

4

AGENDA	
INTRODUCTIONS	<ul style="list-style-type: none">MembersThe Power Bureau
MARKET CONDITIONS	<ul style="list-style-type: none">ElectricityNatural Gas
ENERGY OPTIONS	<ul style="list-style-type: none">ApproachesState-Level IncentivesFederal Incentives
DISCUSSIONS	<ul style="list-style-type: none">Open

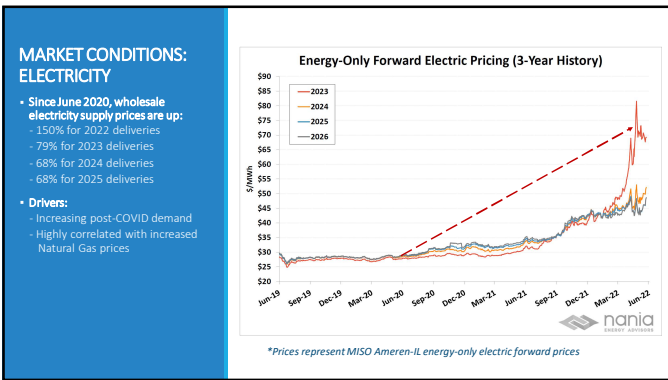
5

INTRODUCTIONS Mark Pruitt Cell: 219-921-3828 markjpruitt@thepowerbureau.com	Current Work	Power Bureau. Advisor on energy policy, planning, and procurement. Illinois Community Choice Aggregation Network. Advisor to municipalities for energy supply options (municipal aggregation, community solar)
	Past Work	Illinois Power Agency. State agency Director responsible for wholesale electricity sourcing for ComEd and Ameren, Illinois Renewable Portfolio Standard, Clean Coal Portfolio Standard. University of Illinois. Managed electricity and natural gas purchasing, hedging, billing for state executive agencies. Nicor Solutions. Cogeneration and energy efficiency project developer for federal facilities.
	Other Activities	Research. Illinois Institute of Technology, Argonne National Laboratory Teaching. Northwestern University, University of Illinois - Chicago

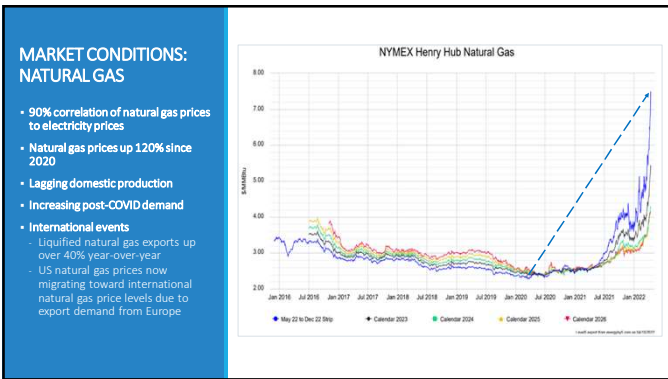
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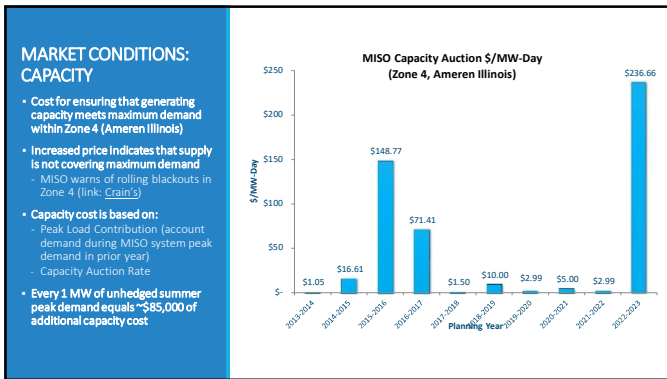
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8



9



10



11

OPTIONS: MITIGATIONS, REDUCTIONS & OFFSETS

- Mitigation**
 - Transfer price risk to another party or shift between energy sources
 - Examples: Fixed-Price Supply, On-site solar
- Reduction**
 - Permanent reductions in the billing determinants associated with operations
 - Examples: LED Lighting, Insulation
- Offset**
 - New revenues that can offset ongoing operating costs
 - Example: Demand Response

SOLUTIONS	SUPPLY			DELIVERY		TAXES & FEES	
	Commodity	Capacity	Transmission	Fixed Charges	Variable Charges	Program Fees	Taxes
Mitigations							
Market Hedging	✓						
On-Site Generation & Storage	✓	✓	✓		✓	✓	✓
Off-Site Generation	✓	✓					
Demand Control	✓	✓			✓	✓	✓
Reductions							
Energy Efficiency	✓	✓	✓		✓	✓	✓
Offsets							
Demand Response		✓					

12

STATE INCENTIVES

- **Future Energy Jobs Act (FEJA, 2016):**
 - Nuclear bailout (\$235 million/year for 10 years)
 - Increased energy efficiency program costs (\$4.7 billion) over 20 years
- **Climate and Equitable Jobs Act (CEJA, 2021)**
 - Increased costs for new programs (Coal to Solar, EVs, Equity, etc.)
 - Increased cost for existing programs (Renewable Portfolio Standard, energy efficiency, etc.)
 - Fossil-fuel phase out

COST IMPACT FOR AMEREN ILLINOIS with CEJA					
2021 CEJA Cost Centers	2022	2023	2024	2025	2026
Coal to Solar	\$12,015,000	\$14,040,000	\$14,040,000	\$14,040,000	\$14,040,000
Credit Card Socialization	\$4,500,000	\$4,500,000	\$4,500,000	\$4,500,000	\$4,500,000
Distributed Generation Incentive	\$14,558,563	\$19,740,916	\$25,869,200	\$31,773,803	\$37,454,728
DG Storage Incentive	\$13,102,709	\$17,766,824	\$22,263,180	\$26,591,776	\$30,752,612
Energy Assistance	\$159,782	\$319,565	\$479,347	\$479,347	\$479,347
Energy Efficiency Programs	\$8,435,992	\$16,895,404	\$25,118,749	\$32,974,029	\$39,861,479
Electric Integrated Grid Planning	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000
Electric Vehicle Incentives	\$813,851	\$3,735,038	\$5,871,946	\$7,800,000	\$10,000,000
Beneficial Electrification	\$3,946,338	\$3,877,255	\$5,792,365	\$7,693,274	\$9,573,571
Equitable Energy Upgrade Program	\$393,333	\$393,333	\$393,333	\$393,333	\$393,333
Equity Programs	\$57,011,812	\$58,519,446	\$58,647,215	\$58,647,806	\$58,523,229
ICC Division of Int Dist Planning	\$2,600,000	\$2,600,000	\$2,600,000	\$2,600,000	\$2,600,000
Intervenor Compensation	\$225,000	\$225,000	\$225,000	\$225,000	\$225,000
Performance Based Rates	\$0	\$0	\$11,091,897	\$29,724,945	\$49,849,176
Renewable Portfolio Standard	\$97,348,960	\$98,628,415	\$98,940,462	\$98,695,797	\$97,968,064
Utility-Scale Pilot Projects (Storage)	\$2,473,368	\$4,865,305	\$4,702,443	\$4,539,581	\$4,376,718
TOTAL COST CENTERS	\$216,170,864	\$247,626,505	\$282,034,638	\$322,276,791	\$362,097,268
Annual Consumption (MWh)	35,084,498	35,582,163	35,694,739	35,606,472	35,343,927
Average Rate Impact (\$/MWh)	\$6.18	\$6.95	\$7.90	\$9.05	\$10.24

13

STATE INCENTIVES:
ONSITE RENEWABLES

- **Customer-Owned:**
 - Sell Renewable Energy Credits to Ameren Illinois for 20 years
 - Receive \$250/kW Smart Inverter Rebate from Ameren Illinois
 - Reduced supply charges due to lower metered consumption
 - Assignable Federal ITC of 30-50% for total project cost
- **Power Purchase Agreement:**
 - Developer sells Renewable Energy Credits with Ameren Illinois and the Smart Inverter Rebate
 - Third party also monetizes Investment Tax Credit, Depreciation and other incentives
 - Third party maintains and services solar arrays

Current Rates for REC Purchases from Solar Arrays in Illinois

Block Category/Size		Group A (Ameren Illinois, MidAmerican, Mt. Carmel, Rural Electric Cooperatives, and Municipal Utilities located in MISO)	Group B (ComEd, and Rural Electric Cooperatives and Municipal Utilities located in PJM)
Small DG	≤10 kW	\$68.98	\$68.40
	>10 - 25 kW	\$57.49	\$59.63
Large DG	>25 - 100 kW	\$49.11	\$51.32
	>100 - 200 kW	\$49.73	\$48.39
	>200 - 500 kW	\$44.05	\$43.01
	>500 - 2,000 kW	\$42.10	\$38.08
	>2,000 kW - 5,000 kW	\$27.35	\$19.61

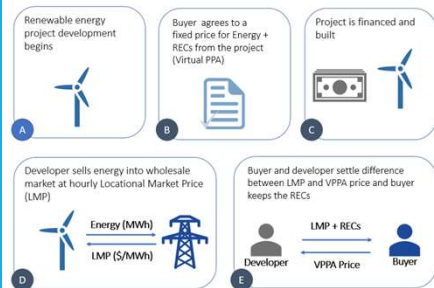
Considerations:

- REC revenue and Smart Inverter Rebates can reduce the cost of solar installations by 45-55%
- \$300/kWh energy storage rebate under development
- Natural Gas generation >25MW in nameplate (even cogeneration) must be emissions free by 2035

14

STATE INCENTIVES:
OFFSITE RENEWABLES

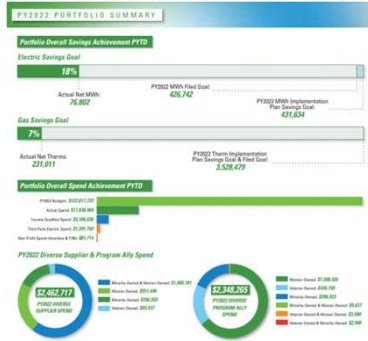
- **Virtual Power Purchase Agreement:**
 - Customer purchases energy and RECs from a renewable resource for a fixed price
 - Energy is sold to the PJM market at LMP
 - Customer receives LMP and RECs
- **VPPA Programs are typically reserved for larger users >20,000 MWhs/year**
- **When coupled with an Index Supply contract, the Virtual Power Purchase Agreement serves as a long-term commodity hedge.**



15

STATE INCENTIVES: EFFICIENCY

- Numerous energy commodity suppliers now offer to finance energy system upgrades
 - No capital expenditure, energy savings help pay for cost of project
- Ameren Illinois offers incentives for retrofit/renovation projects
 - Electric: Lighting, HVAC, Variable Speed Drives
 - Natural Gas: Space heating, water heating, steam traps, pipe insulation, controls

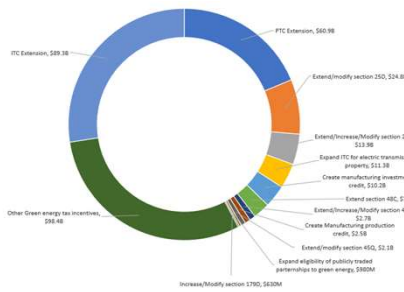


16

FEDERAL INCENTIVES

- Inflation Reduction Act
 - General
 - Increase and accelerate deployment of sustainability technologies
 - Tax credits for taxable entities
 - Direct grant for non-taxable entities
 - Conditionals to receive maximum credits
 - Prevailing Wage
 - Apprenticeships
 - Domestic Content

Inflation Reduction Act: \$325.3 billion over 10 years



17

IRA: STRUCTURE

- Tax Credits
 - Refer to section of the Tax Code
 - IRS is required to publish rules
 - Plenty of time to think through how all of this will work

Inflation Reduction Act: \$325.3 billion over 10 years

- Section 48 ITC,
- Section 45 PTC,
- Section 45Q credit for carbon capture and sequestration,
- Section 30C alternative fuel vehicle refueling property credit,
- Section 48C advanced energy project credit
- Section 48D investment credit for transmission property,
- Section 48E zero emissions facility credit,
- Section 45W zero-emission nuclear power production credit, and
- Section 45X clean hydrogen production credit,
- Section 45BB clean electricity production credit,
- Section 48F clean electricity investment credit,
- Section 45CC clean fuel production credit.

18

IRA: RENEWABLES

- **Production Tax Credit (PTC).** Tax credit (\$0.005-0.025/kWh) for all new renewable generation beginning construction pre-2026
 - Biomass, landfill gas, municipal solid waste, hydro, geothermal
- **Investment Tax Credit (ITC).** Tax Credit equal to 6-30% of capital cost of a new renewable energy resource beginning construction pre-2026
 - Biomass, landfill gas, municipal solid waste, hydro, geothermal, energy storage, interconnection, microgrid controllers, linear generators

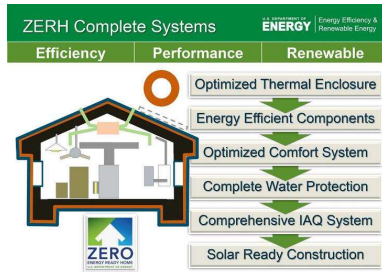
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19

IRA: RESIDENTIAL

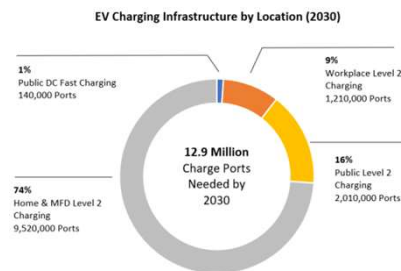
- **Residential Energy Efficient Property Credit (Section 25D).**
 - 30% tax credit for projects installed before 2031.
 - Solar (PV, thermal), fuel cell, small wind energy, geothermal heat pumps, battery storage
- **New Energy Efficient Home Credit (Section 45L).**
 - Single Family
 - \$2,500 (Energy Star)
 - \$5,000 (Zero Energy Ready)
 - Multi-Family
 - \$500-\$3,000/Unit (Energy Star)
 - \$1,000-\$6,000 (Zero Energy Ready)



20

IRA: TECHNOLOGIES

- **CO₂ Sequestration Credit (Section 45Q).**
 - \$17-\$85/ton of CO₂ (source captured) and geologically sequestered
 - \$12-\$60/ton of CO₂ for allowable use
 - \$36-\$180/ton of CO₂ (direct air capture) and geologically sequestered
 - \$26-\$130/ton of CO₂ (direct air capture) for allowable use
- **Alternative Fuel Refueling Property Credit (Section 30C).**
 - Base Credit: 6% of expenses up to \$100,000, 4% of expenses > \$100,000
 - Alternative Bonus credit: 30% of expenses up to \$100,000, 20% of expenses > \$100,000



21

IRA: EFFICIENCY

• Energy Efficient Commercial Buildings (Section 179D).

- Standard Credit
- Commercial buildings that reduce energy consumption at least 25% below ASHRAE standards set 4 years before building was first operated
- Base Incentive of \$0.50/Square Foot of building space (at 25%)
- Incremental incentive \$0.02/Square Foot for each 1% improvement over the 25% baseline
- Not to exceed \$1/Square foot
- Bonus Credits available

PROVISION	NEW IRC SECTION 179D EFFECTIVE FROM JAN. 1, 2017	PREVIOUS IRC SECTION 179D EFFECTIVE FROM JAN. 1, 2006 TO DEC. 31, 2017
Eligibility	<ul style="list-style-type: none"> • Commercial building owners • Designers of buildings owned by: <ul style="list-style-type: none"> ◦ Government entities ◦ Not-for-profit organizations ◦ Churches and other religious organizations ◦ Tribal organizations ◦ Not-for-profit schools and universities • REITs 	<ul style="list-style-type: none"> • Commercial building owners • Designers of buildings owned by government entities
Tax deduction range	<p>Base deduction (sliding scale of 50 cents/sqft for energy savings of 20% and up to \$1/sqft for energy savings of 50% or greater)</p> <p>Bonus deduction (sliding scale of \$2.50/sqft for energy savings of 20% and up to \$5/sqft for energy savings of 50% or greater)</p>	60 cents/sqft - \$1.00/sqft per eligible system
Deduction cap	A three-year cap that allows IRC Section 179D to be claimed on buildings if the previous full deduction claim occurred more than three taxable years ago	Since 2006, there's been a lifetime cap of \$1.80/sqft or \$1.68/sqft with inflation adjustment
Technical requirements	ASHRAE standard in effect from four years prior to completion of construction	ASHRAE standard in effect from two years prior to start of construction
Bonus deduction	<ul style="list-style-type: none"> • Most local prevailing wage • Most apprenticeship percentage hours for up to 10% of labor hours 	Not applicable

22



CONCLUSIONS

23

Conclusions

Market Risks Remain High

- Rates for electricity have increased some 100% in the past year
- Compressed operating budgets: "Do more with less!"
- Increased delivery charges and fees

Several Approaches to Reducing Costs

- Mitigate, reduce, offset
- Require some skill and effort

24

Conclusions

Incentives Appear Plentiful

- Federal and state incentives can be combined to significantly reduce project costs
- There are conditions

Consumers always pay

- All of these incentives are paid for by consumers
- Why not capture as much as you can to protect your interests and the interests of your community?

25

THANK YOU

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26
