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ISSUE BRIEF

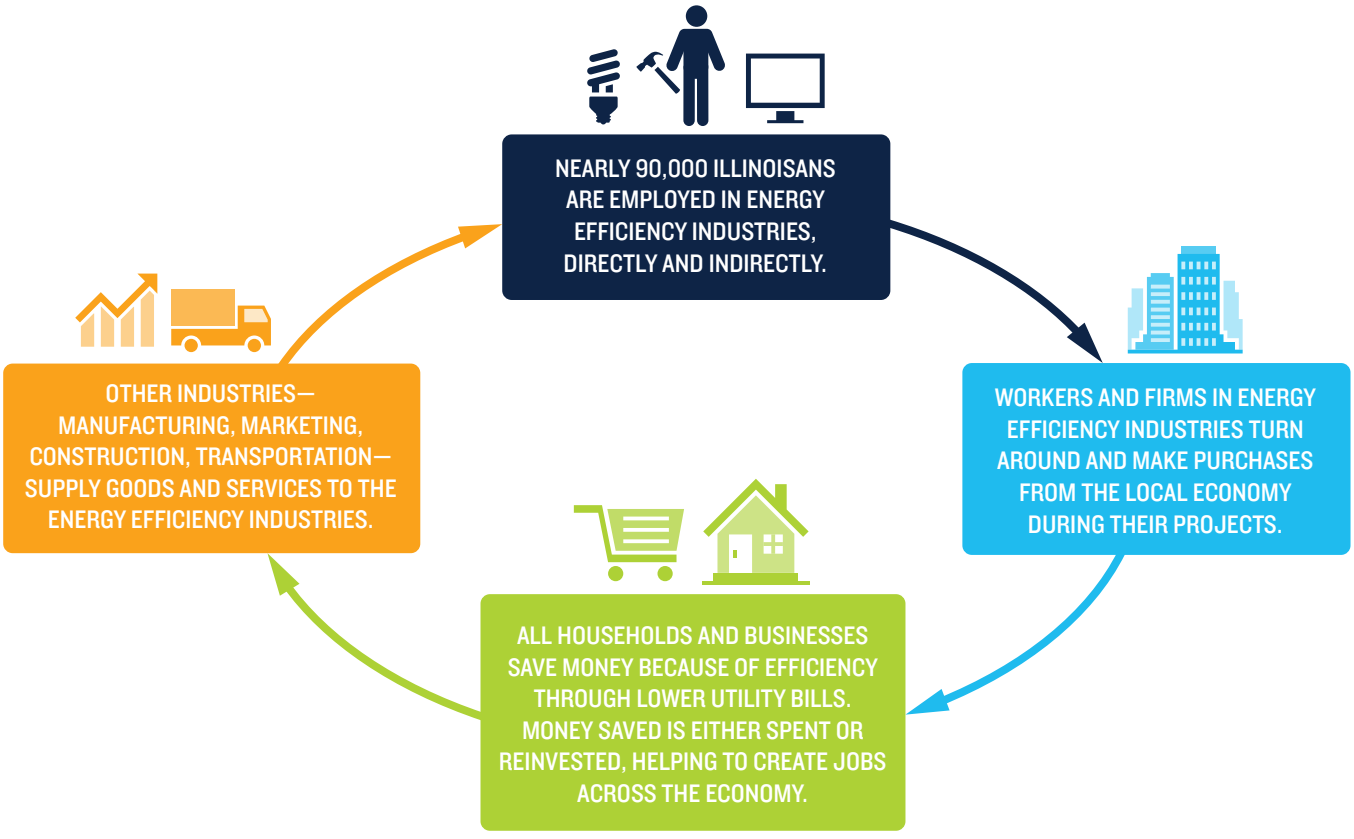
ENGINE OF GROWTH:

ENERGY EFFICIENCY INVESTMENTS AND THE FUTURE ENERGY JOBS ACT WILL SPARK ILLINOIS'S CLEAN ENERGY ECONOMY

Energy efficiency is an engine of economic growth in Illinois. Across the state, households, buildings, and businesses are already saving money on their electric bills as a result of successful efficiency programs, and the state is currently home to about 90,000 workers in the energy efficiency sector.[1]

This issue brief analyzes how Illinois can expand its clean energy economy by doubling down on efficiency investments, which could create more than 7,000 jobs per year and add $700 million to the state's economy annually between now and 2030, according to new economic analysis from NRDC. The pathway to achieving these economic gains is clear: the state's electric utilities must fully implement the energy efficiency provisions of the Future Energy Jobs Act.

JOBS RELATED TO ENERGY EFFICIENCY



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BACKGROUND: ENERGY EFFICIENCY IN ILLINOIS AND THE FUTURE ENERGY JOBS ACT

Illinois is a key player in the Midwest's power sector and a growing hub for clean energy in the region. The Illinois Power Agency Act of 2007 created a renewable portfolio standard (RPS) and an energy efficiency portfolio standard (EEPS) that required the state's electric utilities—Commonwealth Edison (ComEd) and Ameren Illinois (Ameren)—to deliver increasing levels of renewable energy and energy efficiency savings, including a focus on low-income communities. The EEPS stipulated that these same utilities had to gradually increase annual incremental energy efficiency savings equivalent to 2 percent of sales by 2016 and into perpetuity.[2]

Although Illinois ranks a respectable 12th in the nation in savings levels, there is plenty of room for improvement.[3] In 2015, the state was achieving efficiency savings of only 1.1 percent of sales, well below the goals set by the 2007 law. A recent evaluation of the RPS and EEPS, led by the Illinois Department of Commerce and Economic Opportunity, confirmed that the state was failing to achieve the original policy intent of these standards by a wide margin, due in part to critical flaws in the standards' design.[4] Most notably, a cost cap in the state's Public Utilities Act limited the amount of energy efficiency spending and savings that the utilities could achieve, even if measures were cost-effective.[5] As a result, many cost-effective savings were left untapped, meaning that Illinois utility customers were missing out on bill savings and clean job development opportunities.

In total, the amount of additional energy projected to be saved in 2030, relative to a "business as usual" scenario, is equivalent to the annual output of three large coal plants or the annual energy consumption of 1.1 million Illinois households.

As part of an effort to fix these issues, Illinois passed into law the Future Energy Jobs Act in December 2016. This act will have two primary impacts on the state's power sector: (1) driving growth in new renewable energy and increasing energy efficiency savings, and (2) retaining generation from existing nuclear units that are financially vulnerable.[6] Moreover, the Citizens Utility Board estimates the bill will decrease the average ComEd customer's bill by $15 annually while boosting new clean energy investment and reducing reliance on fossil fuel generation.[7] The act also directs new renewable energy and energy efficiency investment in low-income communities, ensuring that clean energy will benefit everyone. More specifically, with regard to energy efficiency, the legislation requires minimum annual spending targets in low-income communities and elevates the role of government agencies and community-based organizations that serve low-income residents in the implementation of these programs.[8]

The Future Energy Jobs Act's provisions reform and expand Illinois's renewable energy and energy efficiency requirements. Specifically, with respect to the EEPS, the act requires that the state's investor-owned electric utilities achieve new, greater energy efficiency savings through 2030: ComEd and Ameren are required to achieve 21.5 percent and 16 percent, respectively, in cumulative persistent annual savings relative to average annual electricity sales between 2014 and 2016.[9] In total, the amount of additional energy projected to be saved in 2030, relative to a "business as usual" scenario, is equivalent to the annual output of three large coal plants or the annual energy consumption of 1.1 million Illinois households.[10] The final legislation also aligns the utilities' economic interests with the achievement of deeper, more persistent efficiency savings through performance-based incentives that financially reward the utilities for exceeding their targets and impose penalties if they fall short.[11] Finally, the bill creates specific carve-outs for spending on low-income programs and public buildings. Overall, full implementation of the Future Energy Jobs Act would solidify Illinois's position as a clean energy leader.

ANALYSIS: ENERGY EFFICIENCY INVESTMENT WILL DRIVE ECONOMIC GAINS IN ILLINOIS

New analysis reaffirms that Illinois stands to see significant economic benefits by strengthening its investments in energy efficiency. This can be achieved by ensuring the implementation of the energy efficiency provisions outlined in the Future Energy Jobs Act, resulting in significant savings to utility customers.

ICF performed an economic analysis for NRDC using the REMI Policy Insight Plus model.[12] The inputs into the economy-wide modeling were based on NRDC assumptions as well as previously developed power sector modeling that examined the impacts of energy efficiency investments on the electric generation mix and overall expenditures.[13] Using this model, NRDC analyzed a scenario in which Illinois ramps up its efficiency investments to achieve 2 percent savings statewide as part of a pathway to cutting carbon emissions.[14] This scenario, which reaches levels of savings similar to those achieved by full implementation of the Future Energy Jobs Act, was compared with a baseline scenario in which efficiency investments stay flat and the state does not implement policies to reduce its carbon emissions.[15]

The benefits of these investments will grow over time as the savings accumulate. By 2030, the projected impacts are remarkable: the state could add up to 19,400 jobs and grow its economy by $2 billion in that year alone.

ECONOMIC IMPACTS OF ENERGY EFFICIENCY INVESTMENTS IN ILLINOIS*

	Jobs Added	GDP Value Added ($ million)
Average Annual Impact (2016–2030)	7,153	701
Peak Annual Impact (2030)	19,396	2,033

*All values are reported as impacts above business-as-usual levels.

The analysis confirms that cutting energy waste can help Illinois households save money. NRDC found that households can save up to 4 percent on their average electric utility bills in 2030 as a result of greater efficiency investments in those households, while the state and region reduce carbon emissions and air pollutants that harm public health.

When Illinois residents—including low-income customers—save money on their electric bills, they have more to spend elsewhere in the economy. This creates jobs across the state, including in disadvantaged communities. The manufacturing, delivery, and installation of energy-efficient appliances, as well as other services such as upgrading windows and adding insulation, will also add jobs across Illinois.

Overall, strengthening Illinois's efficiency investments and cutting carbon pollution will add more than 7,100 jobs every year and inject $700 million annually into the state's economy, on average, between now and 2030. The benefits of these investments will grow over time as the savings accumulate. By 2030, the projected impacts are remarkable: the state could add up to 19,400 jobs and grow its economy by $2 billion in that year alone.

POLICYMAKERS AND REGULATORS SHOULD ENSURE IMPLEMENTATION OF ROBUST UTILITY ENERGY EFFICIENCY PLANS

As shown by the above analysis, scaling up the utilities' energy efficiency program investments will generate significant economic, grid reliability, and utility customer benefits in Illinois, especially in low-income households and buildings where energy burdens are highest. The pathway to realizing these benefits is clear. The Future Energy Jobs Act makes much-needed fixes to the EEPS provisions and, if implemented properly, will bolster the state's efficiency programs.

For these reasons, we ask the Illinois Commerce Commission (ICC) to ensure that the state's eligible electric utilities file and implement energy efficiency plans that fully achieve their clearly defined targets in the statute.

The Future Energy Jobs Act does allow the utilities to request energy savings goals lower than what is required in the law. For the Commission to approve an adjusted goal, a utility must clearly demonstrate either that 1) it cannot achieve the statutory savings targets cost-effectively (i.e., there is not enough efficiency savings that are less expensive than supply alternatives);[16] or that 2) it cannot

CURRENT UTILITY ENERGY EFFICIENCY FILINGS: AMEREN FALLS SHORT

In accordance with the Future Energy Jobs Act, both ComEd and Ameren filed their first four-year energy efficiency plans in June 2017 at the Illinois Commerce Commission. These plans provide an outline of the utilities' overall energy efficiency portfolios, the budgets required to achieve the goals outlined in their plans, and the cost recovery mechanisms used to recoup energy efficiency expenditures.

ComEd's portfolio appears to meet each of the cumulative persisting annual savings goals as well as its overall four-year target of 11.8 percent while significantly exceeding the minimum spend on low-income programs.[a] ComEd is not requesting a savings goal adjustment.

Ameren has filed a portfolio that also significantly exceeds the minimum budget required for low-income programs, but the plan does not meet any of its statutory cumulative annual persisting savings targets—all of which were lower than ComEd's—over the four-year period.[b] In 2021, the end of the four-year period, Ameren's target requires 9.8 percent cumulative persistent annual savings, and Ameren's plan achieves 8.24 percent. More specifically, Ameren is requesting a savings goal adjustment consistent with achieving 27 percent less new savings than the statute prescribes.

a Exhbit 1.0 - Energy Efficiency and Demand Response Plan p.11, File No. 17-0312, Illinois Commerce Commission, Filed June 30th, 2017.

b Direct Testimony of Keith Martin p.15, File No. 17-0311, Illinois Commerce Commission, Filed June 30th, 2017.

We ask the Illinois Commerce Commission (ICC) to ensure that the state's eligible electric utilities file and implement energy efficiency plans that fully achieve their clearly defined targets in the statute.

do so within the statute's efficiency spending cap (which constrains spending on efficiency, even if it is less expensive than supply). However, all available evidence suggests that there is more than enough in cost-effective savings to enable achievement of the statutory goals. Additionally, if the utilities optimize their energy efficiency portfolios by prioritizing cost-effective, persistent savings measures, it is unlikely that their budget constraints will act as a barrier to meeting their targets.[17]

It is important to note that low-income efficiency measures do not have to be cost-effective to be included in utilities' four-year plans. There are societal considerations beyond cost-effectiveness—such as health and safety—that should be taken into account when delivering efficiency programs in economically disadvantaged communities. A recent report by the American Council for an Energy Efficient Economy (ACEEE) and Energy Efficiency for All (EEFA) found that urban low-income households face disproportionately high energy burdens nationwide; in particular, Chicago residents in low-income multifamily housing had the fifth-highest energy burden quartile of the 48 cities examined in the study. By expanding access to efficiency investments for all customers, utilities can reduce residents' energy burdens while improving their health, safety, and comfort.

Both ComEd and Ameren have robust shareholder incentives that they can now claim for meeting and exceeding their savings requirements: the utilities can earn an additional eight basis points on their return on energy efficiency for each percent point by which they exceed their target.[18] Thus, any reduction in energy savings targets will make it easier for utilities to earn bonuses and reduce the risk of penalties. In that context, it is particularly important that the Commission strongly encourage ComEd and Ameren to adopt and implement four-year plans that achieve their statutory targets in full, and to reject any proposal to lower savings goals absent very compelling evidence that the stipulated goals cannot be met.

In addition, the Future Energy Jobs Act allows both utilities to invest in conservation voltage regulation (CVR) and count this toward their respective cumulative persistent savings requirements.[19] The act makes an explicit baseline assumption about how much cost-effective CVR is achievable in Ameren's service area: 1 percent cumulative persistent savings by 2025.[20] In early 2018, Ameren must file a plan for CVR investment that the Commission must approve or modify. If Ameren's approved CVR plan is a certain percentage above or below the baseline assumption, Ameren's total cumulative persistent savings targets will be adjusted by the same percentage.[21] CVR is a cost-effective resource for reducing energy consumption and increasing grid reliability, and the Commission should ensure that Ameren maximizes cost-effective CVR in its service area to increase the likelihood that the utility's overall savings target will not drop below the level described in the statute.

CONCLUSION

The Future Energy Jobs Act provides Illinois with the opportunity to deepen energy efficiency investments that develop jobs, grow its economy, and slash bills for utility customers, including low-income households. The savings requirements established in the legislation are ambitious. However, we are confident that the utilities can achieve these targets to the benefit of all Illinois households and businesses. We look forward to working with the Commission and relevant stakeholders on the successful development and implementation of the utilities' first four-year energy efficiency plans.

ENDNOTES

1 See Environmental Entrepreneurs and E4 the Future, *Energy Efficiency Jobs in America*, December 2016, https://www.e2.org/wp-content/uploads/2016/12/EnergyEfficiencyJobsInAmerica_FINAL.pdf.

2 In other words, the utilities' energy efficiency programs were originally required to achieve savings in compliance by 2016 that were equal to 2 percent of the electricity they individually sold the year before.

3 See Berg, Weston, et al., *The 2016 State Energy Efficiency Scorecard, American Council for an Energy-Efficient Economy*, September 2016, http://aceee.org/research-report/u1606.

4 See Illinois Department of Commerce and Economic Opportunity, *State of Illinois: Goals Status Report for Energy Efficiency and Renewable Energy*, 2016.

5 *Ibid.*

6 NRDC is not opposed to nuclear power in principle and acknowledges its low-carbon attributes in a warming world, but we also acknowledge nuclear energy's significant safety, global security, environmental, and economic risks. NRDC favors more practical, economical, and environmentally sustainable approaches to reducing carbon emissions, through energy efficiency and renewable energy sources. For more detail on NRDC's work to mitigate the risks associated with nuclear power, see "Minimize the Harm and Security Risks of Nuclear Energy," Natural Resources Defense Council, https://www.nrdc.org/issues/minimize-harm-and-security-risks-nuclear-energy.

7 Jim Chilsen, "General Assembly passes historic energy efficiency measures," Citizens Utility Board Consumer WatchBlog, December 2, 2016, https://cubillinois.wordpress.com/2016/12/02/general-assembly-passes-historic-energy-efficiency-standards/ .

8 ComEd and Ameren are required to spend $25 million and $8.35 million per year, respectively, on low-income programs targeted at residential utility customers with incomes below 80 percent of area median income.

9 In the past, the utilities' energy efficiency targets were expressed in terms of "annual incremental savings," which put heavy emphasis on the savings generated in the first year of implementing an energy efficiency measure. Under a "cumulative persistent savings" framework, utilities are encouraged to invest in deeper, longer-lived energy efficiency measures that can be used to achieve efficiency targets over their entire measure life up to 2030.

10 Assumes in the "business as usual" case that ComEd and Ameren achieve 2 percent and 1 percent savings from conservation voltage regulation, respectively. Also assumes a 500-megawatt coal plant with 75 percent capacity factor. Illinois household consumption data are available at: "2015 Average Monthly Bill - Residential," Energy Information Administration, October 6, 2016, https://www.eia.gov/electricity/sales_revenue_price/pdf/table5_a.pdf.

11 In the Future Energy Jobs Act, ComEd and Ameren are able to claim a baseline shareholder incentive for achieving their targets outlined in the statute. Up to a certain threshold, this incentive increases or decreases by eight basis points for every percentage point that the utilities exceed or fall short of their target. However, Ameren's performance incentive structure is unique in that it allows the utility to receive its standard rate of return on energy efficiency investments even if it achieves as little as 84.4 percent of its target for a given year. Only if Ameren falls below 84.4 percent does the basis point penalty begin to apply. By contrast, ComEd receives a basis point penalty if it achieves less than 100 percent of its target for a given year.

12 See Natural Resources Defense Council, "Methodology for NRDC Economic Impact Analysis," March 2017, https://www.nrdc.org/sites/default/files/renewable-energy-tax-credits-economic-impact-methodology-appendix.pdf.

13 See "EPA's Clean Power Plan: Summary of IPM Modeling Results with ITC/PTC Extension," M.J. Bradley and Associates, June 1, 2016, http://www.mjbradley.com/sites/default/files/MJBA_CPP_IPM_Report_III_2016-06-01_final_0.pdf.

14 The scenario analyzed is one in which all states implement the Clean Power Plan mass-based standard and ramp up efficiency investments to 2 percent of annual savings (labeled MB05 in the M.J. Bradley report).

15 NRDC estimates that ComEd will achieve an average of between 2.2 and 2.7 percent incremental (new) savings each year *for eligible loads* over the 2018–2030 period covered by the Future Energy Jobs Act, and that Ameren will likely achieve between 1.5 and 1.8 percent savings each year *for eligible loads* if the law is fully implemented. However, the Future Energy Jobs Act explicitly excludes large customers with demand greater than 10 MW from contributing to and participating in utility energy efficiency programs, meaning that the *total* efficiency savings and benefits achieved from the EEPS, particularly in Ameren's service area, will be less than that—about 10 percent less in for ComEd and 25 percent less for Ameren. Nevertheless, we still expect total statewide incremental annual savings to average about 2 percent per year if the statute's cumulative persistent savings targets are met.

16 This excludes low-income efficiency measures, which do not have to be cost-effective to be included in a four-year plan.

17 Again, this excludes low-income energy efficiency measures, which do not have to be cost-effective.

18 See footnote 11 for more information on the utilities' performance incentive structures.

19 Voltage is a measure of the force that drives the flow of electricity through transmission and distribution lines; too much or too little voltage can spell trouble for grid operations. CVR refers to technologies that can be deployed on the distribution system—outside of utility customers' homes—that lead to improved voltage optimization. This optimization reduces the inefficiencies that occur on the grid as power is delivered to utility customers, yielding energy savings for downstream customers as well as other system-reliability benefits.

20 *The Future Energy Jobs Act*, SB 2814, 99th General Assembly of Illinois, December 1, 2016, http://ilga.gov/legislation/99/SB/PDF/09900SB2814enr.pdf. ComEd can pursue CVR, but unlike Ameren, it does not need to file a separate plan with the Commission to invest in CVR.

21 Theoretically, this means that if Ameren is not able to invest in any cost-effective CVR, its total cumulative persistent savings target would be revised downward from 16 percent in 2030 to 15 percent. ComEd does not have the ability to adjust its targets in this fashion.