland, Slipstream Kate Brown, Elevate Energy Tyson Brown, Google **David Brvant** Madeline Caldwell, CLEAResult

Ben Campbell, Energy Resources Center, UIC James Carlton, People for Community Recovery Lauren Casentini, Resource Innovations Mike Chimack, ICF Salina Colon, CEDA Abigail Corso, Elevate Energy Andrew Cottrell, Applied Energy Group (AEG) Jeff Coyle, Franklin Energy Ryan Curry, 360 Energy Group Kegan Daugherty, Resource Innovations Erin Daughton, ComEd Marty Davey, New Ecology Devin Day, Smart Energy Design Assistance Center (SEDAC) Leanne DeMar, Nicor Gas Mark DeMonte, Whitt-Sturtevant, on behalf of Ameren Illinois Sam Dent, VEIC (IL-TRM Administrator) Atticus Doman, Resource Innovations Nick Dreher, MEEA Julie Drennen, Center for Energy and Environment Gabe Duarte, CLEAResult Allen Dusault, Franklin Energy Wael El-Sharif, 360 Energy Group Katherine Elmore, Community Investment Corp. Jeff Erickson, Guidehouse Lance Escue, Ameren Illinois Sylvia Ewing, Elevate Energy Jim Fay, ComEd Jason Fegley, Leidos Scott Fotre, CMC Energy Julia Friedman, Oracle Margaret Garascia, Elevate Energy Omy Garcia, Peoples Gas & North Shore Gas Margie Gardner, Resource Innovations Roberto Garza, ComEd Jenny George, Ameren Illinois Jean Gibson, Peoples Gas & North Shore Gas Stacy Gloss, Indoor Climate Research & Training Laura Goldberg, Natural Resources Defense Council (NRDC) Jon Gordon, Enervee Andrey Gribovich, DNV-GL Paul Grimyser, ComEd Mary Ellen Guest, Chicago Bungalow Association Kelly Gunn, ComEd Randy Gunn, Guidehouse Vince Gutierrez, ComEd Mark Hamann, ComEd Michelle Hassinger, Exxon-Mobil Dave Hernandez, ComEd Travis Hinck, GDS Associates Julie Hollensbe, ComEd Hannah Howard, Opinion Dynamics Jeff Hurley, Blue Green Alliance Cheryl Jenkins, VEIC (IL-TRM Administrator) Jim Jerozal, Nicor Gas Amy Jewel, Elevate Energy Mary Johnson, Resource Innovations Katherine Johnston, Green Homes Illinois Lalita Kalita. ComEd Haley Keegan, Resource Innovations Rob Kelter, ELPC Mike King, Nicor Gas Jonathan Kleinman, Aiqueous

Chester Kolodziej, Northern IL Summits and Expos Larry Kotewa, Elevate Energy Ryan Kroll, Michaels Energy Steven LaBarge, ComEd John Lavallee, Leidos Steve Leybourn, ICF Robin Lisowski, Slipstream Bruce Liu, Nicor Gas Karen Lusson, National Consumer Law Center Teresa Lutz, Michaels Energy Todd Malinick, Opinion Dynamics Adam McMurtrey, Exxon-Mobil Brady McNall, DNV-GL Maureen McNamara, U.S. EPA Energy Star Rebecca McNish, ComEd Samarth Medakkar, MEEA Nishant Mehta, Guidehouse Tim Melloch, Future Energy Enterprises Mark Milby, ComEd Cheryl Miller, Ameren Illinois Abby Miner, IL Attorney General's Office Zenia Montero, ICF Bruce Montgomery Jennifer Moore, Ameren Illinois Jennifer Morris, ICC Staff Kelly Mulder, Illume Denise Munoz, ComEd Tracy Narel, U.S. EPA Energy Star Chris Neme, Energy Futures Group, on behalf of NRDC Rob Neumann, Guidehouse Dantawn Nicholson, ComEd Victoria Nielsen, AEG Karin O'Brien, Franklin Energy Eric O'Neill, Michaels Energy Lorelei Obermeyer, CLEAResult Maria Onesto Moran, Green Home Experts Randy Opdyke, Nicor Gas Antonia Ornelas, Elevate Energy Bryan Overman, SEDAC Briana Parker, Elevate Energy Christina Pagnusat, Peoples Gas & North Shore Gas Ashley Palladino, Resource Innovations Stacey Paradis, MEEA Ga-Young Park, U.S. EPA Energy Star Sarah Parsons, Exxon-Mobil Deb Perry, Ameren Illinois Hanh Pham, Willdan Michael Pittman, Ameren Illinois Beatrice Quach, Resource Innovations Dara Reiff, Elevate Energy Jenny Riley, Elevate Energy Alberto Rincon, Future Energy Enterprises Zach Ross, Opinion Dynamics Andrea Salazar, Michaels Energy Scott Wilson, Bits LTD Anthony Santarelli, SEDAC Elena Savona, Elevate Energy Leah Scull, CLEAResult Hardik Shah, Gas Technology Institute Louise Sharrow, Elevate Energy Craig Sieben, AECOM Kristol Simms, Ameren Illinois

Raman Singh, ICF Jacob Stoll, ComEd Mark Szczygiel, Nicor Gas Todd Thornburg, ComEd Evan Tincknell, Opinion Dynamics Brian Uchtmann, Michaels Energy Carl Uthe, Embertec Desiree Vasquez, Franklin Energy Andy Vaughn, Leidos Ted Weaver, First Tracks Consulting, on behalf of Nicor Gas Shelita Wellmaker, Ameren Illinois Rodney Williams, Embertec Jessica Williams, Green Home Experts Ken Woolcutt, Ameren Illinois Lindy Wordlaw, Elevate Energy John Yi, Franklin Energy Cate York, Citizens Utility Board Angela Ziech-Malek, CLEAResult Theo Okiro, Future Energy Enterprises Arvind Singh, DNV-GL Chris Vaughn, Nicor Gas Sara Wist, Cadmus Group

#### **Opening & Introductions**

Celia Johnson, SAG Facilitator

 The purpose of the <u>May 12</u> SAG meeting and <u>May 13</u> joint SAG – IQ EE Advisory Committee meeting is for brief presentations on <u>Energy Efficiency Ideas</u> submitted by both SAG and IQ EE Advisory Committee participants. Participants were invited to propose ideas for utilities to consider in developing their next 4-year EE Plans (202-2025) as part of the <u>SAG Portfolio Planning Process</u>.

# **EE Ideas Proposed for Residential Portfolios**

#### Natural Resources Defense Council (NRDC) Non-IQ Multi-Family Heat Pumps (Chris Neme)

- 1. Briefly introduce yourself + your organization
- With Energy Futures Group, consultant to NRDC and SAG participant on their behalf for about a decade.
- 2. Explain which utility (or utilities) your idea is for
- Ameren, ComEd
- 3. Briefly describe your idea + rationale
- Retrofit electric resistance heaters to heat pumps. Integrated with other MF programs or separate – comprehensive treatment of building is best. 50% rebate to start. Midstream incentives could also be part of total rebate amount.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- 60-70% savings over electric resistance. Large number of buildings in both territories are electric heat. Big savings opportunity for affected households. Low market share, lots of room to grow and shape market. (also have an IQ version to present tomorrow)

Q; [Jonathan Kleinmann] Deferral credit for heat pump retrofit in costeffectiveness screen?

A: Not quite at that stage – haven't run a CET on this yet. If resistance heat is left in place as a backup source, then no credit. Replace an electric furnace or central air connected to duct work with a ducted heat pump, then there ought to be a deferral credit.

Q [Kristol Simms]: Application of cold climate heat pump as opposed to non-CC – difference in service territories. Is different technology based on climate?

A: I think in S. Illinois, we'd want to do more analysis before answering that question. The CC models will provide more efficient heat during most-all hours of the winter but there is a cost premium, so it may be worth comparing the cost premium vs the extra efficiency gains. Don't know the answer to that yet, but it's a question that bears it.

Q: [Jean Ascoli, ComEd] Would baseline be electric resistance existing heat?

A: As a retrofit, the baseline definitely would be. Not sure why it wouldn't be? New construction and retrofit would be different.

A: [Zach Ross] We don't see any reason why this would change from our current practice for baseline.

# Non-IQ Single Family Home Retrofits (Chris Neme)

- 1. Briefly introduce yourself + your organization
- [previously noted]
- 2. Explain which utility (or utilities) your idea is for
- Gas & electric joint programs (but emphasis on gas side spending levels because heavier lift there)
- 3. Briefly describe your idea + rationale
- Whole building approach. Emphasis on this type of program has been low as to historical budgets. Envelope and HVAC especially. Uptake on major measures recommendations has not been good. First visit air sealing, duct sealing and DI on first visit with audits – as with CT utilities. Recommend utilities negotiate set prices, again like CT utilities. OBF options to maximize major measure follow-through. Recommend 20% of gas budget to this.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Large reservoir of untapped savings that have been unsuccessfully addressed. Historically low participation rates. Will take decades to make a dent and need to start now.

#### Q: [Chris Vaughn] 20% of total portfolio or residential?

A: 20% of program budget excluding portfolio overhead. Needs to be a significant focus to get way more participation. CT is doing 2.5% of SF homes.

Q: [Ted Weaver] Keep in mind CT doesn't have rate caps. On the CT examples, when you say that doing some air sealing on the first visit, are they bringing blower door in? [A: Yes] We had models like that in PY1-2 and have shifted to something more driven by contractors and letting the market do it. We should talk through the cost-effectiveness of doing this expensive audit. We need to talk about what other programs would shift.

A: Rationale for model as proposed is that we have historically seen that relying on current program design, not good follow-through on installation of recommended major measures. The conversion rate is not very good. So doing air sealing and duct sealing at first visit, guarantee at least one or two of the major measures gets done. If the utilities have ideas how to get to the same end, I'm all ears. Second on level of commitment & spending cap, doing more of these means less elsewhere, and these might be more expensive in first year therms per dollar. But the improvement of this stock isn't going to happen naturally.

#### All-Electric Residential New Construction Pilot (Chris Neme)

- 1. Briefly introduce yourself + your organization
- [previously noted]
- 2. Explain which utility (or utilities) your idea is for
- Electric, particularly Ameren (ComEd has a version already)
- 3. Briefly describe your idea + rationale
- Super-efficient all electric new construction. High performance envelope measures, CC heat pump, centrally ducted; heat pump water heaters, etc. Climate goals will require movement to net zero and this gets toward that. Could be a MT program. DTE and Consumers in MI launched similar pilots.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Saving energy. Meeting climate goals.

Q [Kristol Simms]: Does this come down to what are you not doing in order to do this, this might draw residential budget away from our IQ/moderate income programs.

A: I don't think this is an expensive pilot. Not going to have a material impact on the overall budget. If it moves into something larger scale, then it's still a longer-term play with modest short-term budget implications. Could also have an affordable housing component with IQ applications – MI pilots are designed to have about half of participants be Habitat for Humanity or other homes being supported through affordable housing entities. Could be supportive of focus on IQ customers in residential programming.

Q [Ted Weaver]: Similar to Jean's question before. How would baseline for this be established? A NG home or electric? How would Guidehouse or ODC think about this? [Follow-up may be needed]

#### Environmental Law & Policy Center Advanced Powerstrips (Tyler Barron)

- 1. Briefly introduce yourself + your organization
- Midwest based/focused nonprofit. Energy & environmental areas.
- 2. Explain which utility (or utilities) your idea is for
- ComEd
- 3. Briefly describe your idea + rationale
- Advanced power strips detect standby mode and can turn off that outlet, but keep on the "always on" outlets. ComEd currently offers a strip (TrickleStar). Would like to see ComEd sell one million of those strips from 2022-24. Increase rebate to \$15, to all customers. Traditional customer marketing. End rebate after the "push" and give over to another product for the intense targeted marketing campaign.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Bill savings, eliminate energy waste. Not a large savings, but with enough adoption it is a high yield. Estimated impacts over 1, 3, and 10 years shown. Up to \$91M after 10 years.

Q: [Carl, Embertec] Would this include other manufacturers of T1 strips and will it consider T2?

A: We only considered the current TrickleStar strip, haven't considered adding T2 to that as well.

Q [Cate York]: With master-controlled power strips, requires a control unit plugged in – e.g. a big computer or entertainment system. Better for something big with lots of accessories, not a laptop.

A: More stuff plugged into it is more savings, could be a replacement for any power strip with lots of things plugged into it.

Q: [Abigail Miner] How did you get the 1M strip goal?

A: Numbers we got from ComEd, assumed their current yearly output without a targeted marketing campaign, thought we could easily get to a million considering their current output.

#### Indoor Climate Research & Training: Duel Fuel Heat Pumps (Stacy Gloss)

- 1. Briefly introduce yourself + your organization
- ICRT is a training center for home Wx assistance program. Research focuses on interaction of EE and IAQ. Field based data collection. Research on real-world issues in home performance. Developed ideas with community stakeholders in central IL (not program design experts).
- 2. Explain which utility (or utilities) your idea is for
- ComEd, Ameren
- 3. Briefly describe your idea + rationale

- Residential gas furnaces have no incentive to switch to heat pump have to stick with gas even when they want to replace even at end of life. Lots of misunderstandings about heat pumps – contractor hesitation to install. Dual fuel heat pumps can solve both problems – blend of electric & gas. Uses existing ducting and gas piping.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Expand options for customers to select for HVAC options for their homes.

Q: [Jim Jerozal] The heat pumps in VT, etc, those would be electric not like this dual fuel. Are you aware of any utilities offering a dual fuel heat pump program?

A: I can go back to my notes. I believe I found some regional co-op programs. [Follow-up on this question]

Q: [Chris Neme] Dual fuel heat pump switches to gas when it hits freezing to avoid electric resistance. But these days CC heat pumps on market produce nameplate capacity to -5 to -15 degF. Does it make sense to have that kind of secondary heating system for a relatively small number of hours?

A: More research to compare those two types of systems. We hear from customers, some in our region, they can't take advantage of a heat pump program because they have an existing gas furnace. So this is meant to be a bridging program. I hear you on the all-electric CC heat pumps. Would be interesting research, we'd be interested in doing some of those comparisons.

# Solar Powered Split System Heat Pump Pilot (Bryan Overman)

- 1. Briefly introduce yourself + your organization
- [previously noted]
- 2. Explain which utility (or utilities) your idea is for
- Electric
- 3. Briefly describe your idea + rationale
- Looked for a complete system solar, racking, inverter, heat pump, etc. Answer was Lennox. With lack of interest, they have neglected to renew that part of their line. The technology exists, though. Cost 3-5X the cost of a natural gas split system furnace and AC. Reduced cooling cost by 45% and heating cost by 13%.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Reduced electric bill, enhanced home value and resiliency. Savings on any solar power production day. Reduce demand during peak cooling. QOL improvement.

# Citizens Utility Board:

# On Bill Financing (Cate York)

- 1. Briefly introduce yourself + your organization
- Consumer advocacy organization, independent nonpartisan nonprofit.
- 2. Explain which utility (or utilities) your idea is for
- All joint promotion

- 3. Briefly describe your idea + rationale
- Existing Illinois Energy Loan Program. SF homeowners can finance eligible equipment. Review of background of program creation & eligibility. Goals are to market the program, ensure customers understand it, maximize savings by pairing with portfolio incentives first and take advantage of other offerings; contractor recruitment needs. Joint promotion. Pair HVAC with air sealing. ¾ of participants learn from contractors, though some contractors learned from customer too. Expand customer options in program – multifamily and small business. Add an early repayment option that applies overpayment to loan (not as advanced payment to utility bill). Needs updated reporting.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Expand EE access 87% of 2015 evaluated measures through program were purchased because of the loan. Serves the 'middle' customers.

Q: [Karen Lusson] Do you agree that utilities must ensure that customers that qualify for free LIHEAP programs are not marketed to OBF and that doesn't happen through program partners. So they don't get this instead of free.

A: That's really the goal of explaining full options. Important that people understand everything available and the benefits and risks – can't stop customers from finding out about the program. Need to be able to make informed, confident decisions.

# Elevate Energy and New Ecology:

# Remote Monitoring and Optimization Services (Multifamily) (Abigail Corso & Marty Davey)

- 1. Briefly introduce yourself + your organization
- Partnered since 2013 building efficiency, health, resiliency. Multifamily & affordable buildings. Nonprofits.
- 2. Explain which utility (or utilities) your idea is for
- Gas (& water)
- 3. Briefly describe your idea + rationale
- ReMO remote monitoring. Boiler heaters, DHW, CHP. Tested a specific system. Off the shelf tech. Low cost and expandable. Real time data on operation. Cloud data analysis to find system optimizations. Service, not product. 3-year engagement to improve operation of building. Investment to date (since 2012) of \$2.85 million, especially in MA. 9% gas savings in 2016-18 pilot. Working on algorithms and reducing engineering time to reduce project costs. Pilot identified multiple unoptimized factors of heating and DHW systems. Case study – 16.2% savings.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Actionable intelligence. Save energy. Non-energy benefits: understanding systems, reduced O&M, predicting problems before they occur. Can look at it as insurance for other investment in incentives. Improve existing buildings. Improve operations. 5-9%

# savings easily achievable. Aligns with climate goals. Buildings that can't afford an energy management system.

Q: [Jim Jerozal] First: 3-year engagement – why that, is it a magic number, why not longer? Second: Devices in field, then send report to the building manager and they do adjustments?

A: [Marty] 3-year is minimum contract length. We have remotely supported people, worked with contractors, and have gone ourselves to do the fixes. More often than not with clients, we have been implementing and working with their contractors to make repairs. Teaching and building capacity along the way. 3-years is in correspondence with NYSERDA program, can add on 2 additional years. We would do longer, but have put out 3 as minimum.

A: [Abby] Chicago, written memorandum to building owners. Worked hand in hand with managers to make corrections.

A: [Marty] We show them the data online, explain what we want to do. There is a report but with verbal follow up. Documentation that they can access. Some want to see data and numbers, some just want us to tell them what to do.

Q: [Chris Neme] What can you tell us about two things: 5-9% savings is that an average or a floor? What is utility cost per unit of savings in your experience or what you think going forward?

A: [Marty] Current projects are because of what we learned in the first project. The 5-9% we've seen at least 5% everywhere, maybe a few smaller/simpler buildings were under because less to implement. Contract should pay for itself within time period but doesn't always because it is hard to anticipate maintenance savings – have case studies but still hard to predict.

*Q:* Business model would be expecting manager to pay you, utilities would do what – marketing support, something for building owners? What is program design for utility perspective?

A: In MA we have subsidies for projects. Lowest cost project is about \$7k/3yr. We've been subsidizing those at 50% with a cap. It's a new expense for people. Have to convince them it is going to work, eliminate up front risk/feeling of risk. Once a year payment.

A: [Abby] Our incentive in the writeup is modeled after NYSERDA program.

A: [Marty] NYSERDA subsidizes 30% first 3 years, 20% for 4-5. Did not include writeup values for cost per savings [follow up on this]

Q: [Ted Weaver] Savings lifetime assigned to program – is it 3 years or longer?

A: Idea is that we set up an ideal curve and alert to client and ourselves and act on those alerts that we get. So we can tell if performance is out of defined parameters. That's the savings persistence and the only way – someone has to be paying attention. Like "monitoring based commissioning" in MassSaves.

We're developing the data to make it a specific measure, just has been a pilot. Can't speak to NYSERDA we are new to that program.

#### Google

# Virtually Assisted Self-Installations (Tyson Brown)

- 1. Briefly introduce yourself + your organization
- Energy partner manager at Google industry partners group. Assume you know who Google is.
- 2. Explain which utility (or utilities) your idea is for
- Ameren, ComEd, Nicor, P&NS all utilities
- 3. Briefly describe your idea + rationale
- Augmented reality (AR) or remote collaboration tools to do a virtually assisted audit with a trained implementer. Self-audit, self-installation of kit, self-installation of thermostat, post-install QC. Alternative delivery channel facilitated by technology. This is emerging tech and will need more discussion.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Substitute for in-home visits COVID relevance but also post-COVID time period for people who don't want or can't have people in the home. Reduce number of customers who can't participate for risk reasons. Reduce self-install leakage. Widen program availability, e.g. scheduling hours. Increase harder to reach rural customers. Reduce labor needs to install, evaluate. Improve net-to-gross by insuring successful installation of kits.

Q: [Chris Neme] Which measures do you think are candidates for this? Just simple things like showerheads and lightbulbs, and slightly more advanced like thermostats? Or are we getting up to fiberglass batts in the attic, for instance?

A: That's probably why we need more discussion on this. Tiered approach probably. Easy measures, more involved measures, then potentially a tertiary level for things like weatherization. Could be a combination of all of those. Would depend on utility, customer comfort level.

Q: [Jon Yi] How can we utilize Nest tech support for installation?

A: There is a VIP tier 2 support line for Nest Pros – could have access to that as part of this program so the implementer could have access to that.

Q: [Abby] Any special tech or is it just a smart phone?

A: Exploring the platforms that would enable this interaction. Nuanced depending on what type of platform. Simple ways like facetime, duo, hangouts, etc. (note security concerns). There are also encrypted platforms. Depends on if it is a pilot, a program, how much is involved. More discussion warranted because it could be rolled out a lot of ways.

Q [Ted Weaver] For stakeholders, really: self-installation of fiberglass batts. We've relied on certifications and best practices, high quality installs. Have shied away from self-install for weatherization. How do stakeholders feel about that?

A: [Chris Neme] I lean in the direction you are headed. I worry about DIY on insulation and air sealing, can create problems including shortening life of savings.

A: [Tyson Brown] In agreement – understanding the level of lift, safety, program needs – various types of applications. Lower lift ones could potentially be done with assistance though. Not everything should be virtually assisted but some measures are good candidates for that.

#### EE Ideas Proposed for Business Portfolios

#### U.S. EPA ENERGY STAR

#### Next Generation Refrigerators (Residential) (Maureen McNamara)

- 1. Briefly introduce yourself + your organization
- 20 years with ENERGY STAR working with utility sector to bring ES offerings to market.
- 2. Explain which utility (or utilities) your idea is for
- Electric
- 3. Briefly describe your idea + rationale
- Still new opportunities in refrigerator market. Bring fridges 30% above federal DOE standard to marketplace. Unlikely to occur without utility involvement in market. Driven by EU standard. Manufacturers want to introduce them to US market and ramp up factories and distribution to US if utility programs were there.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Low free-ridership. Lots of market segments. Proven technology (AND next generation). Savings 100-175 kWh/yr beyond federal minimum.

#### Tenant Space Recognition Program (Tracy Narel)

- 1. Briefly introduce yourself + your organization
- Utility partner and service provider work at ENERGY STAR.
- 2. Explain which utility (or utilities) your idea is for
- Electric
- 3. Briefly describe your idea + rationale
- New ES Tenant Space Recognition program. Leverage recognition program to reach tenant space. Commercial office buildings. Motivate tenants to pursue EE measures to be able to apply for recognition. Open up a dialogue about how this form of recognition could work into programs to help increase adoption of existing measures. Specific criteria and application process for program. Lighting energy use intensity target is the only required target. New ENERGY STAR Portfolio Manager module coming soon.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs

# Overcome landlord-tenant barriers. Enhanced uptake of plug load measures – ES certified products.

Q: [Chris Neme] Do you have estimates of, at scale, the cost of efficient refrigerators?

A: Depends on size and features, like any of them. [Colleague from ENERGY STAR] Don't have incremental costs available, depends on specific programs and the ways the refrigerators are procured. Could put in contact with manufacturers who could best answer those questions.

Q: Are you thinking of this as kind of a national market transformation model? Multiple utilities across the country? Or what's the program design that might be funded by electrical utilities look like?

A: EPA is looking at 30% more efficient. If there is enough interest and we can gather that interest, that's what we communicate to the manufacturers. And we can do matchmaking. It could be typical retail mass market, could be procurement for DI, we're looking to make the handshake and agnostic to program model. [Program Manager] Utilities across the country have needs and demographics specific to their regions, would be hard to say exactly a program out there. Working together to get them out there, working with utilities and manufacturers to find a way forward for the specific utility.

Q [Margie Gardner] How would this fit with Retail Products Platform?

A: This would fit. One manufacturer would prefer that not be the route because of they aren't in all the RPP stores, that's why it's important to talk to the manufacturers.

#### EE Opportunity that also Enables Demand Response (Maureen McNamara)

Changing nature of some energy efficiency measures, especially those with smart features. Example: great savings opportunities for savings and grid services through ES certified heat pump water heater. (Also working on gas possibilities as well.). Can save over 1k kWh/year. Connectivity enables load shifting and accepting excess energy. Proposed criteria define what connectivity means for product category. Different strategies based on needs. Questions to think through – how can DR enablement be captured in CET? What type and duration of DR needs? How much, where, locational value? What is baseline counterfactual for overcapacity tanks?

[Note: This is not an official Energy Efficiency Ideas proposal, just an opportunity for information sharing from Energy Star]

#### Elevate Energy

#### Joint Program Implementation for Nonprofit Customers (Dara Reiff)

- 1. Briefly introduce yourself + your organization
- Elevate already introduced. Smarter energy use for all. Trying to reach customers and communities that need it the most.
- 2. Explain which utility (or utilities) your idea is for
- All, joint implementation

- 3. Briefly describe your idea + rationale
- Commercial buildings owned or operated by nonprofits. Establish a dedicated offering aimed at these customers. ComEd has an existing program. Commercial customers, but all shapes and sizes from churches to social service agencies, etc. Lots of market confusion on eligibility right now. Marketing for small businesses doesn't reach these customers. Not considered income eligible even though they serve these communities; play a critical role in serving communities and operating on shoestring budgets. Need incentives and technical assistance.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- NPOs currently underserved by existing portfolios. Cost savings redirected directly to
  organizational mission. Economies of scale by working across utilities.

Q: [Kristol Simms] Basis for these customers underserved? Compared to what? I'm not sure it translates to the Ameren Illinois territory; we have existing outreach practices for community organizations.

A: Serving as outreach for ComEd for 8 years and have seen them struggling compared to other businesses.

#### Water EE Measures (Larry Kotewa)

- 1. Briefly introduce yourself + your organization
- [previously noted]
- 2. Explain which utility (or utilities) your idea is for
- ComEd and Ameren
- 3. Briefly describe your idea + rationale
- Water saving devices added to TRM. Water-energy factor put into place in TRM 7.0. Electricity saved from water delivery system and wastewater treatment when water use is reduced at a residence. Add to utility portfolios though low income programs (e.g. Madison, WI; Aurora, CO) or leak alert program with AMI metering (Washington, DC, San Francisco, CA). Water utilities have the ideas on how to save water, electric utilities can help add to that effort. Think about how to engage with water utilities and get these into place.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Utility can claim systemwide energy savings. Customer saves water bill (up 57% since 2010). When energy and water utility partnerships are created has best impact.

#### Field Adjustable Streetlights (Larry Kotewa)

- 1. Briefly introduce yourself + your organization
- [previously noted]
- 2. Explain which utility (or utilities) your idea is for
- Electric
- 3. Briefly describe your idea + rationale

- New offering from manufacturers. Programmable wattage lighting cut down on number of models needed to produce and for municipality to stock. Pre-installation adjustment is most cost-effective. Existing mechanism for determining energy savings uses maximum wattage unit is capable of rather than as installed. Idea is to allow programmable lighting to be used (on metered circuit) to get incentive based on actual wattage reduction. Explore/pilot how to use this new function.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Get incentive based on actual wattage reduction. Increased lifetime kWh savings.

Q: [Andre Gribovich] Is there a way to verify the setting after installation without going up to the light itself?

A: That was one of our thoughts – could get photos of settings during installation. Once it is up and installed, isn't a way to look at that specific lamp. That's why metered circuits for verification is our initial recommendation.

# Municipal Ambassador Program (Lindy Wordlaw)

- 1. Briefly introduce yourself + your organization
- Urban planner, leads energy and planning effort
- 2. Explain which utility (or utilities) your idea is for
- Northern IL
- 3. Briefly describe your idea + rationale
- Build peer-to-peer learning and mentorship for public sector facilities. Increase uptake
  of measures in public sector through variety of engagement methods. Example from
  EUROCITIES program country sized scale. Guide to peer-to-peer learning in public
  sector.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Regional cooperation and partnership; building on successes from one community to next. Municipal successes can encourage uptake by customers in community as well. Customer satisfaction, confidence in programs. Increased lifetime kWh, increased public sector project pipeline, esp. disadvantaged communities.

Q: [Jim Jerozal] Sounds a lot like SEM [Strategic Energy Management], focused on communities instead of companies? Do you agree?

A: Not familiar with SEM approach, though aware that there are shared learning approaches. Not dissimilar to what is out there. This focuses on selecting a group to serve as mentors and a group to be mentored, very targeted to identify what approaches solicit the most response. Idea of peerto-peer learning in general is not a new concept, this is just targeting it to communities.

#### Warming and Cooling Centers (Lindy Wordlaw)

- 1. Briefly introduce yourself + your organization
- [previously noted]

- 2. Explain which utility (or utilities) your idea is for
- All utilities
- 3. Briefly describe your idea + rationale
- Vital public health services from warming and cooling centers. Likely to keep growing need. Use existing incentives to target these providers to achieve highest efficiency standards in their buildings.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Increase reliability during public health emergencies. Enhances preparedness and resiliency. Also comfort during all times, but particularly emergencies. Increased energy savings and reduced operating costs. Increase awareness of incentive programs. Participation in similar incentives as well with other buildings.

Q: [Ted Weaver] Is this proposal to change eligibility requirements or a specific offering or outreach?

A: Proposal is a proposed program approach to target outreach to specific customers that host warming and cooling centers – mostly business/public sector but some residential.

# Natural Resources Defense Council (NRDC):

#### **Business Idea:**

# C&I Networked Lighting Controls (Chris Neme)

- 1. Briefly introduce yourself + your organization
- [previously noted]
- 2. Explain which utility (or utilities) your idea is for
- Electric
- 3. Briefly describe your idea + rationale
- Demo projects at utilities to create case studies. Energy and non-energy benefits. Prescriptive rebate per sq. ft. similar to WI Focus. Most structure with a rebate adder per fixture. Like the Focus approach though. Incremental cost on the order of 60-70 cents per sq. ft. Integrate with other programs like DI, OBF, upstream. Take advantage of the transition to smarter lighting instead of locking up fixtures with unnetworked LEDs for 10+ years.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Savings potential 47% above LED baseline, almost completely untapped. Build market now to replace traditional LED programs as those decline with market adoption.

#### Cross-Cutting Ideas (C&I + Res):

#### Variable Refrigerant Flow Technology (Chris Neme)

- 1. Briefly introduce yourself + your organization
- [previously noted]
- 2. Explain which utility (or utilities) your idea is for

- Electric
- 3. Briefly describe your idea + rationale
- Pilot new technology. Refrigerant is the distribution system instead of ductwork. New construction. Large electric heat buildings.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Per building savings potential.

#### Midstream and Upstream Approaches (Chris Neme)

- 1. Briefly introduce yourself + your organization
- [previously noted]
- 2. Explain which utility (or utilities) your idea is for
- All
- 3. Briefly describe your idea + rationale
- SAG Mid-Up working Group meeting covered this. Not spending a lot of time here. Numerous state examples for a range of technologies. Target technologies for Res and C&I sectors.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Dramatic increase in participation & savings. Reduced admin/non-rebate costs once system is in place.

Q: [Jim Fay] On refrigerated technologies, anybody doing upstream on them today?

A: I'll check with Phil Mosenthal.

Q: [Ted Weaver] On heat pump water heaters and ductless mini-splits, how would you track the baseline on those since current market is overwhelmingly gas?

A: I think it would be a function of how you set up the rebate incentive level. Like buying down the cost differential between standard and high efficiency. Displace the standard electric technology. Incentive not high enough to promote switching.

Q: Time of sale issues. Difference in cost isn't that big. Issues to solve, don't need to solve it now.

A: Intellectually more challenging for some technologies over others. Hard to argue if it is the difference between the standard and the high efficiency offering. Could be like a gas furnace when you don't know if it is replacing gas or propane.

#### Leveraging Other Initiatives (Chris Neme)

- 1. Briefly introduce yourself + your organization
- [previously noted]
- 2. Explain which utility (or utilities) your idea is for
- Mostly electric

- 3. Briefly describe your idea + rationale
- Leverage other funding and marketing whenever possible. How other aspects of what the utility is doing in its business/services to customers could overlap with EE. Such as DR, PV, assistance, large C&I outreach, capacity market. Could also leverage opportunities outside of utility business segments, e.g. manufacturers rebates or other market opportunities.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Stretch dollars, for example splitting costs between EE and DR programs; enhance ability to reach customers

Q: [Kristol Simms] Do you think of this similarly to voltage optimization for electric utilities? Like voltage operation is implemented by operations department and has more to do with operating efficiency but we also can claim EE savings?

A: Yes, may be similar. Statutorily those costs of voltage optimization are outside of the cap, so that is easy. There are other structures within the company that could be leverage in a somewhat similar way – programs that have multiple aspects beyond energy efficiency. Multiple benefits from multiple attributes and other parts of the company can take advantage of those attributes. [More follow up conversation needed]

Q: [Andy Vaughn] How do we know what MF buildings work better with VFR rather than mini-splits?

A: Generally larger MF buildings where it is more difficult to locate all the individual outdoor compressors, those kinds of applications. Delivering VRF is more attractive in those larger buildings. Decisions probably made on individual building basis, but we need to understand the technology more.

#### ExxonMobil:

#### Energy Efficient Hydraulic Oil and Gear Oil (Adam McMurtrey)

1. Briefly introduce yourself + your organization

- LEED GA working in buildings; now at ExxonMobil looking at improving manufacturing.
- 2. Explain which utility (or utilities) your idea is for
- Electric
- 3. Briefly describe your idea + rationale
- Manufacturing is big in Illinois \$108B and increasing. Top manufacturers prioritize energy efficiency as a business strategy and goals. Multiple manufacturing sectors. 588k jobs in Illinois manufacturing. Energy and operational inefficiencies to overcome. Each sector uses the same lubricants within their industry. Gear lubricants, hydraulic lubricants, etc. Hydraulics and gears, everybody uses them. Differential cost for price of lubricant. Some additional benefits beyond EE as well, e.g. lubricant lifetime. Savings are immediate and don't diminish over time with maintenance life of equipment. Applicable to plastics, rubber/protein, cement, automotive, food

processing, general, paper, mining. Monitored savings through equipment – good data to look at.

- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- 33k MWh/year savings potential in IL. Example: Just plastics industry 27k MWh/yr reduction potential. Proven from existing projects. ~3.3% EE savings for plastics manufacturing. Example: Rubber & Protein industry. Per site savings of 14k kWh/yr. 3% EE savings. Custom application through Ameren previously. WI Focus results example 3.3% savings study with 3<sup>rd</sup> party engineering analysis. 2-5 year payback, before any incentives. Additional benefits beyond EE with minimal increased cost. Decreased failure/repair, increased cycle times.

#### Q: [Jim Jerozal] Are there any heating savings or is this all electric motor?

A: Mostly electric motor. There are heat changes for gear reductions – can see the efficiency through temperature reduction. But these savings are purely based on input power and output power. Less input power for same output. Purely mechanical.

Q: [Chris Neme] Life of savings – when you put this lubricant in, how long is it producing savings? Never have to replace or add to it?

A: We've had applications where a plastics manufacturer has kept same oil for 10 years. Depends on how it is treated. You can destroy it like you can in a car by driving poorly. If you keep it clean and dry it lasts an extremely long time. Equipment might need small amounts of top off. But the ability for the lubricant to provide EE is always there, doesn't deplete over time.

Q: Similar premium lubricants or just your company?

A: Every major oil company has energy efficient fluids. We've done more customer testing over the last 10 years and that's why we are confident to present this today.

Q: May cost more but not always? Can you clarify that?

A: I would lean on the 2-5-year payback, that's typical. Longer term benefits as well. But that's the soft costs like avoided problems. I would typically say it is around 20% higher cost, but you don't always know what they are paying, depends on how much and where they buy it.

#### Skill Demand:

#### Advanced Powerstrips for Medium /Large Commercial Office Buildings (Janice Boman)

- 1. Briefly introduce yourself + your organization
- Diversified business enterprise, located in Carmel, IN. Workforce & vendor development woven into all services. EE services, etc.
- 2. Explain which utility (or utilities) your idea is for
- Electric
- 3. Briefly describe your idea + rationale

- Office workstation energy savings. Tier 2 advanced power strips (as opposed to T1 previously discussed). Currently not in IL TRM. T2 powerstrips monitor both active and passive plug load energy waste and even log energy use. Compare to building automation automation is a whole building system, not just the plug load. Can miss some of the day to day cubicle opportunities. T2 picks up where automation leaves off. Comparison with computer power management that is typically software based, can miss out on savings opportunities, misses non-computer equipment. Use logger function to get pre- and post-management data which could be used to develop the deemed savings for the equipment. Target med. to large office buildings and universities. Propose program with outreach and delivery, staff recruitment and training, etc.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Proven but underutilized technology. Logged energy savings verifiable savings, identify outliers. 25-40% savings higher in desktop computer applications, lower for laptops. Depends on peripherals.

# **EE Ideas Proposed for Implementation and Administration of Programs**

# Elevate Energy:

# Centralized Resources (Amy Jewel)

- 1. Briefly introduce yourself + your organization
- Elevate previously introduced. Associate director for EE program implementation.
- 2. Explain which utility (or utilities) your idea is for
- All
- 3. Briefly describe your idea + rationale
- Each team has own tools like calculators recreating the wheel. Different data definitions and reporting requirements. Idea is to develop uniform, standardized and centralized tools such as measure calculators and dataset definitions.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Uniformity across programs, reduced time to develop and evaluate tools reduce delivery resource needs.

# Conflict of Interest Rule (Amy Jewel)

- 1. Briefly introduce yourself + your organization
- [previously noted]
- 2. Explain which utility (or utilities) your idea is for
- All
- 3. Briefly describe your idea + rationale
- Programs managed by organizations that are ICs. (Elevate is an IC). Some ICs also hire other ICs. Can create conflicts where an IC is overseeing other ICs especially if they are both in competition on other opportunities (with same or other utilities). Theoretical example provided. Conflict of interest could lead to information withholding, causing impacts to program success. Disallow overseeing ICs from

program implementation in IL – can be one or the other. Similar rules exist for evaluation – evaluators can't be implementers. Other sectors such as government agencies have similar rules in place.

- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Reduce conflicts of interest.

# Energy Communities (Jenny Riley)

- 1. Briefly introduce yourself + your organization
- Associate director of marketing at Elevate.
- 2. Explain which utility (or utilities) your idea is for
- All
- 3. Briefly describe your idea + rationale
- Customer participation is low market confusion about offers. Idea is to increase customer satisfaction and loyalty. Think of Netflix customized recommendations. Same type of approach – do the work for them tracking customer history to make recommendations to them or to similar customers part of the same "energy community." Target residential pilot.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Increase likelihood of participation. Give customers ranked programs and services.

# Loyalty Program (Jenny Riley)

- 1. Briefly introduce yourself + your organization
- [previously noted]
- 2. Explain which utility (or utilities) your idea is for
- All
- 3. Briefly describe your idea + rationale
- Customer loyalty programs connect customer to the brand. Points system to earn based on kWh reduction or other performance factors – redeem points for rewards. Goal would be to create a program around a purpose such as attracting new customer, retaining, or encouraging participation in programs.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- Increased retention, participation, appreciation, communication, etc. Share experiences. Provide actionable data.

# • Tiered Incentive Approach–Multifamily (Louise Sharrow)

- 1. Briefly introduce yourself + your organization
- Multifamily program sr. manager. Implemented ComEd/Peoples/North Shore MF for past 2 years.
- 2. Explain which utility (or utilities) your idea is for
- All with MF programs
- 3. Briefly describe your idea + rationale
- Tiered incentives are a best practice for MF programs (ACEEE). Exist across the country. Escalating incentive for deeper savings. Could integrate with or promote

other programs such as renewables, net zero, electrification. Doesn't decrease attractiveness to small savers.

- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- More feasible for customers to do more expensive/intensive EE. Longer life, higher savings measures benefit utilities. Overcome split incentives problem by reducing cost of measures and improving savings outcomes.

Q: [Kristol Simms] on conflict rule: Not sure I understand how this example would work in reality with utility managing portfolio, can you explain more?

A: Example slide – utility maintains oversight of programs, but often what happens is the day to day management of programs and operating decisions might be contracted out to the IC. So IC#1 would do management and be overseeing IC#2. At the same time those two firms are competing on the right side of the example. So IC#1 might have a business interest (conflict of interest) in hampering the ability of IC#2 to be as successful as possible because they are competing on the right side. Utility maintains oversight and control with stakeholder input but the day to day decisions and overseeing day to day management sets up this conflict of interest.

Comment: [Kristol Simms] Seems like a cynical view of procurement process and utility management of these programs and how they conduct business. Limiting business and competition may be problematic; Ameren Illinois hasn't seen this as a problem in our service territory.

Q: [Ted Weaver] On Joint Tools: Does Elevate have specific examples of where this has been a frustration – solve a specific problem?

A: Have observed that it takes a lot of time and effort to develop and evaluate tools, and then the data reporting using different data set requirements. It's what we've observed and we think standardization would create efficiencies.

Q: Suggesting two utilities should coordinate, or two ICs, or who?

A: General, could relate to both. One utility creates measure calculators for all their programs they are implementing. Lighting calculator for all their programs. But joint programs as well, could be true for natural gas as well. Would require some collaboration between utilities especially on joint programs.

Q: [Karen Lusson] Are you talking about a public cost-effectiveness tool like California? Statewide public cost-effectiveness tool instead of proprietary technology?

A: Haven't thought about whether it would be public or not. It could be if there aren't concerns about proprietary information.

#### Citizens Utility Board:

#### • Website (Cate York)

1. Briefly introduce yourself + your organization

- Recommendations in this section come from conversations with utility customers. Work on outreach team. All 5 utility territories. Fractured messaging.
- 2. Explain which utility (or utilities) your idea is for
- All
- 3. Briefly describe your idea + rationale
- Integrate EE with bill payment website. More streamlined messaging. Usage alerts, storytelling, maps, organized by eligibility. Gamified learning like Jenny mentioned earlier. Personalized experience.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- (General for all proposals) Empower customers, prioritize customer benefit and trust, leverage communication channels.

# Utility Coordination (Cate York)

- 1. Briefly introduce yourself + your organization
- [previously noted]
- 2. Explain which utility (or utilities) your idea is for
- All
- 3. Briefly describe your idea + rationale
- Streamlined offerings in joint territories.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- (General for all proposals) Empower customers, prioritize customer benefit and trust, leverage communication channels.

#### Renter Resources (Cate York)

- 1. Briefly introduce yourself + your organization
- [previously noted]
- 2. Explain which utility (or utilities) your idea is for
- All
- 3. Briefly describe your idea + rationale
- More Resources for renters educational materials, building owner contact info submission, expanded renter kits. Create more opportunities for them.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- (General for all proposals) Empower customers, prioritize customer benefit and trust, leverage communication channels.

# Community Engagement (Cate York)

- 1. Briefly introduce yourself + your organization
- [previously noted]
- 2. Explain which utility (or utilities) your idea is for
- All
- 3. Briefly describe your idea + rationale

- Develop community partnerships in more than just IQ programs. Trusted messengers for all programs. Have to allow honest communications in communities. More organizations into process with different constituencies. Listening sessions.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- (General for all proposals) Empower customers, prioritize customer benefit and trust, leverage communication channels.

#### Demand Response (Cate York)

- 1. Briefly introduce yourself + your organization
- [previously noted]
- 2. Explain which utility (or utilities) your idea is for
- Electric
- 3. Briefly describe your idea + rationale
- Existing DR programs by both utilities. DR saves energy as well. Encourage shifting
  to off peak but also can lower overall energy use. Not a lot of overlap across different
  DR programs. Some overlap across EE programs. Not advocating for everyone to be
  on pricing programs but using channels to help inform about these programs. Could
  be expanded. Cross promotion will lead to satisfied utility customers.
- 4. Indicate how your idea will have a positive impact on utility customers or IL EE programs
- (General for all proposals) Empower customers, prioritize customer benefit and trust, leverage communication channels.

# **Closing & Next Steps**

Celia Johnson, SAG Facilitator

- The utilities are currently reviewing Energy Efficiency Idea proposals and will provide an initial response at the June 16-17 SAG meetings.
- If there are any additional questions on Energy Efficiency Idea presentations, contact the SAG Facilitator (<u>Celia@CeliaJohnsonConsulting.com</u>).