State Brief: Illinois

Background

Illinois’ energy mix is dominated by nuclear and coal and is a mix that has not changed dramatically in the past few years.

Illinois is highly ranked in multiple clean energy indices. The state is second overall in Clean Edge’s Corporate Clean Energy Procurement Index, meaning it is easy for major retail and technology companies to procure renewable energy for their operations from within the state. Much of the procurement comes in the form of direct investment from corporations in large, offsite projects. Ikea is one of the major corporations investing in this manner. Additionally, Illinois is #11 overall on Clean Edge’s US Clean Tech Leadership Index, buoyed by a high rank in the policy category and the capital (financial, human, and intellectual) category. However, Illinois has fallen by two spots in each of these categories compared to 2016’s rankings.

The five members of the bipartisan Illinois Commerce Commission (ICC) are appointed by the governor. The Illinois House and Senate are currently under Democratic control. Governor Bruce Rauner is a Republican.

The Future Energy Jobs Bill (SB 2814) took effect less than two months ago on June 1st. This major legislation provides support to two of the state’s six nuclear power plants for the next decade. These Exelon plants, near Clinton and the Quad Cities, were on the verge of closing before the bill was passed. The bill also reaffirms a 25% by 2025 renewable portfolio standard (RPS). However, it exempts municipal utilities and electric co-ops from the RPS requirements.

Community Choice Aggregation (CCA) participation jumped in 2013 to approximately two million customers, and was a calling card of Illinois’ clean energy efforts. However, participation has since plateaued, and many CCA programs have chosen not to renew their green power products. Chicago voted to opt out of ComEd service in 2013 with community aggregation in an effort targeted at using the city’s buying power to reduce bills. However, in 2015 they went back to ComEd after it was determined that the savings were short-lived and they could receive lower cost service with ComEd.

The Illinois Electric Co-op provides financing for citizens who wish to purchase an electric vehicle. The offering is 0.5% interest for 60 months. This is not a state-sponsored effort. However, the Illinois Department of Commerce and Economic Opportunity does provide rebates up to $50,000 for installation of charging stations.

Illinois has made efforts to modernize their grid through multiple bills over many years. The Illinois Electric Service Customer Choice and Rate Relief Law of 1997 opened up customer choice for electric suppliers. The Energy Infrastructure Modernization Act from 2011 spurred smart meters and smart grid enabled programs. As of 2015, Illinois had 2.3 million advanced metering infrastructure (AMI) installations. To continue the work, the recently established NextGrid, a group led and overseen by the Illinois Commerce Commission, will research “ways to leverage the state’s restructured energy market” which is emerging as a result of SB 2814.
Policy Strengths and Opportunities

An important framework for policymakers to consider, the notion of “policy stacking” was developed at the National Renewable Energy Laboratory (NREL). The basic idea behind policy stacking is that there is an interdependency and a sequencing of state policy that, when done effectively, can yield greater market certainty, private sector investment, and likelihood of achieving stated public policy objectives.

In theory, but not always in practice, clean energy policies can be categorized into one of three tiers of the policy stack. Tier 1, Market Preparation Policies, remove technical, legal, regulatory, and infrastructure-related barriers to clean energy technology adoption. Tier 2, Market Creation Policies, create a market and/or signal state support for clean energy technologies. Tier 3, Market Expansion Policies, create incentives and other programs in order to expand an existing clean energy market by encouraging or facilitating technology uptake by additional market participants.

A simple example, before financial incentives for combined heat and power (CHP) will be successful, two key considerations for deployment are having clear interconnection standards and favorable stand-by rates for customers who opt to add CHP. In this example, policies to address interconnection and stand-by rates should be adopted before financial incentive programs are implemented.

Energy Storage

Energy storage offers a unique opportunity to dynamically manage supply and demand to maximize the value of grid resources. By deploying storage in strategic locations, utilities can more effectively manage their energy portfolios. First, storage can dispatch power to better integrate intermittent resources like renewable energy. Second, it provides management of intermittent demand – helping to flatten peak demand requirements for the utility. Third, the responsiveness of energy storage can allow the utility to implement voltage regulation and other ancillary services, useful for improving system efficiency. Finally, energy storage can help the commercial sector avoid costly “demand charges.” As utilities around the country consider extending demand charges to the residential sector, this will become an even more important issue.

Storage provides multiple benefits to both the customer and the utility. State planning and regulatory policies can help maximize these benefits through a combination of 1) establishing a framework for easy integration of energy storage into the grid and 2) establishing a marketplace that monetizes the benefits of energy storage for cost effective investment.

In the latest Freeing The Grid report, Illinois received an “A” for interconnection rules. In addition, Illinois has a strong set of policies for rooftop solar and wind combined with a move toward smart grid and time of use rates, which creates a good foundation for storage as a distributed energy technology. Combined with smart meters, distributed battery storage offers benefits for both the customer and the utility.

Both the University of Illinois and Illinois State University are currently researching energy storage. Illinois State hosted a conference on the topic last fall. ComEd is running a pilot program in Beecher, 40 miles south of Chicago, to see if battery storage can alleviate issues with power outages in residential areas.

There are several opportunities for developing supportive state policies:

1. Instruct the utilities commission to evaluate the value of energy storage in multiple strategic locations across the utility system and consider a requirement to deploy storage where it will be cost effective, or identify the price point at which it will become cost effective.

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1 For more information on policy opportunities, please visit the SPOT for Clean Energy. For more information on specific policy actions related to these opportunities, please review the Clean Energy Policy Guide for State Legislatures.
2. Require the inclusion of energy storage as a critical piece of the energy system as both a demand and supply management resource. Some states have required utilities to evaluate the cost effectiveness of “non-wires” alternatives (NWAs) to large generation investments that are more traditional utility avenues for meeting demand. Or, states may want to require utilities to develop a distribution investment plan that identifies the locations on the distribution system where energy storage or other distributed resources would offer the system the greatest value.

3. Provide incentives for customers to purchase storage to both manage their electric load and store locally produced renewable energy. Allow utilities that provide incentives to customers to install smart meters that enable dynamic energy management from multiple distributed battery systems.

4. Provide an option for utility customers (targeted at commercial users) to pay an additional charge to be included in a “high reliability zone” created through a combination of distributed generation and energy storage – forming a utility integrated “microgrid”.

5. Provide financing for commercial businesses to install energy storage to reduce their demand charges.

6. Incentivize energy storage. Policymakers may want to start first with a policy to incentivize those who have solar systems, along with a utility incentive that will allow the utility to maximize the benefit of solar by aligning solar resources with peak load.

7. Instruct the PUC to develop a strategy toward broad scale implementation of energy storage both at the home and business level as well as the micro-grid level through the establishment of an energy storage standard. Implementation of a procurement target or requirement for energy storage may help expand the growing market for energy storage technologies in the state.

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**Clean Energy Financing**

Distributed generation (DG) provides localized generation that serves a specific part of the grid. It may include generation serving a specific residence or business, a neighborhood, or a region served by a substation. DG has the benefit of reducing stress on large transmission infrastructure by providing distribution level power (as opposed to central generation). Because small-scale renewable energy systems require large upfront investments, overcoming the upfront cost barrier is arguably the biggest challenge to clean energy deployment at the consumer level. Financing is key; and many states provide financing and financial incentives to spur adoption of these technologies. Five utilities in the state offer loans.

To promote more wide-spread deployment of DG, there are a handful of policy opportunities in Illinois.

1. **Property Assessed Clean Energy (PACE)** – PACE is a financing mechanism used by local governments that allows property owners to finance energy efficiency and renewable energy improvements through their property tax payment. The repayment of qualified energy improvements is done via a voluntary property tax assessment collected by local governments, just as other public infrastructure investments are financed. The financing for PACE projects may be provided by municipal bonds or third-party capital secured by the property assessment payments. Repayment responsibility transfers to the next owner if the property is sold. While PACE programs can be designed for both the residential and the commercial markets, residential PACE takes a much more committed and engaged approach on the part of the state. Commercial PACE programs have been expanding rapidly in recent years with a robust market evolving around these programs. State legislative authority must be in place to allow local governments to establish energy financing districts. Illinois passed PACE-enabling legislation, but does not have an active program in the state. However, HB 2831 is currently on the governor’s desk and would activate a PACE program. The bill passed overwhelmingly in the legislature.

2. **Revolving Loan Funds** – The distinguishing characteristic of these public funds is that they are evergreen in the sense that the repaid principal and interest from loans made are re-issued to other loan recipients. In this way, the program funding "revolves" over time. Illinois has a revolving loan fund for water quality projects through the Illinois EPA. This could be expanded to include clean energy technologies.
Electrification of the Transportation Sector

One of the most important barriers to increased adoption of electric vehicles (EVs) is their higher up-front cost as compared to a similar conventionally-fueled vehicle. In addition, there has been a complicated relationship between increased adoption of EVs and the availability of EV charging stations. Put simply, consumers want to be sure their car will get them where they need to go. The good news is that both supportive policies for developing charging infrastructure and technological advancements have eased “range anxiety.” For instance, the most recent GM Bolt has an estimated range of 240 miles.

Illinois has legislation in place for an Alternative Fuel Rebate Program as well as an Electric Vehicle Supply Equipment (EVSE) Rebate, but both programs are currently suspended. However, owners of EVs may register for a discounted registration fee and are exempt from state motor vehicle emissions inspections. The state is also beginning to address public parking. Parking an internal combustion engine vehicle in an EV spot incurs a minimum $75 fine. And while the state boasts a strong charging network, there are currently no parking lot requirements in place. Illinois’ existing policy could be updated to include the following components:

1. **Charging Infrastructure Plan** – Locating charging infrastructure is different than locating conventional fueling stations. For the most part, EVs are cars used for commuting and local trips. Furthermore, while one fuels a conventional vehicle when they are going somewhere, stopping at a gas station for the specific purpose of filling up, a driver of an EV is generally looking to refuel when they are stopping somewhere: when going shopping, going into a restaurant, or going to work. Charging infrastructure plans should target these types of locations and attempt to pair the appropriate level of charging infrastructure with a reasonable amount of time a person may be stopped at that location. Legislation could direct a state agency to develop such a plan through a stakeholder process. The EV infrastructure created from EVTown in Bloomington-Normal could be used as a model for other local-scale EV initiatives.

2. **Parking Infrastructure Requirements** – In tandem with the development of a state-wide plan, legislation could set requirements for EV parking infrastructure. Some states have adopted permitting standards for parking lots, requiring, for instance, that for every 100 parking spaces, one EV charging spot must be provided.

3. **EVSE Financing and Financial Incentives** – The provision of financial incentives and innovative financing options can increase installations of charging stations. States have adopted a number of financial incentives including income and property tax credits, sales tax credits, low-interest loans, grants, and rebates. A handful of states qualify EVSE under their property assessed clean energy (PACE) programs.

4. **EV Financing and Financial Incentives** – The provision of financial incentives and innovative financing options can help spur greater market penetration of EVs. Sales and income tax credits are one of the simplest methods for addressing higher up-front costs. While sales tax credits are typically applied at the time of purchase, income tax credits may do less to address the upfront cost barrier as receipt of the credit is typically removed in time from the purchase. However, a study by the Congressional Budget Office suggests that tax credits are important tools for ensuring increased adoption of alternative-fueled vehicles. States have adopted a number of other financial incentives including low-interest loans, grants, vouchers, and rebates.

Grid Modernization

In the last two decades, digital technologies have been developed that enable utilities to better manage the grid and also provide opportunities for consumers to customize their services to fit their priorities. These technologies allow a two-way flow of information between the electric grid and grid operators and between utilities and their customers. Emerging technologies improve system reliability and resiliency by enabling better tracking and management of resources.

These technologies allow grid operators to incorporate central and distributed energy resources, energy storage technologies, electric vehicles, and assist in addressing the challenges associated with planning, congestion, asset utilization, and energy and system efficiency. This can make the operational side of the utility more efficient. On the customer’s side of the meter, advanced metering infrastructure, dynamic pricing, and other emerging technologies allow an exchange of information and electricity between a consumer and their electric provider. Grid
modernization will be associated with greater consumer choice, allowing customers to meet their energy priorities by producing their own energy or to selecting to receive innovative energy efficient or clean energy services from different providers.

Grid modernization efforts compliment other policies such as demand response policies, customer data management, smart metering infrastructure, electric vehicles, and others. Policy approaches around grid modernization should be seen as an umbrella to put in place a structure that supports and ties together these other individual policy initiatives.

Illinois is second only to California in grid modernization efforts according to GridWise’s 3rd Annual Grid Modernization Index. Much of Illinois’ success with grid modernization is a result of the Energy Infrastructure Modernization Act (EIMA), which was passed in 2011 and included $1.3 billion dedicated to upgrading the grid. Additionally, the Illinois Commerce Commission recently implemented “NextGrid,” an approximately 18-month study on smart-grid technology, the energy market, and the expansion of renewables and energy efficiency as a result of the Future Energy Jobs Act.

Currently, time of use rates are available statewide and recent legislation and PUC filings will move the state’s scores even higher on grid modernization. Anonymous energy usage data is already available to be viewed by third-party companies and researchers, and there is an open docket discussing more guidelines for an open data framework. Illinois utilities have successfully implemented Green Button’s “Download My Data” and “Connect to My Data” tools, both of which assist in improving customer data access and expediting the grid modernization process. While Illinois demonstrates leadership in grid modernization, and in line with the notion of policy stacking, discussed above, there are supportive policies that could advance in-state modernization efforts.

1. Require that utilities’ integrated resource plans include plans to enhance cybersecurity, integrate distributed energy resources (including electric vehicles and energy storage), increase smart meter deployment and demand response and/or demand-side management (DSM) programs, and measure and report on the results of grid modernization efforts.

2. Improve the state’s energy storage policies. The adoption of incentives for or a mandate to integrate a certain amount of energy storage on the grid (see above) would enhance modernization efforts. Enhancing clean energy financing and electric vehicle policies (see above), also improves the chances of successful grid modernization.

### 2017 Energy-Related Legislation Introduced by Attendees

<table>
<thead>
<tr>
<th>Bill Number</th>
<th>Bill Summary</th>
<th>Bill Status</th>
<th>Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>HB 17-2831</td>
<td>Allows cities or counties to create a commercial PACE bond program.</td>
<td>Passed both Chambers</td>
<td>Chapa LaVia</td>
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<tr>
<td>HR 17-490</td>
<td>Urges Governor Rauner to immediately join the United States Climate Alliance.</td>
<td>Adopted</td>
<td>Chapa LaVia</td>
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### Other 2017 Energy-Related Legislative Activity

Only bills that have passed both chambers are set out below. For all 2017 energy-related legislation, visit aeltracker.org.

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<tr>
<th>Bill Number</th>
<th>Bill Summary</th>
<th>Bill Status</th>
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<tr>
<td>HB 17-2801</td>
<td>Amends the Motor Fuel Tax Law. Provides that the tax imposed on the privilege of operating motor vehicles that use liquefied natural gas or propane is 21.5 cents per gallon. Provides that the tax imposed on compressed natural gas is 19 cents per gallon. Provides that, in the case of liquefied natural gas and propane, &quot;gallon&quot; means a diesel gallon equivalent. Amends the Weights and Measures Act. Provides that liquefied natural gas used as motor fuel shall be sold in diesel gallon equivalents, and compressed natural gas shall be sold in gasoline gallon equivalents. Provides that propane used as motor fuel shall be sold in actual measured gallon volumetric units, subject to adjustment for the purposes of determining the diesel gallon equivalents that are subject to the tax rates under the Motor Fuel Tax Law. Amends the</td>
<td>Enacted</td>
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Environmental Impact Fee Law. Provides that no fee is imposed on the importation or receipt of liquefied natural gas (i) sold to or used by a rail carrier or (ii) consumed or used in the operation of ships, barges, or vessels that are used primarily in or for the transportation of property in interstate commerce for hire on rivers bordering Illinois if the natural gas is delivered to the ship, barge, or vessel by a licensed receiver. Effective immediately.

## News
- Dec 22nd, 2016: [How the Illinois Energy Reform 'Fixed' the State's RPS, Promising a Renewables Boom](https://example.com).
- June 7th, 2017: [Illinois Utility’s Microgrid First to ‘Island’ Nearby Residential Customers](https://example.com).
- June 12th, 2017: [Illinois Partnership Looks to Build Trust in Grid through Cybersecurity Research](https://example.com).

## Other Resources
- Illinois Commerce Commission “NextGrid” Utility of the Future Study: [https://www.icc.illinois.gov/NextGrid/](https://www.icc.illinois.gov/NextGrid/)
- University of Illinois at Urbana-Champaign, Institute for Sustainability, Energy, and Environment: [http://sustainability.illinois.edu/](http://sustainability.illinois.edu/)
- The Database of State Incentives for Renewables and Efficiency, Illinois: [http://programs.dsireusa.org/system/program?state=IL](http://programs.dsireusa.org/system/program?state=IL)
- U.S. Energy Information Administration, Illinois: [https://www.eia.gov/electricity/state/illinois/](https://www.eia.gov/electricity/state/illinois/)
- SPOT for Clean Energy, Illinois: [https://spotforcleanenergy.org/state/illinois/](https://spotforcleanenergy.org/state/illinois/)