Solar Development for Illinois Community Colleges

LONG-TERM SOLAR SOLUTIONS FOR ILLINOIS COMMUNITY COLLEGES

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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 an 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

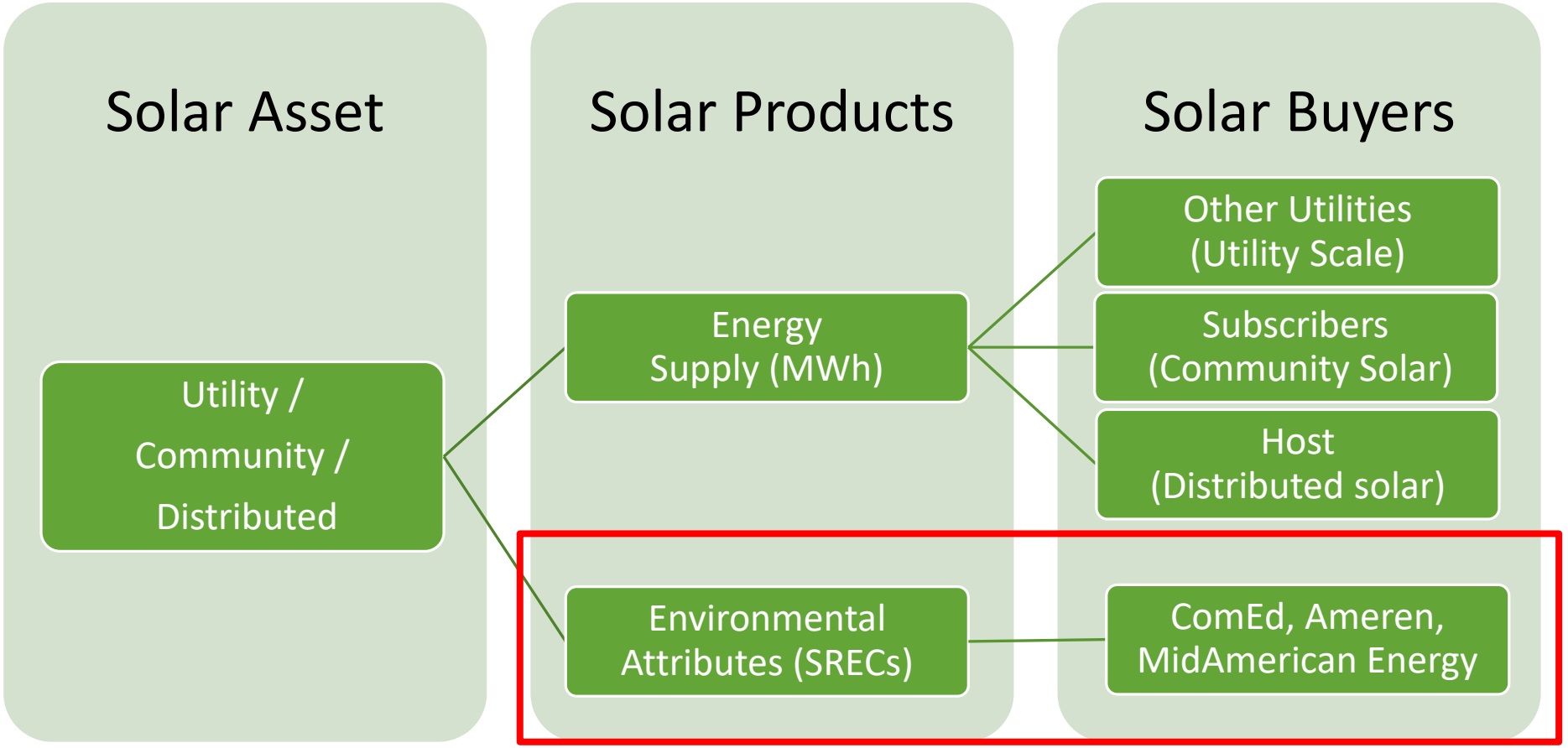
Table 3-15. Statewide RPS Budget[174]

Delivery Year	RPS Budget	Contracted REC Spend	Estimated REC Spend Initial Forward Procurement REC Spend	Available RPS Budget (est.)
2017-2018	$141,806,259	$33,242,248		$108,564,011
2018-2019	$189,960,753	$31,469,244		$158,491,509
2019-2020	$234,276,005	$31,594,913	$11,036,000	$191,645,092
2020-2021	$234,003,329	$30,960,189	$11,036,000	$192,007,140

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

FEJA: Solar Renewable Energy Credits



FEJA: SREC Sale Structure

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

Solar Project Type	Terms	Year of Operation															
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Distributed scale (<2,000 kW) Price set by block schedule	Contract																
	Payout																
Community Solar (<2,000 kW) Price set by block schedule	Contract																
	Payout																
Illinois Solar for All (<2,000 kW) Price set by competitive bidding	Contract																
	Payout																

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

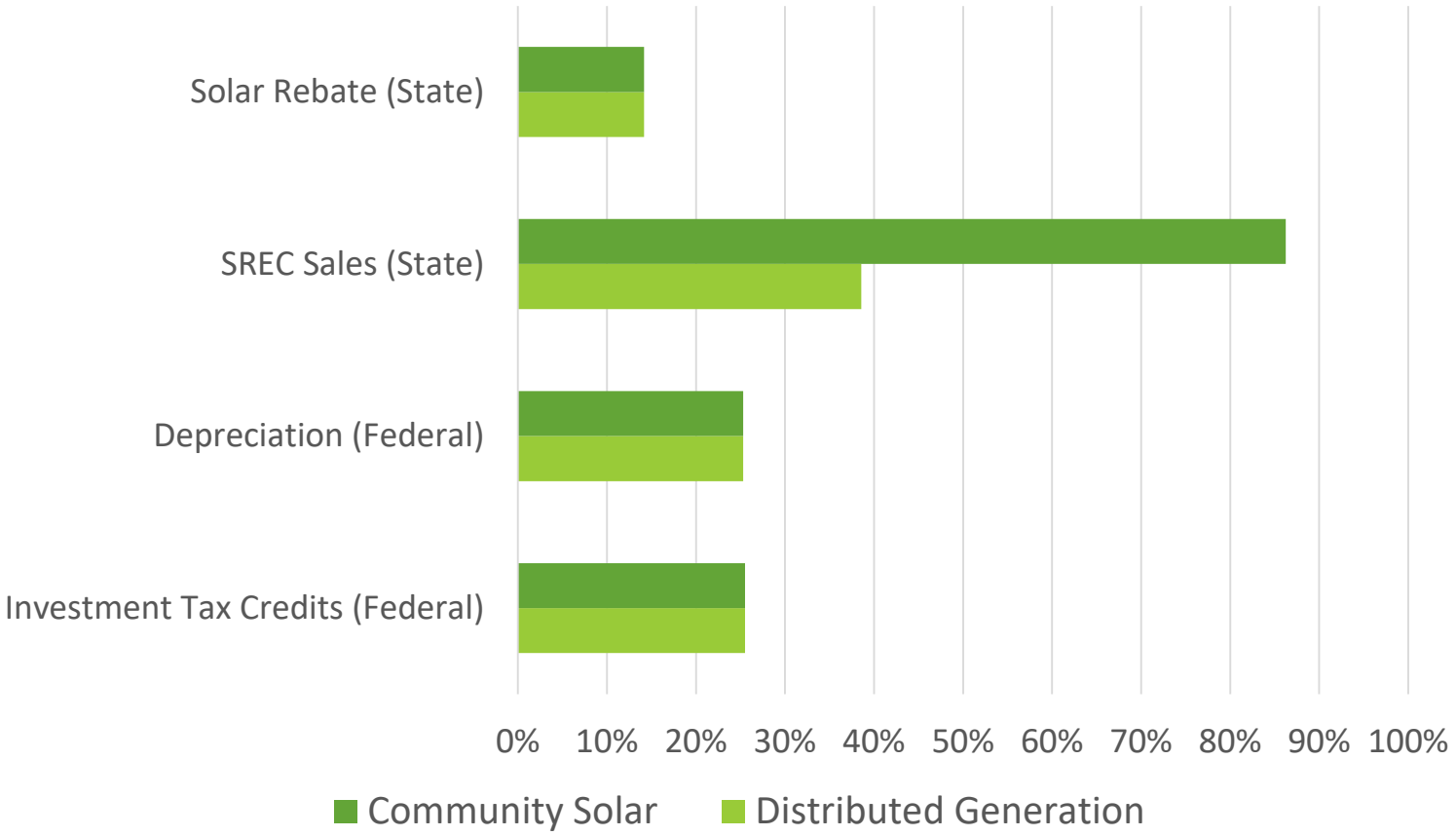
Incentives – SRECs

Incentive Categories	Ameren, Mt. Carmel, Rural Electric Cooperatives ($/SREC)		ComEd, MidAmerican, Municipal Utilities ($/SREC)	
Distributed Generation	**Rate**	**Value**	**Rate**	**Value**
10kW – 100kW	$60.76	$111,744	$50.29	$92,513
100kW – 200kW	$39.06	$143,710	$27.73	$102,024
200kW – 500kW	$34.06	$313,284	$22.73	$209,071
500kW - 2,000kW	$31.56	$1,161,156	$20.23	$744,302
Community Solar				
10kW – 100kW	$99.75	$183,500	$95.72	$176,087
100kW – 200kW	$78.05	$287,162,	$73.16	$269,170
200kW – 500kW	$73.05	$671,914	$45.59	$419,337
500kW - 2,000kW	$70.55	$2,595,676	$43.09	$1,585,367

Notes

- Estimated incentives from IPA LTRRPP Errata
- More incentives for smaller projects, residential participation, brownfields, and low income projects in low income areas
- Significant buy-down of capital project cost

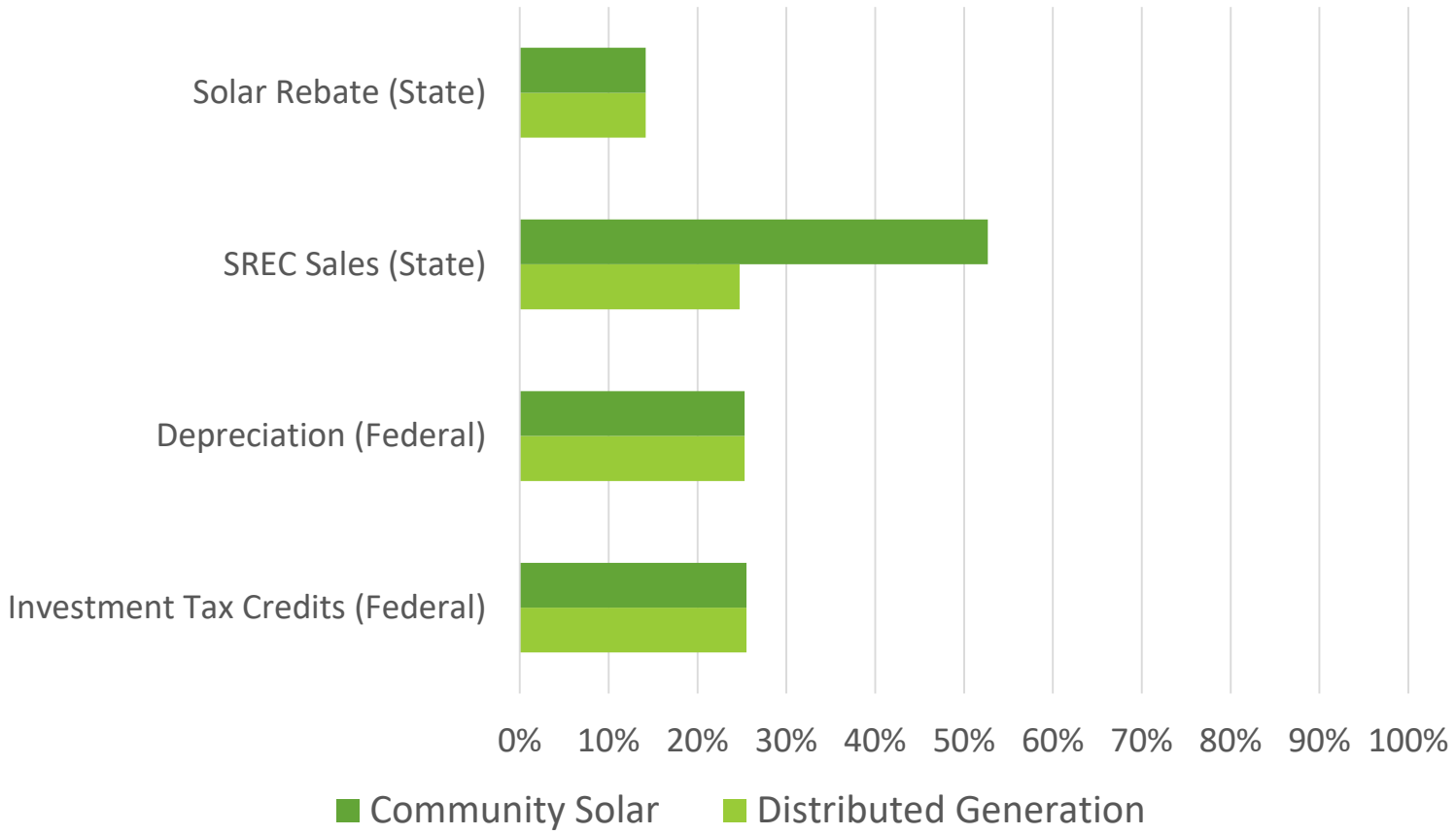
Incentives – Ameren Region



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%**

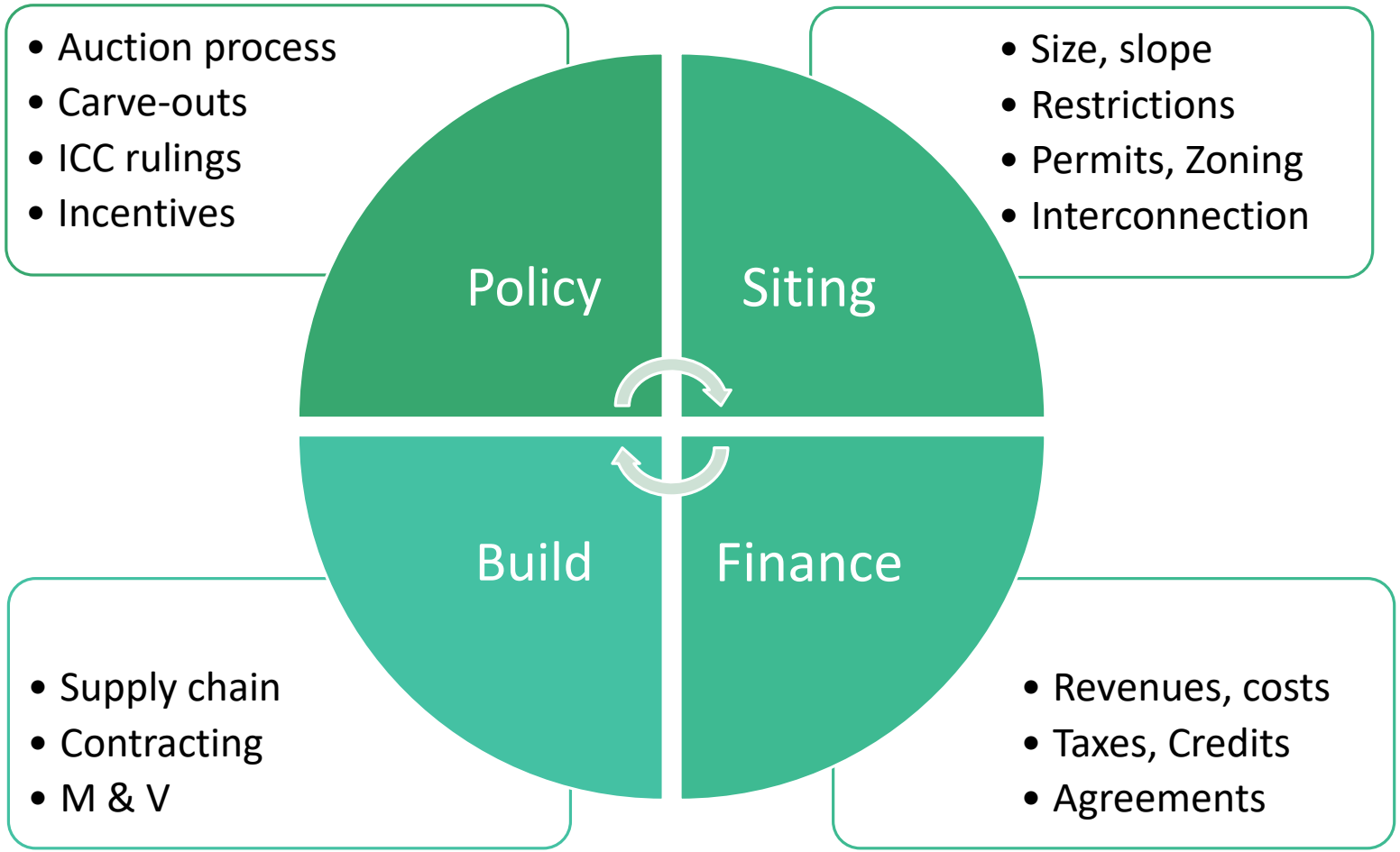
Incentives – ComEd Region



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



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

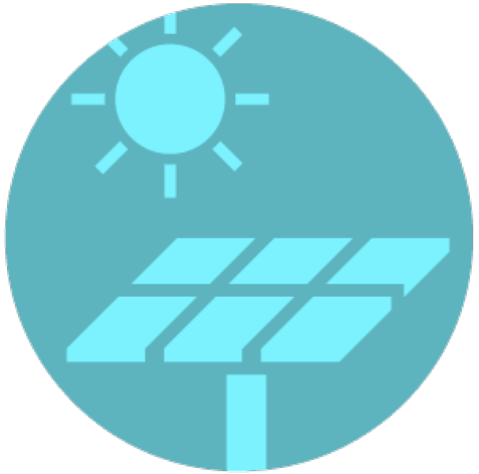
- Ownership & planning
- Zoning
- Sizing
- Access & Protection
- Interconnection
- Slope & Exposure

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



Successful Solar Project

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

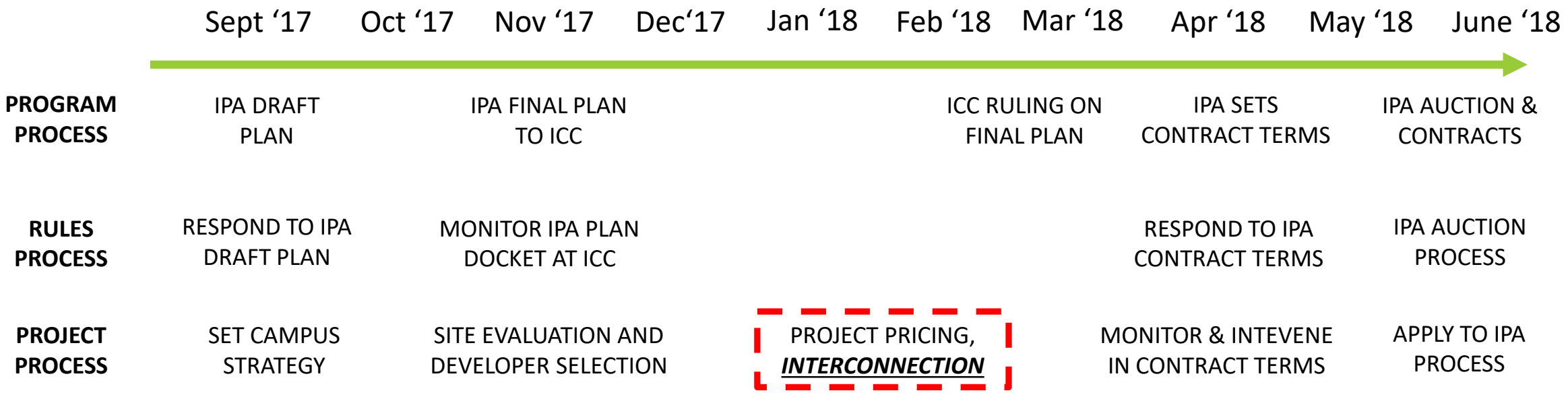
- Costs for IGEN assistance can be paid by developers

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



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

IGEN Solar Partnership Program

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