

# Illinois EE Stakeholder Advisory Group Large Group SAG Meeting

**Wednesday, June 12, 2024**

9:30 am – 12:30 pm

Teleconference

## Attendees and Meeting Notes

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### Meeting Materials

Posted on the [June 12 meeting page](#):

- ComEd Proposed Policy Change
  - [SAG Process for Resolving Policy Issues](#)
  - [ComEd Presentation: Energy Efficiency Income Eligible – Allocation of Electrification Savings](#)
  - [Income Eligibility Analysis: ComEd 2024 Update](#)
  - [Guidehouse Memo to ComEd: Allocation of Electrification Savings to Income Eligible \(IE\) Households and the 25% IE Cap \(May 24, 2024\)](#)
- Introduction to Proposed Illinois TRM Measure – Electric Vehicles
  - [IL-TRM Version 13.0 Update Schedule \(VEIC\)](#)
  - [Ameren Illinois Presentation: IL-TRM New Measure – Light Duty Electric Vehicles](#)
- Total Resource Cost Test (TRC) Non-Measure Level Inputs
  - [Nicor Gas Presentation: Benefit Cost Assumptions](#)
  - [Summary Spreadsheet – Potential 2026-2029 Changes for Illinois Utility Total Resource Cost Test Non-Measure Level Inputs](#)

### Attendees

Name	Company or Organization
Celia Johnson	SAG Facilitator (Celia Johnson Consulting)
Jorge Medina Zambrano	SAG Meeting Support (Inova Energy Group)
Abigail Miner	IL Attorney General's Office
Alison Lindburg	MEEA
Alyssa Kogan	Slipstream
Audrey Horner	Ameren Illinois
Bahareh van Boekhold	Illume Advising
Brady Nemeth	Resource Innovations

<b>Name</b>	<b>Company or Organization</b>
Cassidy Kraimer	Community Investment Corp.
Cheryl Watson	Equitable Resilience & Sustainability
Chris Burgess	MEEA
Chris Neme	Energy Futures Group, representing NRDC
Corey Grace	Resource Innovations
Courtney Golino	Guidehouse
Cynthia Kan	Cadmus Group
Cynthia Segura	Slipstream
Darren Port	Slipstream
Debbie Driscoll	NEEA
Elder Calderon	ComEd
Elizabeth Horne	ICC Staff
Ellen Rubinstein	Resource Innovations
Erin Daughton	ComEd
Erin Stitz	AEG
Hannah Collins	Leidos
Hannah Howard	Opinion Dynamics
Jane Colby	Apex Analytics
Jeannette LeZaks	Slipstream
Jim Fay	ComEd
Joe Ricchiuto	MEEA
John Lavallee	Ameren Illinois
Jonathan Skarzynski	Nicor Gas
Josh Sharon	ComEd
Karen Horkitz	KSH Advising
Kari Ross	NRDC
Kathryn Collins	Guidehouse
Kegan Daugherty	Resource Innovations
Kevin Duffy	ICF
Lilieric Florez Monroy	Peoples Gas and North Shore Gas
Maddie Koolbeck	Institute for Market Transformation
Mark Milby	Elevate
Mark Szczygiel	Nicor Gas
Matt Armstrong	Ameren Illinois
Michael Collins	Franklin Energy
Michael Frischmann	Ecometric Consulting
Mike King	Nicor Gas
Molly Graham	MEEA
Nicholas Crowder	Ameren Illinois
Nicole Karpavich	Resource Innovations
Philip Mosenthal	NV5, representing IL AG and NCLC
Randy Opdyke	Nicor Gas

Name	Company or Organization
Rick Tonielli	ComEd
Rocco Guaragno	Resource Innovations
Ryan Wall	Guidehouse
Sarah Wells	Slipstream
Shane Perry	Ameren Illinois
Stu Slote	Guidehouse
Tamara Anderson	NEEA
Tamika J. Cole	Walker-Miller Energy Services
Tim Dickison	Ameren Illinois
Tina Grebner	Ameren Illinois
Todd Malinick	Opinion Dynamics
Wasiu Adesope	Blacks in Green
Wayne Leonard	Guidehouse

**Meeting Notes**

Follow-up items in red.

**Opening and Introductions**

**Purpose of June 12 meeting:**

1. For ComEd and Guidehouse to introduce policy questions;
2. For Ameren Illinois to introduce a proposed IL Technical Reference Manual (TRM) measure on electric vehicles; and
3. For Illinois utilities to present an overview of Total Resource Cost Test non-measure level inputs, and any changes for the 2026-2029 EE Plans.

**ComEd Proposed Policy Change**

**Income Eligibility Analysis ComEd 2024 Update**

Household Income Eligibility:

- Household’s income at or below given threshold.

Geographical Income Eligibility:

- Considers % households (density) in a geography (e.g. ZIP Code) that are below a given income limit (e.g. 80% Area Median Income)

One commonly used definition of Geographical Income Eligibility:

- 80% AMI, 50% Density: A tract/ZIP/municipality where at least 50% of households are at or below 80% AMI

**Study Area – ComEd territory**

Geographical Unit

Total ComEd units

- Census Tracts → 2316
- ZIP Codes (USPS) → 496
- Census Places (municipalities) → 487

## **Methods – Data**

### Demographic data

- Source: American Community Survey (ACS)
  - Annual survey of a representative sample used.
- Includes: Household size, income.

### Income limits: Used to determine thresholds for Income Eligibility

- Main one used is the percentage Area Median Income (AMI): Median income for the Metropolitan Statistical Area (MSA)
  - MSAs – made up of 1 or many counties.
  - AMIs vary by HH size.
- Federal Poverty Level (FPL): Lower 48

### Other

- HUD “Crosswalk” for converting Tract data to ZIP Code data.

## **Methods – Tract Analysis**

- ACS data Ave. HH size
- Income Limits Data (AMI & FPL)
- Adjusted Income Limits for each tract.
- ACS data total HHs in tract HHs per income bracket.
- # IE households in tract for each Income Limit
- % IE households in tract for each Income Limit
- IE Tracts for each Income Limit and Density of interest
  - This will give total number of households and whether they participate or not in the selection process.

## **Methods – ZIP Code Analysis**

- ZIP Codes and Tracts don’t align in how boundaries are drawn.
- A ZIP code can:
  - Overlap multiple tracts.
  - Be fully within a tract.
  - Fully contain multiple tracts
- Need to reconcile boundary differences.

## **Methods – Zip Code Analysis, Area Zip Codes**

- For Area-based ZIP codes:
- Allocate households from Tracts to ZIP Codes using HUD crosswalk which gives percentages of how many eligible income households are within the shared zip code.
- Recalculate income eligible households at ZIP scale.

## **Zip Code Results**

- 83 zip codes are eligible out of the 496. This equals 17%.
- 42% of the 3.6 million households are income eligible.

## **Summary – 2024 analysis**

- 17% IE ZIP Codes (80% AMI, 50% density)
- 1.5 million IE Households (80% AMI)

- 40% in IE ZIP Codes
- 60% in non-IE ZIP codes

*Chris Neme – What is IE zip code eligibility? What does that include?*

*Elder Calderon – It refers to the customers within the Disadvantaged Area set of zip codes which would qualify for the programs being offered. 80% AMI and at least 50% density is the current qualification.*

## **Energy Efficiency Income Eligible – Allocation of Electrification Savings**

*Neil Curtis, Guidehouse*

### **From Evaluation to Policy: IE EEE Allocation**

- CEJA allows ComEd to claim up to 5% of total energy savings from electrification projects, which will increase to 10% in Energy Efficiency Plan 7.
- At least 25% of total EEE savings need to come from electrification of income eligible housing end uses.
- Due to the lack of income data collected by mixed-market programs, it is not possible to determine with certainty whether EEE measures were installed in IE households. ComEd and Guidehouse acknowledge mixed-market programs (such as the midstream residential program) historically have undercounted IE savings. All of the savings from that program have been allocated to market rate buckets.
- ComEd and Guidehouse sought alternative approaches to more accurately capture electrification savings from IE Households.
- ComEd's Midstream programs collect participating customer zip code data.
- CY2023 residential Contractor/Midstream Rebates program verified net EE electrification savings were allocated at the zip code level to either IE households or non-IE households based on the percentage of households below 80% of AMI in each zip code.
- In light of the above, the team requests formalizing an approach to identify and allocate IE EEE savings.

### **Current Limitations: IE vs Non-IE**

- Aside from Direct Install projects, IE customers can only be identified by geographical location.
  - The current identification methodologies limit visibility of IE customers to designated IE geographical zones (i.e. the zip codes within 80% AMI).
  - Utilities should continue to determine IQ eligibility using the qualification methodologies that are the least burdensome and time-consuming for building owners and maximize the potential for and ease of participation in their IQ multifamily programs.
  - In the interest of providing and influencing the adoption electrification benefits to all IE customers, we need to look beyond geographical zones and reach IE customers across our entire territory.
- There are IE customers in nearly every zip code within our territory and we know the saturation of IE customers in each zip code.
- Illinois should consider policy that provides a dynamic way to reach IE customers in every zip code, not just IE designated zip codes.

### **Most IE customers are not located in IE Zips**

- Elevate analysis identified IE Customers at or below 80% AMI.

- 42% of all households in ComEd territory are IE.
- 25% of all households in ComEd territory are IE and not located in IE Zips.
- This means that 60% of all IE households are not located in IE Zips.
- Majority of IE customers are not in IE zips, and therefore miss out on geographically based IE incentives or outreach.

### **IE EEE Attribution Policy Recommendation Changes for 2024 and Beyond**

- For mix market programs such as Midstream, IE EEE savings should be allocated at the zip code level to either IE households or non-IE households based on the percent of households in each zip code that are below 80% of the U.S. Department of Housing and Urban Development Area Median Income (AMI) threshold.
- It is our understanding that ICC Staff preferred a methodology that allocated achieved electrification savings by percent of IE customers. This is a reference to the requirement behind the legislation.
- Using Elevate’s analysis of the US Census American Community Survey (2019) and U.S.
- From Dept of Housing and Urban Development Area Median Income (AMI) thresholds, we know the percent of IE customers by zip code across all our territory.
- It is reasonable to expect that some of the electrification savings are coming from IE households in every zip code.
- Therefore, using those percentages of the IE saturation to allocate the Contractor / Midstream Rebates program electrification savings between IE households and non-IE households based on a zip code by zip code basis is a reasonable course of action.
- Policy should reflect this and allow IE EEE savings to be allocated at the zip code level for midstream market programs.

*Chris Neme – If 100 midstream heat pump rebates installed in a zip code (which had 22% of income eligible households), would 22% of those count as income eligible rebates?*

*Elder Calderon – That is correct.*

*Philip Mosenthal – Are all midstream heat pump rebates assumed to be electrification?*

*Elder Calderon – Not assuming that all midstream rebates are electrification.*

*Jim Fay – 53% of the heat pump installations are fuel-switching [electrification].*

*Chris Neme – Then it would be 22% of 53% of the heat pump installations.*

*Philip Mosenthal – What are the average rebates values?*

*Answer: Rebates for air source heat pumps \$1400, \$1200, and \$1000 for mini-splits.*

*Philip Mosenthal – Total value?*

*Answer: Yes, per unit value. That is how midstream rebates are calculated.*

*Abigail Miner – By design is the 80% AMI the lowest 40% income bracket in that area? Why is the focus on zip codes that are only 50% penetration for AMI customers?*

*Elder Calderon – Current methodologies only allow to calculate this way. The change reflects the need to adjust the targeting in order to increase people who qualify.*

*Philip Mosenthal – Nobody is being left out?*

*Elder Calderon – Correct. Everyone eligible is able to take advantage of the rebates.*

*Abigail Miner – Are customers getting lower rebate values, because they are not able to be included in income eligible zip codes?*

*Elder Calderon – There are options such as bonuses, incentive bonuses, and specific outreach that those customers are missing out on because there have not been included in income eligible zip codes, yes.*

*Philip Mosenthal – When rebates are done for IE households, are 60% assumed rebates?*

*Elder Calderon – No. That is the current change looking to be made.*

*Abigail Miner – 80% AMI is determined at the county level? Or determined at the census tract level?*

*Roopa Krithvasan – 80% at census tract scale and then recalculated based on IE households. It is the Metropolitan Statistical Area (which can be composed of multiple counties).*

*Abigail Miner – Why is there only one metric being used for population and another metric being used for determining AMI density?*

*Chris Neme – Due to income disparity within county level it would skew the numbers if using the average.*

*Ted Weaver – The point is to then identify regions with high concentrations of low-income individuals, avoiding overly large areas to prevent overlap.*

*Abigail Miner – How are we making sure that people who are at or below 80% AMI and don't live in a high-density neighborhood are still being penetrated?*

*Elder Calderon – Opening up this policy to be able to allocate savings to income eligible customers in all zip codes, by the saturation of income eligible households present codes, will give us some flexibility to target those customers.*

*Kim Swan – In 2023, the energy efficiency electrification attribution issue was a new policy topic without much history, so this is still being worked on.*

*Chris Neme – 53% of heat pumps are fuel-switching. When Guidehouse does evaluation, is income data being collected?*

*Kim Swan – When not directly working with ultimate customer, only midstream, there is no information other than zip code of the installation.*

*Philip Mosenthal – Is there any data taken during evaluations?*

*Kim Swan – That type of information has not been collected. A survey would be costly and not provide useful information.*

*Philip Mosenthal – The 53% assumption about electrification is based on surveys of trade allies, not participants?*

*Jim Fay – Previously based on surveys of customers, between the years 2018 and 2021 heat pump installations that were in that timeframe, a downstream program at the time, not a midstream program. At that time, we did have customer information.*

*Chris Neme – Can we refine the approach of using ZIP code income-eligible percentages as a proxy for midstream rebate eligibility, possibly by leveraging survey data?*

*Jeff Erickson – Prior survey data might not be suitable for informing current downstream program questions due to significant differences in program context.*

*Kim Swan – Today's policy suggestion aligns with Guidehouse's 2023 memo, using ZIP code saturation percentages consistently across all ZIP codes, irrespective of their Disadvantaged Area status.*

*Philip Mosenthal – Given the high costs of home heat pump installations and the relatively small rebates in the midstream program, it's unlikely that low-income participants are as prevalent as non-low-income participants in these areas.*

*Seth Craigo-Snell (via chat) – It may be clarifying to remind folks that the AMI values are for Metro Statistical areas. Roopa, can you share the source that Elevate used for identification of the MSAs. I'm also interested in how MSAs are defined throughout the rest of the state.*

*Kit White (via chat) – Chicago's MSA is much larger than just Cook County.*

*Kari Ross (via chat) – Chicago-Naperville-Joliet is the metro statistical area that HUD uses.*

### **Full Utilization of Electrification Savings**

- Under Plan 7, up to 10% of total portfolio savings can be claimed as electrification savings, with 25% needing to come from income-eligible households. If this 25% threshold isn't met, it's unclear how market rate electrification savings are handled within or outside the cap when calculating the income-eligible to market rate ratio.
- Without a way to capture excess electrification savings, ComEd is forced to be conservative in our targeting and promoting of electrification projects.
- Recategorizing EEE savings above this threshold as EE savings allows the portfolio to provide more consistent EEE incentives, providing stability and room for growth in the electrification market.
- Provides a clear path for EEE to become one of the pillars of the EE portfolio.



- For any remaining Electrification savings, ComEd recommends shifting baseline from fuel switching to electric and recategorizing these savings as traditional energy efficiency savings.

*Chris Neme – If you exceed the limit on non-low-income electrification savings units, the excess should be redefined as standard efficiency savings, using the current federal standard (like SEER 14) instead of the original baseline (e.g., a gas or propane furnace)?*

*Elder Calderon – Yes, that is correct.*

*Cheryl Watson – How is the outreach being done to the lower income households who don't have knowledge about how to qualify for rebates given they are outside eligible zip codes?*

*Elder Calderon – Current education efforts effectively inform income-eligible customers about electrification benefits. Implementing the proposed policy aims to enhance visibility and extend these resources to customers beyond designated zones, ensuring equitable access to information and support.*

*Cheryl Watson – Is the initial contact done directly (door-to-door)? Or only secondary education materials?*

*Elder Calderon – There are various methods. Physical leave-behinds, as well as virtual outreach.*

*Zach Ross – How would a non-electrification baseline work with custom type projects, especially non-residential?*

*Elder Calderon – Switching the baseline could end up in reduced to even complete loss of some of those savings. When you compare the electrification baseline to the gas, baseline, so it is just another avenue to recategorize those savings, but there is impact when switching over to electric baseline.*

*Ted Weaver – It seems that the midstream categorization makes it harder to run. There are many projects that are functional and effective. It would be helpful if Guidehouse could provide information about what kind of data can actually be collected on these programs.*

#### **Follow-up items:**

1. Elevate to follow-up with Seth Craigo-Snell, who requested the source that Elevate used for identification of the Metro Statistical Areas (MSAs). Seth is also interested in how MSAs are defined throughout the rest of the state.
2. Can Guidehouse provide information on what kind of data can be collected from midstream programs?
3. Elder Calderon (ComEd) will follow-up with Cheryl Watson (Equitable Resilience & Sustainability) on leave behind materials and outreach tactics for income eligible programs.
4. Request for SAG Review: Are there any questions or concerns about the ComEd policy proposals described on slides 5-6 in the ComEd presentation linked below?
  - a. [ComEd Presentation: Energy Efficiency Income Eligible – Allocation of Electrification Savings](#)

- b. Questions and comments **due by Wed. June 26**
  - Send comments to Elder Calderon, ComEd ([Elder.Calderon@ComEd.com](mailto:Elder.Calderon@ComEd.com)) and CC [Celia@CeliaJohnsonConsulting.com](mailto:Celia@CeliaJohnsonConsulting.com)
  - If needed, SAG will hold a follow-up meeting with interested parties.

### **Introduction to Proposed Illinois TRM Measure – Electric Vehicles**

*Sam Dent, VEIC and Matt Armstrong, Ameren Illinois*

#### **2024 IL TRM v13 Update Schedule**

- Overview of IL-TRM update schedule

#### **2024 Working Group: IL-TRM Format**

- The 2024 TRM Administrator contract included a commitment to form a Working Group to explore potential improvements to the TRM format.
- Current TRM is published in Microsoft WORD and is over 1,700 pages across four volumes.
- Potential improvements to format for user friendliness, stability, documentation, data management etc.
- The Working Group is exploring potential options, including eTRMs and alternative publishing software.
- Plan to hear presentations from 3 existing eTRMs (California eTRM, Massachusetts eTRM and a VEIC application).
- Goal to develop a roadmap for improvements to be implemented in the coming years.

#### **Ameren Illinois New Measure Proposal for IL-TRM: Light Duty Electric Vehicles**

##### Technical Considerations

- Already a current measure in the IL TRM: 5.7.3 Level 2 Electric Vehicle Charging Equipment
- Those savings are based exclusively on standby power loss and usage and that measure is focused on Energy Star versus standard efficiency chargers.
- Opportunity because of substantial differences in the efficiency levels across Electric Vehicles (EVs)
  - Efficiency levels: ≈23 - 75 kWh/100 miles
  - Baseline: low efficiency EVs (Market Rate and Equity Investment Eligible) (DAC)
- Efficient: high efficiency EVs encouraging customers to acquire these vehicles through incentives.

##### Policy Position

- Growth in EV adoption driving electric load growth and distribution needs.
  - Section 8-103B policy is that electric utilities are to use cost-effective energy efficiency and demand-response measures to reduce and flatten delivery load.
- Broader goals of CEJA support decarbonization: including buildings, electric generation, transportation, etc.
  - Energy Efficiency can play an incremental role by promoting not just EVs, but instead higher efficiency EVs.

*Philip Mosenthal – Charging equipment is currently a measure in the TRM. What is the actual measure? Level 2 or Level 1 charging?*

*Seth Craigo-Snell – The current measure is level 2 only. The baseline is standard efficiency and the efficient level is ENERGY STAR. Savings are purely based on savings that could be established and networked vs. non-networked vary greatly.*

*Philip Mosenthal – The proposal is to count more savings for level 2?*

*Seth Craigo-Snell – The proposal is to incentivize more efficient charging vehicles.*

*Chris Neme – What is the true baseline? Is it compact vs. SUV?*

*Matt Armstrong – There is still discussion to be had about how the baseline is looked at. The incentive is for customers to purchase more efficient EVs. There are no established incentives yet for the implementation.*

*Seth Craigo-Snell – EV efficiency baselines by vehicle type are noted, with a focus on aligning technical aspects in the TRM to ensure comprehensive and sensible measure implementation and evaluation*

*Sam Dent (via chat) – The original workpaper explored looking at a gasoline car to EV measure. I realize you have withdrawn that baseline for this year - but in the interest of potentially putting that measure into the TRM in the future - I'm curious if there are policy concerns on a gasoline car as a baseline?*

*Chris Neme – Vehicle electrification should not be counted as energy efficiency from gas to EV under the current statute.*

*Zach Ross (via chat) – We last discussed in Summer 2020.*

*Chris Neme (via chat) – Here is the statutory language that makes clear, at least to me, that electrification of a gas-powered vehicle cannot be counted towards utility EE savings goals. "Beginning in 2022, an electric utility may offer and promote measures that electrify space heating, water heating, cooling, drying, cooking, industrial processes, and other building and industrial end uses that would otherwise be served by combustion of fossil fuel at the premises, provided that the electrification measures reduce total energy consumption at the premises." A gas-powered vehicle is not a "building or industrial end use" and converting it to electricity does not "reduce total energy consumption at the premises".*

*Elizabeth Horne – Is it intended that the shift would be from residential charging to commercial charging? Is that the reduction in load?*

*Matt Armstrong – The delivery load would be reduced in the residential charging from an inefficient EV charger to an efficient one.*

*Elizabeth Horne – Would anyone looking to purchase a low-efficiency EV be excluded from this policy?*

*Matt Armstrong – The intent is that the customer is making that switch or*

*decided to make that switch, we want to push them even further to choose the higher efficiency EV to help with the load on the distribution system.*

*Phil Mosenthal – Any idea what a program design would look like?*

*Matt Armstrong – We haven't gotten that far yet.*

#### **Follow-up items:**

- Request for SAG Review: Are there any policy concerns about the IL-TRM including a Light Duty Electric Vehicle EE measure? See Ameren's presentation linked below. This measure will be further discussed in the IL-TRM Technical Advisory Committee.
  - [Ameren Illinois Presentation: IL-TRM New Measure - Light Duty Electric Vehicles](#)
  - Questions and comments **due by Wed. June 26**
    - Send comments to Matt Armstrong, Ameren Illinois ([MArmstrong@ameren.com](mailto:MArmstrong@ameren.com)) and CC [Celia@CeliaJohnsonConsulting.com](mailto:Celia@CeliaJohnsonConsulting.com)
    - If needed, SAG will hold a follow-up meeting with interested parties.

#### **Total Resource Cost Test (TRC) Non-Measure Level Inputs**

*Ted Weaver, First Tracks Consulting, representing Nicor Gas*

#### **Overview of Benefit Cost Assumptions**

- Avoided Energy Supply Costs (Statewide)
- Avoided Emissions Costs (Statewide)
  - Generators and end-use equipment in homes
- Avoided Transmission and Distribution Costs (Utility)
- Avoided Losses (Utility)
  - 5-7% of energy that is generated
  - Smaller percentage on the gas side, but still important
- Other Non-Energy Impacts (Statewide)
- Economic Inputs (Statewide)
  - Discount rates comparison
  - Inflation rates and how costs are changing over time.

#### **Avoided Energy Supply Costs**

Electricity supply costs for electricity delivered to utility customers

- Fuel/capital costs from changes in building/operating electric grid
- Energy costs
- Capacity costs
- \$/MWh per change in grid output

Gas supply costs for gas delivered to utility customers

- Fuel costs for natural gas delivered to city gate
- Energy costs
- \$/therm of change in gas throughput
- Perhaps also some capacity costs for wholesale transmission

#### **Approaches / Assumptions / Adjustments**

- Electric

- Capacity expansion models (What gets built?)
- Grid simulation models (What gets operated?)
- Long-run marginal cost forecasts
- Short-run marginal costs forecasts
- Gas
  - Current commodity prices
  - National commodity market forecasts
  - Basis adjustments:
    - Delivery to utility city gates
    - Procurement/hedging strategies

#### Electric Sources

- UDDOE/EIA Annual Energy Outlook
  - Forecast of the entire economy and the entire energy economy and how it will change over time.
- USDOE/NREL Cambium dataset
  - Separate approach to the forecasting and estimations.
- Other proprietary forecasts

#### Gas Sources

- UDDOE/EIA Annual Energy Outlook
- Other proprietary forecasts

#### Electric Issues

- Which source?
- Long-run vs. short-run marginal costs
- Long run takes into consideration what gets built
- Short run marginal costs is what determines operation
- What is the “base case”?
- Shifting peak demand and load shapes
- Decrements (EE) vs. increments (electrification)
- How big a decrement/increment?
- Consistency (emissions, gas supply, inflation)
- Overall market vs. individual customer contracts

#### Gas Issues

- Consistency (electric supply, inflation)
- Overall market vs. individual customer contracts

*Philip Mosenthal – Are the sources primarily PJM and MISO?*

*Ted Weaver – I’m not sure how far out the supply curves go.*

*Jim Fay – There wouldn’t be a change in the ISOs that each utility is involved in. That gives us an outlook that extends not quite the full period, in terms of existing generation sources and capacity costs. Our methodology would extrapolate beyond that.*

*Philip Mosenthal – There are national data forecasts for ComEd.*

*Ted Weaver – These forecasts are combined and have mixed information.*

## **Avoided Emissions Costs**

### Electric

- Costs associated with electric generation combustion emissions
  - Emissions from changes in building/operating electric grid (kg/MWh)
    - EIA or AVERT
  - Damage associated with emissions (\$/kg)
  - \$/MWh per change in grid output
- Two-part analysis. How much is being emitted and how much does that cost.

### Gas

- Costs associated with gas end use combust emissions
  - Emissions from changes combusted gas (kg/therm)
    - Social Cost of Carbon
    - COBRA
  - Damage associated with emissions (\$/kg)
  - \$/thermper change in grid throughput

## **Approaches/Assumptions/Adjustments**

### Electric

- Marginal emissions from same approaches used to estimate electric supply costs
- Or from EPA AVERT model
- Social cost of GHG
- Social cost of criteria pollutants

### Gas

- EPA gas combustion emission factors
  - The difference is that emissions come off the end uses as opposed to electric generators.
- Social cost of GHG
- Social cost of criteria pollutants

## **Sources**

### Electric

- UDDOE/EIA Annual Energy Outlook
- USDOE/NREL Cambium dataset
- USEPA AVERT model
- USEPA (Social Cost of Carbon)
- USEPA (COBRA model)

### Gas

- USEPA (Social Cost of Carbon) what discount rate do you use? Many years in the future effects so how is that valued?
- USEPA (COBRA model) puts costs on the criteria pollutants

*Philip Mosenthal – The value for admission for electric is defined by the statute, just \$16 per MWh, and the statute does explain where it comes from, which was 2016 total carbon.*

*Chris Neme – The statute references \$16 only for the subsidy program, not for efficiency. Estimated on the USEPA cost of carbon which is 8 years old. There was a 3% discount rate used. The current presentation is a proposal for improvements going forward.*

#### Electric Issues

- Same issues as electric supply costs
- CO2 vs. other greenhouse gases
- Direct vs. upstream emissions
- Discount rate for future harm from current emissions
- Consistency (supply costs; GHG/criteria; inflation)

#### Gas Issues

- CO2 vs. other greenhouse gases
- Direct vs. upstream emissions
- Discount rate for future harm from current emissions
- Consistency (GHG/criteria emissions; inflation)

#### **Avoided Transmission & Distribution Costs**

##### Electric

- Costs for the transmission & distribution required to deliver electric supply to customers
  - Capacity costs
  - \$/kW/year per change in grid demand

##### Gas

- Costs for the transmission & distribution required to deliver gas supply to customers
  - Capacity costs
  - Service studies allocate all the costs, and which are for distribution specifically.
  - \$/peak-day therm/year per change in grid demand
  - May be expressed as \$/therm +++++

#### **Approaches / Assumptions / Adjustments**

##### Electric

- Utility specific engineering/economic studies
- Electric grid plans

##### Gas

- Utility cost of service studies
- Utility specific engineering/economic studies

##### Electric Sources

- Utility specific engineering/economic studies

## Gas Sources

- Utility rate cases
- Engineering staff input

## Electric Issues

- Which costs are avoidable?
- Decrements (EE) vs. increments (electrification)
- Consistency (inflation)
- Double counting issues with wholesale transmission

## Gas Issues

- Embedded vs. marginal costs
- Which costs are avoidable with lower throughput?
- Cost per therm vs. cost per peak-day therm
- Consistency (inflation)
- Double counting issues with wholesale transmission

## **Avoided Losses**

### Electric

- Losses incurred in transmitting & distributing electricity to customers
  - % of generated (or delivered) energy
  - % of generated (or delivered) demand

### Gas

- Losses incurred in transmitting & distributing gas to customers
  - % of purchased (or delivered) energy

## **Approaches/Assumptions/Adjustments**

### Electric

- Utility specific engineering/economic studies
- Electric grid plans

### Gas

- Utility cost of service studies
- Utility specific engineering input

### Electric Sources

- Utility specific engineering/economic studies

### Gas Sources

- Utility rate cases
- Engineering staff input

### Electric Issues

- Average vs. marginal losses
- Losses by time period (or end use load shape)



## Gas Issues

- Which losses are avoidable with lower throughput?
- Double counting issues with wholesale transmission vs. supply.

## Other Non-Energy Impacts

### Water Savings – Health Benefits – O&M Costs

- Other quantifiable costs or benefits from energy efficiency measures/programs/portfolios
  - Water savings (showerheads and other water savings measures)
  - Health benefits (weatherization)
    - Making house safer due to less cases of asthma due to improvements in shell improvements.
  - Avoided/increased O&M costs (specific measures, usually business measures)
  - Others

## Approaches/Assumptions/Adjustments

### Water Savings

- Water savings (gallons/year)
- Utility rates (\$/gallon)

### Health Benefits

- Program specific – evaluators have done studies and get applied on a program specific basis

### O&M Costs

- Measure specific

## Sources

### Water Savings

- IL-TRM calculates water savings
- Local water utility rates

### Health Benefits

- Joint evaluator studies on health impacts of weatherization programs

### O&M Costs

- IL-TRM calculates O&M impacts for some specific measures

### Issues

- Forecast of future water rates

## Economic inputs

### Discount Rate

- Rate for discounting future costs/benefits to evaluate lifecycle cost effectiveness for measures/programs/ portfolios
  - Improvements might last for 10-30 years

## Inflation

- Projection of changes in costs over and above real price changes
  - Labor
  - Other costs

## Approaches/Assumptions/Adjustments

### Discount Rate

- TRC: societal discount rate, per EE Policy Manual
  - Risk free investment return
- UC/RIM (if applicable):
  - Utility weighted average cost of capital

### Inflation

- Social cost of GHG
- Social cost of criteria pollutants

## Sources

### Discount Rate

- US Treasury Bond Yields
- Academic analyses of “risk free” returns
- Utility rate cases

### Inflation

- UDDOE/EIA Annual Energy Outlook
- USDOE/NREL Cambium dataset
- Other proprietary forecasts
- Utility corporate planning/Treasury

## Issues

### Discount Rate

- Covid-driven monetary policy skews recent Treasury Bond rates
- Historic vs. projected rates
- Consistency between discount rate and inflation
- Consistency with other forecasts

### Inflation

- Consistency between discount rate and inflation
- Consistency with other forecasts

*Chris Neme – The statute actually says that we should use “a societal discount rate based on actual long term Treasury Bond yields.”*

*Zach Ross – The current approach for the discount rate is specifically laid out in the Policy Manual right now.*

*Ted Weaver – It is inappropriate in my opinion. The proposal is to come up with something more appropriate as a measure.*

*Philip Mosenthal – Does this have a material effect on the portfolio passing on the TRC?*

*Ted Weaver – In general, most efficiency measures are cost-effective so it doesn't really matter. There are potential electric measures that will not be cost-effective.*

*Philip Mosenthal – Is there a requirement that energy efficiency measures pass the TRC?*

*Chris Neme – No, there isn't per the statute.*

*Zach Ross – Are emissions costs going down? Are they ending up less than \$16.50 per MWh?*

*Ted Weaver – The cost will go down because the grid is getting cleaner.*

*Chris Neme – The grid is getting cleaner so that will lower the value. Also, the dollars per ton of carbon is based on 50 dollars which can be an order of magnitude bigger going forward. The net impact won't be nailed down until the sources measuring will be determined.*

### **Peoples Gas and North Shore Gas Input Update**

*Zach Froio, AEG*

- No changes at this point from the methodologies used in the current EE Plan

### **Ameren Illinois Input Updates**

*Dylan Royalty, Scott Madden*

- Ameren is considering the inclusion of avoided gas infrastructure costs
- Ameren is considering an update to the avoided distribution costs, using a new marginal cost of service for distribution. This is based on work that was done during the multi-year grid plan proceedings.

*Chris Neme: Are these numbers ready yet?*

*Dylan Royalty: Will check and follow-up.*

### **ComEd Input Update**

*Elder Calderon, ComEd*

- No changes at this point from the methodologies used in the current EE Plan

### **Follow-up items:**

- Illinois utilities will present an update on TRC inputs at the July 17 Large Group SAG meeting.
- Ameren Illinois to follow-up with NRDC (Chris Neme) regarding numbers for using a new marginal cost of service for distribution, to update avoided distribution costs.

## Closing and Next Steps

### Next Large Group SAG Meeting:

- Wednesday, July 17

### Summary of Follow-up Items:

#### 1. ComEd Proposed Policies

- a. Elevate to follow-up with Seth Craigo-Snell, who requested the source that Elevate used for identification of the Metro Statistical Areas (MSAs). Seth is also interested in how MSAs are defined throughout the rest of the state.
- b. Can Guidehouse provide information on what kind of data can be collected from midstream programs?
- c. Elder Calderon (ComEd) will follow-up with Cheryl Watson (Equitable Resilience & Sustainability) on leave behind materials and outreach tactics for income eligible programs.
- d. Request for SAG Review: Are there any questions or concerns about the policy proposals described on slides 5-6 in the ComEd presentation linked below?
  - [ComEd Presentation: Energy Efficiency Income Eligible – Allocation of Electrification Savings](#)
  - Questions and comments **due by Wed. June 26**
    - Send comments to Elder Calderon, ComEd ([Elder.Calderon@ComEd.com](mailto:Elder.Calderon@ComEd.com)) and CC [Celia@CeliaJohnsonConsulting.com](mailto:Celia@CeliaJohnsonConsulting.com)
    - If needed, SAG will hold a follow-up meeting with interested parties.

#### 2. Proposed Illinois TRM Electric Vehicle Measure

- a. Request for SAG Review: Are there any policy concerns about the IL-TRM including a Light Duty Electric Vehicle EE measure? See Ameren's presentation linked below. This measure will be further discussed in the IL-TRM Technical Advisory Committee.
  - [Ameren Illinois Presentation: IL-TRM New Measure - Light Duty Electric Vehicles](#)
  - Questions and comments **due by Wed. June 26**
    - Send comments to Matt Armstrong, Ameren Illinois ([MArmstrong@ameren.com](mailto:MArmstrong@ameren.com)) and CC [Celia@CeliaJohnsonConsulting.com](mailto:Celia@CeliaJohnsonConsulting.com)
    - If needed, SAG will hold a follow-up meeting with interested parties.

#### 3. TRC Inputs for 2026-2029 EE Plans

- a. Illinois utilities will present an update on TRC inputs at the July 17 Large Group SAG meeting.
- b. Ameren Illinois to follow-up with NRDC (Chris Neme) regarding numbers for using a new marginal cost of service for distribution, to update avoided distribution costs.