

Solar Case Studies

Public Institution:

**Walnut Acres / Stephenson County
Nursing Center
Freeport, IL**

Healthcare:

**Swedish Covenant Hospital,
Chicago**

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NABCEP PV Technical Sales™

www.CleanPower.group



GOSOLAR 815

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Walnut Acres Nursing Home – a healthier financial future

- 480 kWdc ground mount
- 70% energy (kWh) offset
- Public nursing home with a private foundation for capital projects (tax appetite!)
- Insider connection
- Board champion – Bob Skurla!
- Enthusiastic Facilities Manager
- Good credit and good banking relationship



Walnut Acres - outcomes

- \$60,000 in annual savings on energy
- GHG reduction
- <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results>
 - 1 million miles driven
 - 420 metric tons of CO₂e / yr



EST 1854
WALNUT
ACRES



All Veterans Memorial Park Of...

Sports Plex

Walnut Acres

Malcolm Eaton Enterprises

Silver Creek Museum

W Lamm Rd

W Lamm Rd

S Walnut Rd

W Lamm Rd

Google



Design

- 491.0 kW-DC Array
- Fixed Ground Mount - 30 Deg. Tilt
- Canadian Solar 360 W Modules (1,390)
- Solectria 60 kW Inverters (7)

Return on Investment

- 677,694 kWh Annual Production
- \$47,102 in Energy Savings/yr.
- Payback Period: 3.8 years
- 25 Yr. IRR 16% | NPV \$475,407

7.2 | Solar PV System Details

General Information

Facility: Facility #1

Address: 2946 S Walnut Rd Freeport IL 61032

Solar PV Equipment Description

Solar Panels: (1386) Canadian Solar Inc. CS3U-360P G4

Inverters: (7) Solectria PVI 60kW-480

Solar PV Equipment Typical Lifespan

Solar Panels: Greater than 30 Years

Inverters: 15 Years

Solar PV System Cost And Incentives

Solar PV System Cost	\$875,700
Illinois Smart Inverter Incentive	-\$91,996
Renewable Energy Credits	-\$345,423
Federal Tax Credit	-\$225,288
State Depreciation	-\$34,590
Federal - 100% Bonus Depreciation	-\$134,046

Net Solar PV System Cost: \$44,357

*NOTE: REC and Smart Inverter incentive income is after tax.

Solar PV System Rating

Power Rating: 498,960 W-DC

Power Rating: 444,694 W-AC-CEC

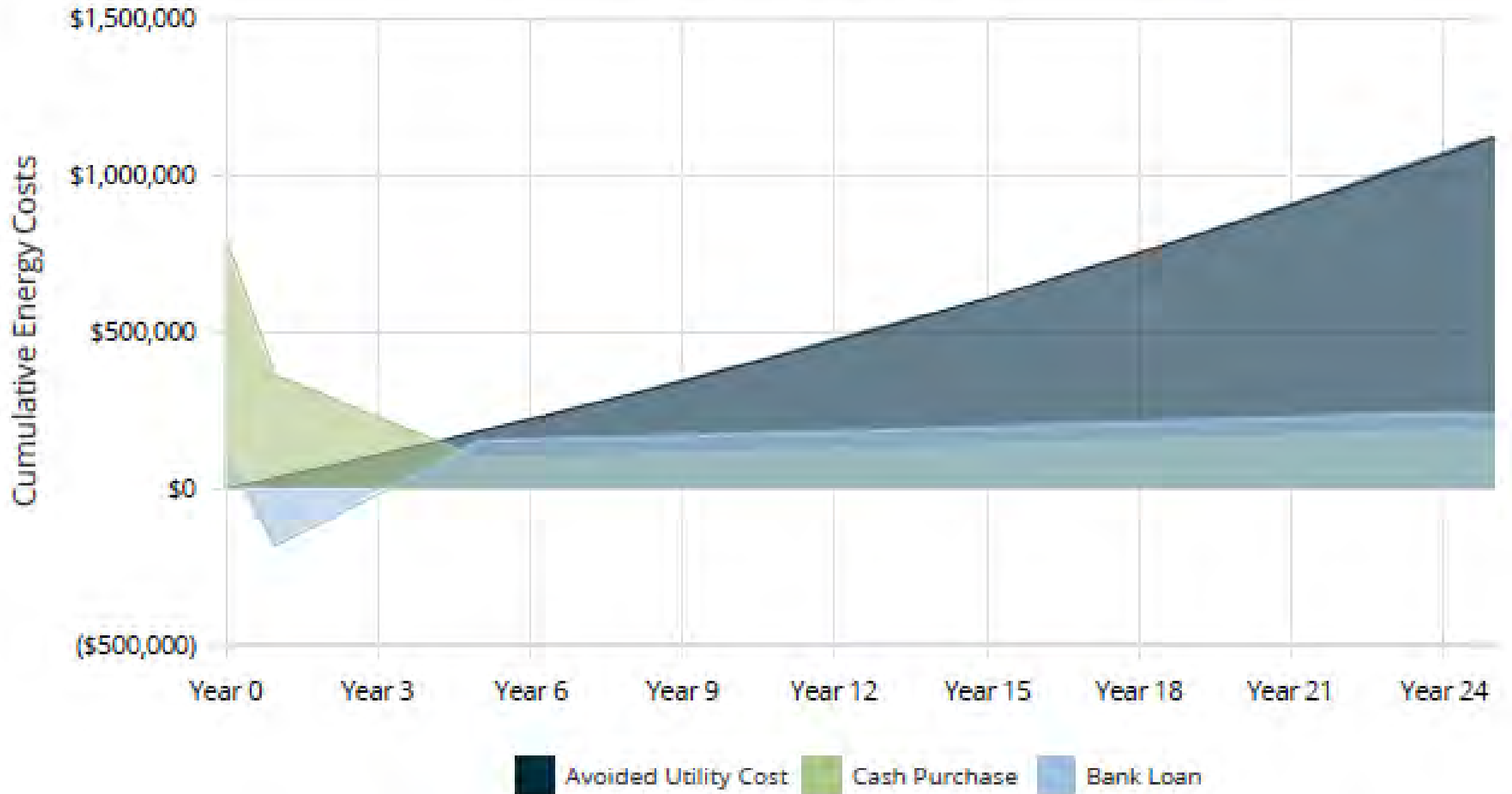
Energy Consumption Mix

Annual Energy Use: 935,968 kWh



Utility	247,533 kWh (26.45%)
Solar PV	688,435 kWh (73.55%)

Cumulative Energy Costs By Payment Option

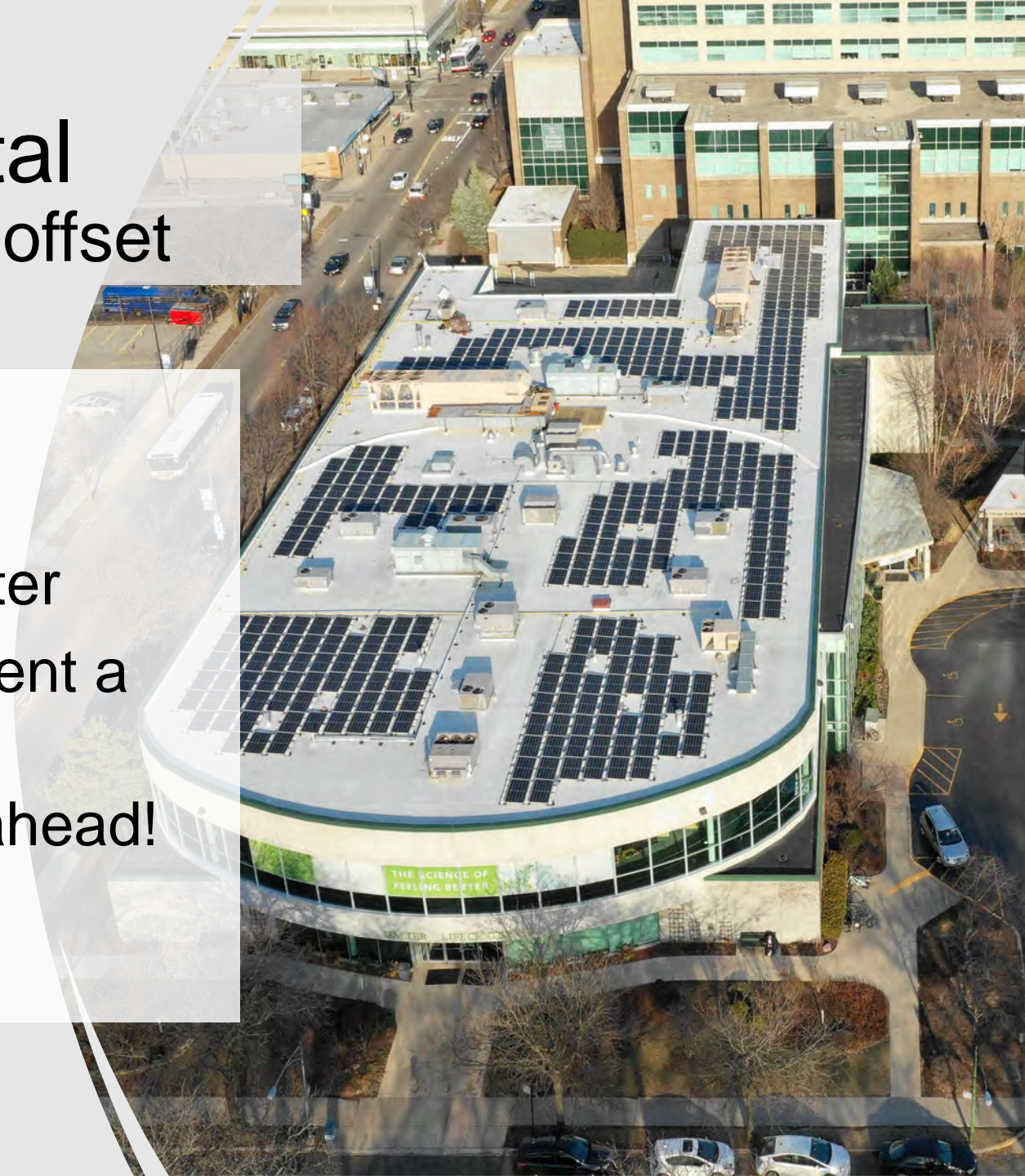


Swedish Covenant Hospital

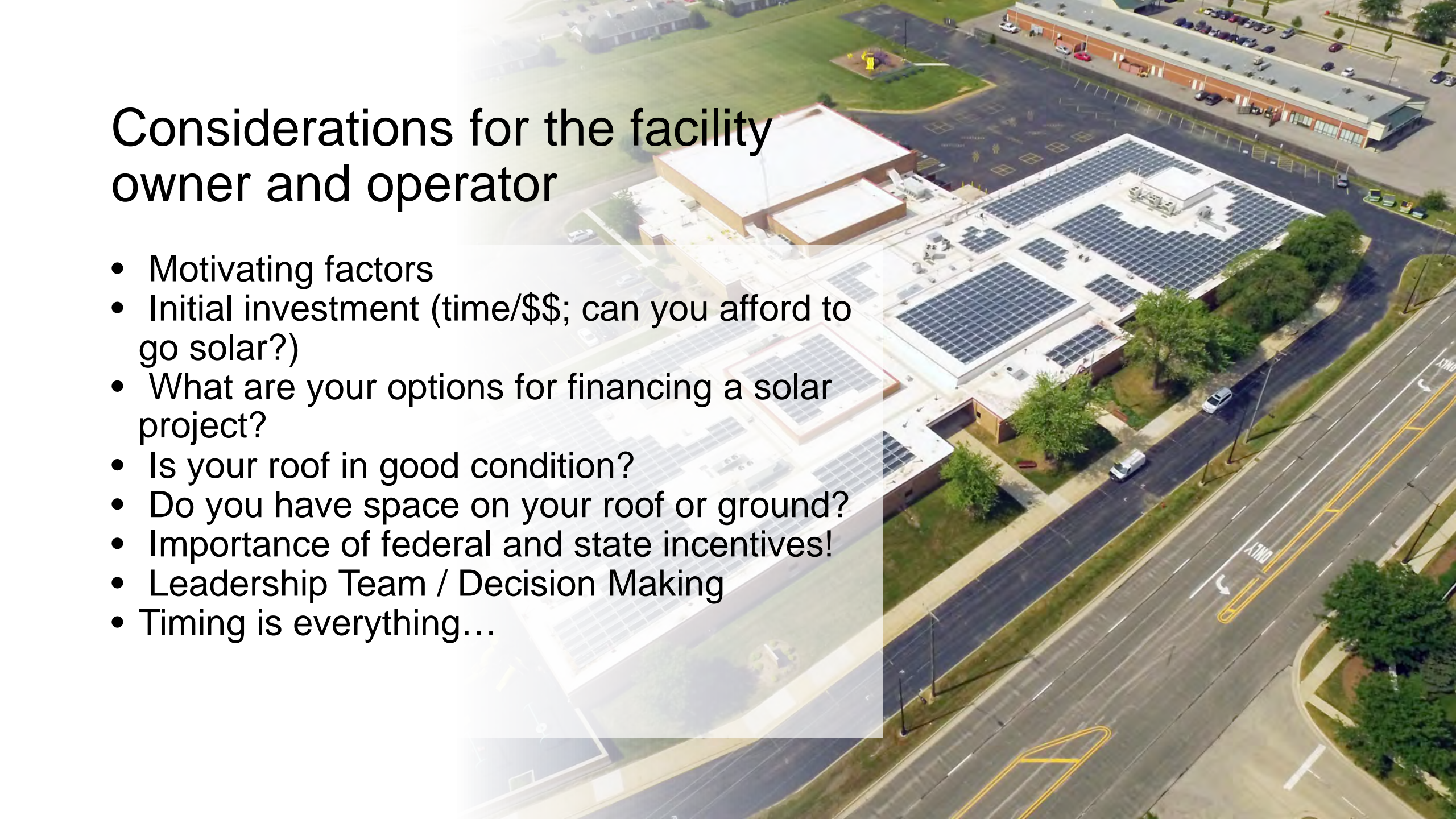
171 kWdc rooftop / 30% energy offset

Swedish Hospital
Part of  NorthShore

- Relationship... relationship!
- Health and wellbeing front and center
- Urban clientele – cleaner environment a priority
- CapEx – leadership was planning ahead!
 - Re-roofing then solar



Considerations for the facility owner and operator

An aerial photograph of a large commercial building with a flat roof covered in solar panels. The building is surrounded by a parking lot and a road. The image is used as a background for the text.

- Motivating factors
- Initial investment (time/\$\$; can you afford to go solar?)
- What are your options for financing a solar project?
- Is your roof in good condition?
- Do you have space on your roof or ground?
- Importance of federal and state incentives!
- Leadership Team / Decision Making
- Timing is everything...

Common considerations

An aerial photograph of a large school building with multiple wings. The roofs are covered with numerous solar panels. The building is surrounded by green lawns and parking areas. In the background, a residential neighborhood is visible under a clear sky.

1. Roof condition (10 year rule of thumb)
2. Available space or ground for solar?
3. Human and financial resources to get a project done
4. Decisive leadership team
5. Credit worthiness for financing if needed
6. Importance of state and federal incentives

Importance of state and federal incentives?

1. Federal Tax Credits | Investment Tax Credit (30% and up to 60% with domestic content, energy communities and low income adders)...all thanks to the Inflation Reduction Act (otherwise 10%; credits also transferable)

Accelerated depreciation – MACRS depreciation (not typically for non profits)

1. Direct Pay for non-profits of the ITC

2. State Incentives | Illinois Shines / Illinois Solar for All

1. Cash incentives: Renewable Energy Credits = ~30 to 50% of a project's value in cash (Smart Inverter Rebate = ~10-15%)

3. Net Metering – retail vs wholesale

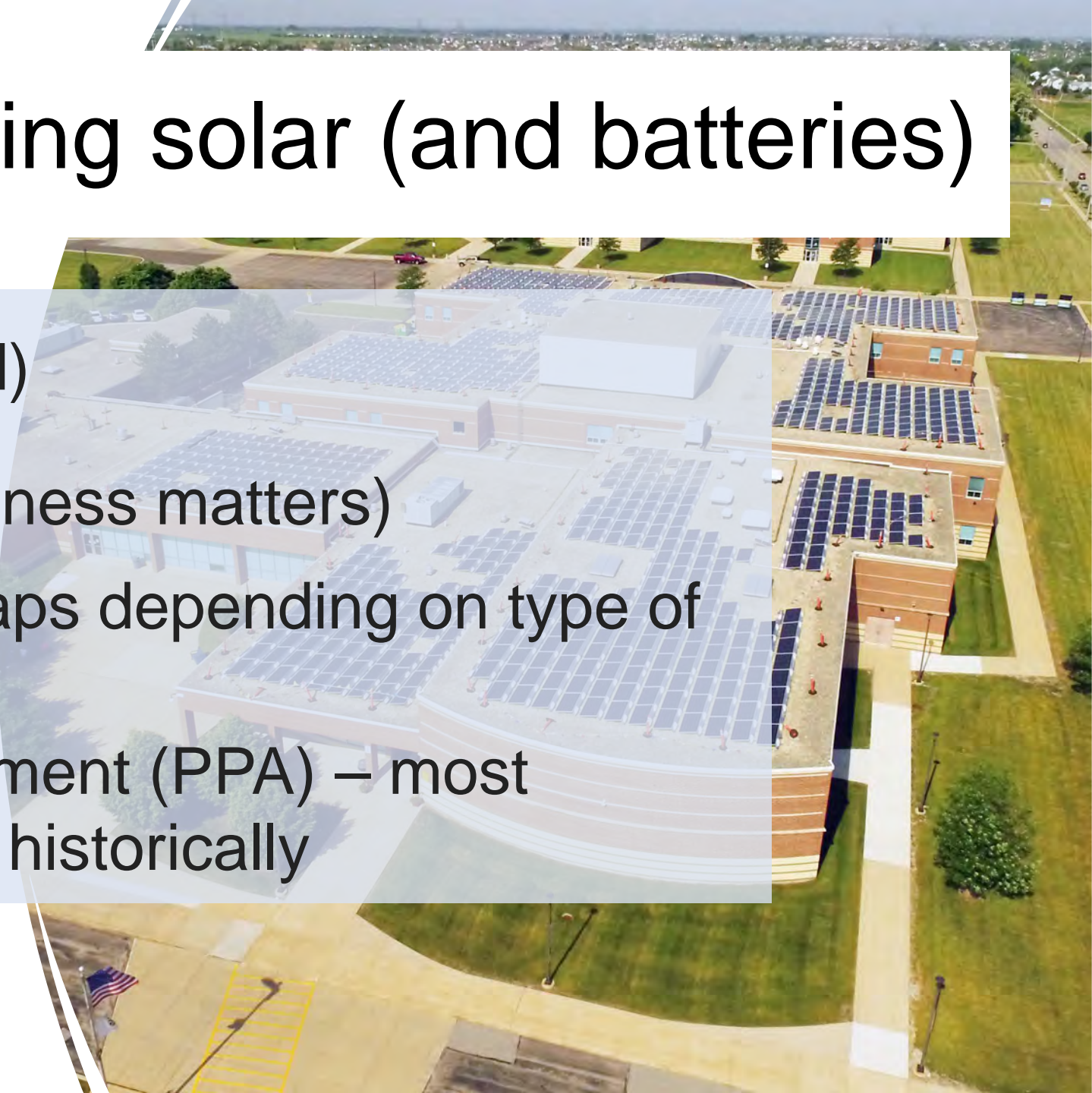
Timing is often **EVERYTHING**...but why?

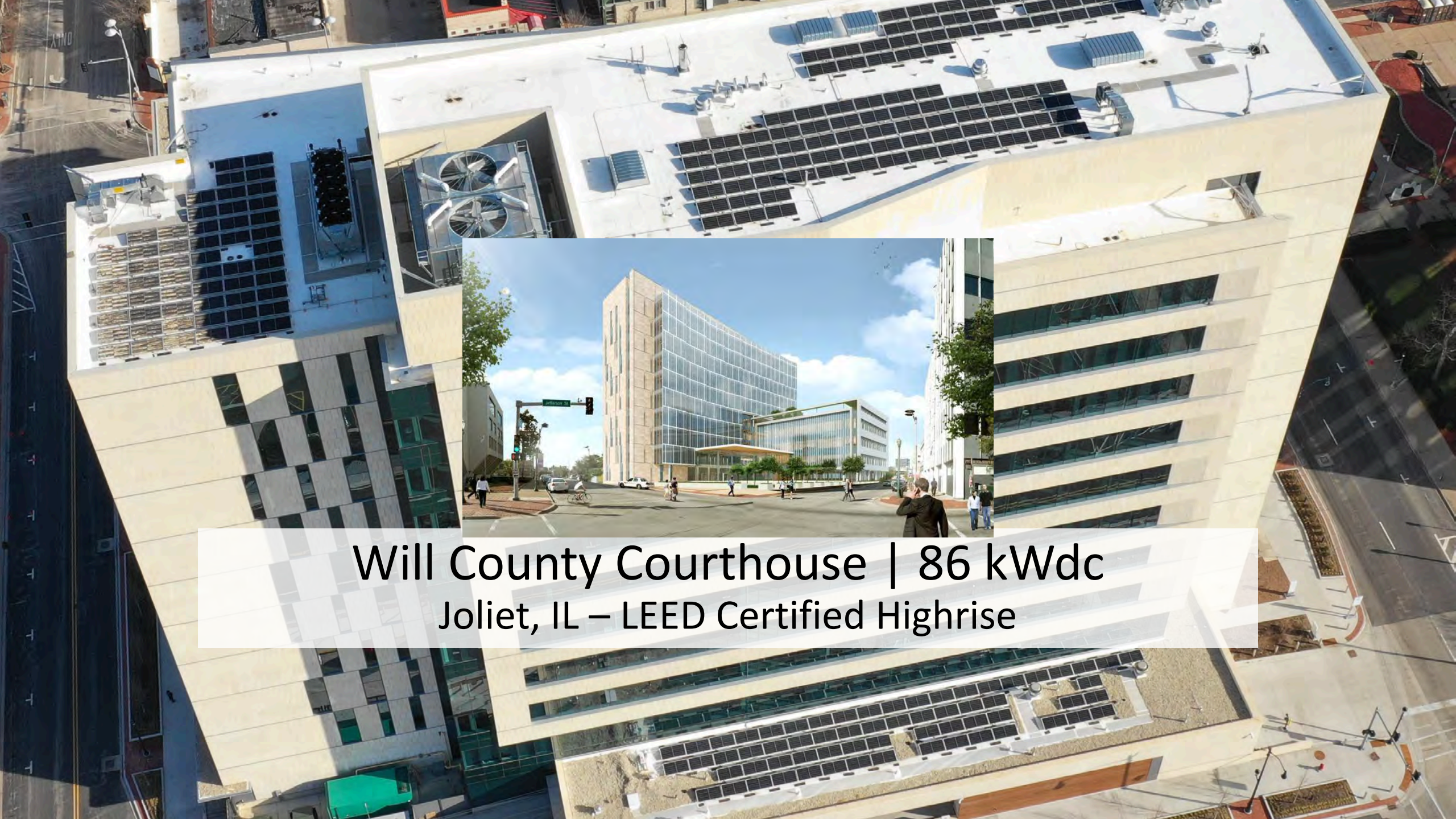
1. Money, time, human resources
2. Competing capital projects
3. Inadequate resources or 'too much going on'
4. Having a champion and the right decision makers



Options for financing solar (and batteries)

1. Cash (if you plan ahead)
2. Bank loan (credit worthiness matters)
3. Operating lease...perhaps depending on type of organization
4. Power Purchase Agreement (PPA) – most common for non-profits historically





Will County Courthouse | 86 kWdc
Joliet, IL – LEED Certified Highrise

Education: Grayslake North + South High School

2.76 MWdc combined / ESCO Performance Contract



Northwestern

COLLEGES & UNIVERSITIES



North Central College Res/Rec Center

Naperville, IL | DuPage County
539 kW PV
500 kW ESS



University of Illinois Wassaja Hall

Champaign, IL | Champaign
County
33 kW PV (fully attached)



Joliet Junior College

Joliet, IL | Will County
58 kW PV



Northwestern University Ryan Walter Athletic Center

Evanston, IL | Cook County
121 kW PV



DePaul University Clifton Fullerton

Chicago, IL | Cook County
92 kW PV



Northwestern University Kresge Hall

Evanston, IL | Cook County
81 kW PV

Kresge Hall is Northwestern's first LEED platinum building

Overhauled academic facility serves as model for future
construction and renovation

September 26, 2017 | By [Joe Popely](#)



Kresge Hall is the first University building to be certified as LEED Platinum. The 63-year-old academic building reopened in August 2016 following two

Oakton Community College

Des Plaines, IL | Cook Co. | Nov 2013

26 kW
Building Integrated
(solar awning)
91 Panels:
SolarWorld 265 W
.07 Acres
Self Financed



Northwestern

Kresge Hall, 81 kWdc



North Central College - Solar + Battery Storage Naperville, IL

563 kW Array
1,632 Panels:
SunEdison 330 W
250 kW Battery
1.55 Acres
University
Endowment





Thank you!

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**Healthcare: Swedish Covenant
Hospital, Chicago**

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