Solar Development for Illinois Community Colleges

LONG-TERM SOLAR SOLUTIONS FOR ILLINOIS COMMUNITY COLLEGES
Overview

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Introductions

The Illinois Green Economy Network (IGEN) provides a platform to expand the deployment of clean energy technologies, increase employment opportunities, improve environmental and human health, foster community engagement and accelerate market competitiveness of Illinois’ community colleges and the communities they serve.

The Illinois Community Choice Aggregation Network (ICCAN) advises municipalities and institutions on establishing strategies to meet their financial and sustainability goals. Led by former Illinois Power Agency Director Mark Pruitt, ICCAN is deeply familiar with the renewable energy policies and statutes for the State of Illinois and the Future Energy Jobs Act.
Future Energy Jobs Act (FEJA)

New energy legislation in Illinois
- Negotiated by Exelon and a range of environmental & consumer advocates
- Passed by legislature on December 1, 2016
- Signed by Governor on December 9, 2016
- Enacted June 1, 2017

Primary components
- Zero Emissions Credits – Purchased from Exelon’s Quad Cities and Clinton plants ($2.35 billion/10 years)
- Energy Efficiency – Lifts cost cap and places efficiency expenses into utility ratebase ($350 million/year)
- Renewable Energy – Fundamental changes to Illinois Renewable Portfolio Standard
  - Requires utilities to purchase 2 million MWh of wind and solar energy credits through 15-year contracts
  - Increases the carve out for solar purchases from 6% to 50%
  - Sets goals for a mix of utility, community, brownfield and residential solar projects
  - Sets aside between $200-250 million for solar projects in ‘income qualified’ communities
FEJA: Budgets

### Notes
- Page 57, Illinois Power Agency LTRRPP
- Represents budgets for 15-year REC purchases from new renewable energy resources in Illinois.
- Does not include ‘Illinois Solar for All’ low income program
- Substantial budget support extends into future years

#### Table 3-15. Statewide RPS Budget

<table>
<thead>
<tr>
<th>Delivery Year</th>
<th>RPS Budget</th>
<th>Contracted REC Spend</th>
<th>Estimated REC Spend</th>
<th>Available RPS Budget (est.)</th>
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</thead>
<tbody>
<tr>
<td>2017-2018</td>
<td>$141,806,259</td>
<td>$33,242,248</td>
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<td>$108,564,011</td>
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<td>2018-2019</td>
<td>$189,960,753</td>
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<td>$158,491,509</td>
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<td>2019-2020</td>
<td>$234,276,005</td>
<td>$31,594,913</td>
<td>$11,036,000</td>
<td>$191,645,092</td>
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<td>2020-2021</td>
<td>$234,003,329</td>
<td>$30,960,189</td>
<td>$11,036,000</td>
<td>$192,007,140</td>
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</table>
FEJA: Solar Renewable Energy Credits

Solar Asset
- Utility / Community / Distributed

Solar Products
- Energy Supply (MWh)
- Environmental Attributes (SRECs)

Solar Buyers
- Other Utilities (Utility Scale)
- Subscribers (Community Solar)
- Host (Distributed solar)
- ComEd, Ameren, MidAmerican Energy
Utilities will purchase Solar Renewable Energy Credits (SREC) from new solar projects
- 1 SREC for every 1,000 kWh of electricity generated
- 15 year contracts, but payout schedules vary

<table>
<thead>
<tr>
<th>Solar Project Type</th>
<th>Terms</th>
<th>Year of Operation</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>0</td>
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<tr>
<td>Distributed scale (&lt;2,000 kW)</td>
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<tr>
<td>Price set by block schedule</td>
<td>Contract</td>
<td></td>
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<tr>
<td></td>
<td>Payout</td>
<td></td>
</tr>
<tr>
<td>Community Solar (&lt;2,000 kW)</td>
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<tr>
<td>Price set by block schedule</td>
<td>Contract</td>
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<td></td>
<td>Payout</td>
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</tr>
<tr>
<td>Illinois Solar for All (&lt;2,000 kW)</td>
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<tr>
<td>Price set by competitive bidding</td>
<td>Contract</td>
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<tr>
<td></td>
<td>Payout</td>
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</table>
Opportunities for the Colleges

Utility Scale Solar
- > 2MW (require 10+ acres)
- Colleges may host (15+ years)
- Colleges can purchase large volumes of electricity at wholesale

Community Solar
- < 2MW (require up to 10 acres)
- Colleges may host a solar array that supports local subscribers
- Colleges can subscribe to a remote solar asset and receive billing credits

Distributed Solar
- < 2MW projects (installed for on-site use)
- College may own the solar asset, or simply buy electric output
- Special funding options are available for government facilities located in ‘income-qualified’ communities
Opportunities for Community Colleges

**Distributed Generation**
- Install up to 2,000 kW of solar on roofs or open land
- Consume ~100% of the electricity generated from solar array
- Set rates to achieve cost savings & cap increases over the long term

**Community Solar (Host)**
- Install up to 2,000 kW of solar on roofs or open land
- Subscribe for up to 40% from solar array at a rate that locks in cost savings
- Charge annual lease rates for roofs or open land used to host the solar array(s)

**Community Solar (subscriber)**
- Partner with one or more community solar projects located at other community colleges
- Subscribe for up to 40% from each solar array at a rates that lock in cost savings and cap increases over the long term

**Regional Initiative (convener)**
- Lead an initiative for the College district to maximize the number of solar projects to be developed in the district
- Create an optimal mix of distributed generation and community solar projects for the district
# Incentives – SRECs

<table>
<thead>
<tr>
<th>Incentive Categories</th>
<th>Ameren, Mt. Carmel, Rural Electric Cooperatives ($/SREC)</th>
<th>ComEd, MidAmerican, Municipal Utilities ($/SREC)</th>
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<tbody>
<tr>
<td><strong>Distributed Generation</strong></td>
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<tr>
<td>10kW – 100kW</td>
<td>$60.76</td>
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<td>$111,744</td>
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<td>$143,710</td>
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<td>200kW – 500kW</td>
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<td>$313,284</td>
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<td>500kW - 2,000kW</td>
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<td>$1,161,156</td>
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<td><strong>Community Solar</strong></td>
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<tr>
<td>10kW – 100kW</td>
<td>$99.75</td>
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<td>$183,500</td>
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<td>100kW – 200kW</td>
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<td>$287,162,</td>
<td>$269,170</td>
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<tr>
<td>200kW – 500kW</td>
<td>$73.05</td>
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<td>$671,914</td>
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<td>500kW - 2,000kW</td>
<td>$70.55</td>
<td>$43.09</td>
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<td>$2,595,676</td>
<td>$1,585,367</td>
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**Notes**
- Estimated incentives from IPA LTRRPP
- More incentives for smaller projects, residential participation, brownfields, and low income projects in low income areas
- Significant buy-down of capital project cost
Incentives – Ameren Region

Notes
- Solar projects qualify for state incentives (any ownership)
- Solar projects also qualify for federal incentives (tax eligible owners only)
- Incentives for 2,000 kW system in Ameren (%/Capital)
  - DG – 104%
  - Community – 150%
Incentives – ComEd Region

Notes
- Solar projects qualify for state incentives (any ownership)
- Solar projects also qualify for federal incentives (tax eligible owners only)
- Incentives for 2,000 kW system in ComEd (%/Capital)
  - DG – 90%
  - Community – 118%
Challenges with Solar Development

- Revenues, costs
- Taxes, Credits
- Agreements
- Supply chain
- Contracting
- M & V
- Size, slope
- Restrictions
- Permits, Zoning
- Interconnection
- Revenues, costs
- Taxes, Credits
- Agreements

Perspective:
In a program similar to FEJA in New York State, less than 20% of proposed solar projects have progressed beyond the initial development stage over the past 2 years.
# IGEN Recommended Approach

## Assess the Site
- Ownership & planning
- Zoning
- Sizing
- Access & Protection
- Interconnection
- Slope & Exposure

## Build a Business Case
- Generation potential
- Acquisition costs
- Construction costs
- Tax & Operation costs
- Offtake agreements
- Finance options
- Competitive positioning

## Select a Developer
- Solicitation
- Interview
- Negotiations
- Agreements
- Bidding strategy
- Commissioning
- Reporting

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**IGEN SOLAR PARTNERSHIP PROGRAM**

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IGEN Recommended Approach

Early Project Planning
- Early-stage review of solar projects: planning, site assessment, business case development

Competitive Solicitation
- Comprehensive competitive solicitations: RFI, RFQ, RFP, Sole Source solicitations

Proposal Evaluation
- Due diligence review of key values: land leases, project cost, margin, SREC price, tax credits, grants

Owner’s Representative
- Monitor contract compliance during and after project construction

Cost Neutral Option
- Costs for IGEN assistance can be paid by developers
Next Steps

Timing for the Colleges is good, but there are milestones to meet

Initial meetings with college staff and IGEN team should be scheduled before the end of 2017

Interconnection evaluation (6-9 month process) must be completed prior to receiving incentives

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<tbody>
<tr>
<td>PROGRAM PROCESS</td>
<td>IPA DRAFT PLAN</td>
<td>IPA FINAL PLAN TO ICC</td>
<td>ICC RULING ON FINAL PLAN</td>
<td>IPA SETS CONTRACT TERMS</td>
<td>IPA AUCTION &amp; CONTRACTS</td>
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<td>RULES PROCESS</td>
<td>RESPOND TO IPA DRAFT PLAN</td>
<td>MONITOR IPA PLAN DOCKET AT ICC</td>
<td>MONITOR &amp; INTERVENE IN CONTRACT TERMS</td>
<td>APPLY TO IPA PROCESS</td>
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<td>PROJECT PROCESS</td>
<td>SET CAMPUS STRATEGY</td>
<td>SITE EVALUATION AND DEVELOPER SELECTION</td>
<td>PROJECT PRICING, INTERCONNECTION</td>
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PROJECT PRICING, INTERCONNECTION
Final Thoughts

Timing is critical

- **Cost cap for FEJA** - Over 200 MW of solar projects already in the interconnection queue in ComEd
- **Phase out of Investment Tax Credit** - Lower value after 2020
- **$250/kW grant cap** - Ends after a set % of solar in installed

Timeline is critical

- **6 to 9 months for interconnection** – Must be complete before entry to SREC queue
- **Financial engineering** – Must be complete before entry to SREC queue
- **Subscriptions** – At least 50% of community solar subscriptions must be in hand before entry to SREC queue
Thank You

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